MSUNDUZI MUNICIPALITY SDF REVIEW

PHASE 2A & 2B (STATUS QUO)

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PREPARED FOR:

MSUNDUZI MUNICIPALITY

IYER URBAN DESIGN STUDIO

SUPPORTED BY:

STRATPLAN

HATCH GOBA

MOTT MACDONALD PDNA

FOR:

CITY OF CHOICE

PIETERMARITZBURG
MSUNDUZI

BY:

IYER

URBAN DESIGN STUDIO

IN ASSOCIATION WITH:

STRATPLAN
STRATEGIC PLANNING RESOURCES cc

HATCH GOBA
Member of the Hatch Group

Mott MacDonald
PDNA

GAPP

00

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AUTHORS DETAILS

OOMPANY	**IYER URBAN DESIGN STUDIO CC**	**ROLE ON PROJECT**	**SIGNATURE /INITIALS OF PRINCIPLES**
ADDRESS AND CONTACT DETAILS	28 DEVONSHIRE AVENUE GLENWOOD DURBAN 4001 P.O. BOX 17390 CONGELLA 4013 T +27 31 202 9550 F +27 31 202 9551		
PREPARED BY	Suzanne Schlemmer	Project Manager, Urban Planner	
ORIG. DATE PREP.	13 March 2014		
ASSISTED BY	Tafadzwa Jaya	Planning Support	
	Ahmed Moorad	GIS Support	
CHECKED BY	Nathan Iyer	Project Director, Urban Planning Lead	
DATE CHECKED	00/00/2014		
APPROVED BY	Nathan Iyer	Project Director, Urban Planner Lead	
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INTRODUCTION

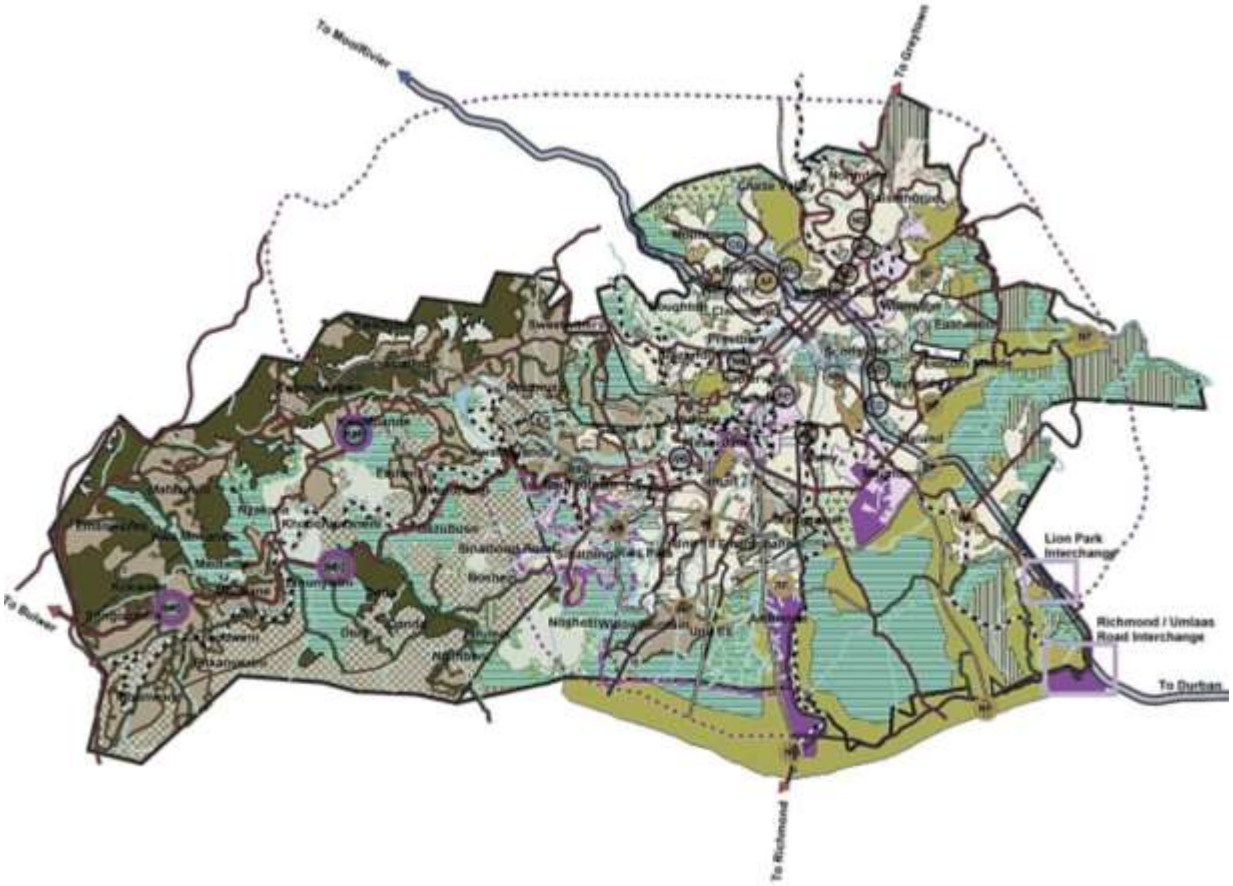
1.1 BACKGROUND

Iyer Urban Design Studio have been appointed by the Msunduzi Municipality for the 'Review and Preparation of the Spatial Development Framework (SDF) for the Msunduzi Municipality'.

The nature and complexity of the project requires a multidisciplinary approach. Therefore the following specialists have been appointed as part of the Iyer team to assist in the formulation of the SDF;

- GAPP Architects and Urban Designers to assist in the strategic spatial planning;
- Hatch Goba, on the traffic, transport and infrastructure components;
- Stratplan for the LED and Socio-economic analysis;
- Mott MacDonald PDNA on the environmental aspects; and
- Vaughan Charles Associates will provide input on the costing and implementation projects.

The consultant team bring a wealth of knowledge and experience to the Iyer Team, and have previously worked on a number of projects within the Msunduzi Municipality as well as the Umgungundlovu District Municipality.



2009 MSUNDUZI SDF, PREPARED BY UDIDI

1.2 PROJECT APPROACH

Msunduzi as a City sits at a critical point of change. Being the second largest metropolitan complex in the province, Msunduzi is at the brink of realising its quest for Metropolitan Status and a shift toward City Development. It is for this reason, that a very different SDF is required, one which breaks from the conventions of land use driven frameworks, and the paralysis of processes based on an extensive status quo analysis, which has lead to many of the SDFs prepared within the province being nothing more than a reflection of what is there.

The approach adopted for the SDFs is primarily about presenting a possible future, which whilst being cognisant of the past and present, it is firmly rooted in establishing a compelling vision of the future and in advancing the goals of Cities. By nature therefore, an SDF must be strategic and visionary. At no other point in the history of the City is the approach more prudent. Therefore, the basis of our approach and methodology is the notion of placing emphasis on defining a Future Spatial Vision, matched with an implementable Framework that serves as the defining instrument for future development. The SDF should be forward looking, whilst addressing past imbalances, with a strong focus on City Development. This is the moment to seize this remarkable opportunity.

Secondly, the approach underpinning our approach is that Spatial Planning in itself cannot realise the full suite of requirements for city development. We believe that it is essential that a realistic implementation framework be tied to the SDF process.

A key component then of the SDF is providing for suitable resourcing and experience within the team that understands the funding and implementation context within the municipal environment. The SDF must translate into a clear decision-making tool that is able to chart a way forward for pubic sector investment.

Equally, realising the development goals of the municipality relies on the ability of the city to create an environment that facilitates Private Sector confidence and investment. It is therefore critical that the SDF conveys a confident and realistic future that is attractive for private sector investment.

Thirdly, in order for the SDF to be relevant to contemporary society and current development realities, the SDF must be grounded in a real understanding of the nature and change evidenced in contemporary South African cities. Msunduzi today is a clear reflection of the dual nature of the South African city condition. Understanding the challenges of newer forms of energies and the informality of current CBD contexts is critical to achieving a sound SDF. At a more micro spatial planning scale, it is imperative that an appropriate approach to designing for dual economies, informality and the vibe and character of the current South African city scene is paramount.

The fourth aspect of the approach is basing future development on realistic targets and growth scenarios. Often spatial frameworks depict either a static existing land use profile or alternatively an accretion of the existing leading to a full ‘coloured in’ zoning plan. These are not based on an actual translation of population growth, applicable densities and spatial footprint required.

As a result this generates unrealistic expectations and anticipates unrealistic demands on infrastructure. The SDF then, rather than being a tool to facilitate development, becomes an actual impediment to growth and development. We propose a strategic approach to growth and importantly basing future growth on a real understanding of population dynamics, trends and growth forecasts. Embodied in our approach is an understanding that cities are dynamic and their growth is a result of an ongoing development process of action with sequential and incremental infrastructure provision and response.

The fifth, and most critical aspect of our approach is the need to focus the SDF around a ‘Sustainable Urbanism’ argument. IYER has developed over the last few years a composite understanding and approach to sustainable urbanism. Sustainable Urbanism presents a wider view of sustainability.

There is a fundamental need to understand the collective impact of city form, its shape, footprint, make-up, and ultimately the performance of places in delivering sustainability. The nature and pattern of cities has the most significant bearing on sustainability. Therefore, a much wider set of objectives needs to form part of the sustainable cities argument. We firmly believe that the SDF should be guided by objectives of sustainable development. As a result, a key aspect of the SDF is developing a methodology that uses specific sustainability criteria as a filter and lens in developing the SDF.

1.2 PROJECT APPROACH

Based on all of the above, it has been recommended that the SDF be understood as a powerful tool for Future City Development, and that the approach put forward recognises this need. The approach to be applied provides a clear departure in our approach and execution of work from conventional, static and land use driven SDF's that fall short of providing what should be a compelling spatial vision that coheres, guides and inspires.

1.3 PROJECT POSITION STATEMENT - SUSTAINABLE URBANISM

Sustainable Urbanism presents a wider view of sustainability. Whilst embracing the notions of ecological, economic, and social development, Sustainable Urbanism seeks to move toward a more collective view of sustainability. This goes beyond the traditional understanding, with often a focus solely on the un-built, and the fixation with parts of the system, such as green architecture in isolation of other issues impacting on sustainability. There is a fundamental need to understand the collective impact of city form, its shape, footprint, make-up, and ultimately the performance of places in delivering sustainability. The nature and pattern of cities has the most significant bearing on sustainability. Therefore a much wider set of objectives needs to form part of the sustainable cities debate.

There are several factors that are essential to achieve sustainable urbanism, these include:

Global Connectivity

Global connectivity considers the Municipalities connections to the wider system, in terms of both physical and non-physical connections. Physical connections refer to direct linkages to District, National, Provincial and international influences, whilst the non-physical connects are virtual connections made via ICT networks.

For a City or Municipality to be competitive and enjoy economic benfits and standing provincially, nationally and internationally it is required to be well connected in both physical and non-physical manner.

Productive Systems

Productive systems identifies the 'Productive Systems'/ economies within the Municipality. Two primary systems

1.3 PROJECT POSITION STATEMENT - SUSTAINABLE URBANISM

are identified in terms of the Sustainable City;

- Economic Production – the production of jobs and income;
- Agricultural Production – securing food production.

Green Structure

Protecting, enhancing and rehabilitating the 'Green Structure' ensures that a city or municipality recognises the need for positive integration of green space within their spatial planning. The development of a green system requires more than the protection and enhancement of the existing natural system but includes the development of urban market gardens, green roof's and urban planting, for example.

Sustainable Transport

'Sustainable Transport' includes motorised as well as non-motorised means of movement. Developing 'Sustainable Transport' ensures that a wide range of transport networks and modes are available to the population. An efficient reliable and cost effective public transport network inclusive of non-motorised links such as bicycle routes and pedestrian paths will ensure a well developed ;Sustainable Transport' system. Private cars are not excluded from the system, however they are not given priority.

Quality Urbanism

Quality urbanism ensures that environments are compact, inclusive and diverse. It seeks to ensure a diverse set of land uses and facilities are located within a compact living environment, enabling a better work, live, play neighbourhood. Creating a quality, successful urban environments ensures a sense of community, pride and a sense of place for people.

Social Inclusivity

Planning for 'Social Inclusivity' requires neighbourhoods/ environments that cater for the needs for all, as an example, the elderly at the same time providing facilities for the young. If the elderly and the young are well provided for, the rest of the community should have adequate provision. The elderly and the young are understood as the most vulnerable within the communities, therefore caring and planning 'Social Inclusivity'.

An important aspect of Social Inclusivity deals with ensuring equality and equal access to opportunities for all residents within the municipality. This needs particular emphasis in the context of post apartheid cities and regions.

A key aspect of social inclusivity is providing for the needs of the most vulnerable, as an example.

Sustainable Services

Developing 'Sustainable Service' requires green engineering and application to common services. It requires more than the introduction of a 'Green Building' within a wasteful, unsustainable setting. It requires the development and introduction of more efficient use of energy through alternative energy, the collection of residential rain water, the better use of existing stormwater runoff into communal water schemes, recycling measures as well as the introduction of urban market gardens.

Each of the Sustainable Urbanism pillars outlined above are explained in detail within their respective section in the following report. In order to test and evaluated each pillar within the Msunduzi Municipal context, a set of benchmarks were developed for each pillar using the Msunduzi Municipal IDP (2013/2014 – 2016/2017) Strategic Priority Goals and targets as the base. The pillar definition, objectives and benchmarks are located at the introduction to each section.

The pillars of Sustainable Urbanism identified above, do not have priority over each other, and need to be understood as mutually reinforcing criteria to achieve sustainability. These represent a network of intersecting concerns and objectives as depicted in the Sustainable Cities diagram.

1.4 STRUCTURE AND PURPOSE OF THE REPORT

As outlined above, the Sustainable Urbanism approach becomes the bases and foundation for the assembly of the following report. The sections of the report are divided according to the seven pillars identified in the Sustainable Urbanism concept. Each section can be geared towards a specific line department, for extraction and use as a complete 'tool-kit' or guideline document, which will outline the existing status quo situation, development objectives and guidelines for the vision and concept, develop an approach as well as detail projects and a implementation plan. The sections divided into the following categories;

- Global Connectivity – Msunduzi Municipality, City Manger;
- Productive Systems – Economic Development and Growth Committee
- Green Structure – Environmental Department;
- Sustainable Transport – Msunduzi Traffic and Transport Authority;
- Quality Urbanism – Corporate Strategic Planning Committee
- Social Inclusivity – Community Services and Social Equity Committee
- Sustainable Services – Infrastructure Services and Facilities Committee

During the course of the project, each section identified above will be updated with the relevant input per phase, therefore allowing each section to function as a distinct component of the Msunduzi SDF, however still intrinsically related to the remaining pillars to create a truly sustainable and functioning city and SDF.

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Following the status quo section, section two will outline the historical and current local context and dynamics within the Municipality. The local context provides a brief overview of the current situation for spatial planning, transport, infrastructure as well as the environment.

A detailed planning policy context has not been included as this document as it formed part of the 'Road-Map'/ Consolidated Report in phase one of the project

02
BEST PRACTICE STUDY

02 BEST PRACTICE STUDY

2.1 INTRODUCTION

As stipulated in the introduction, the approach that has been adopted for the preparation of this SDF is one that breaks from the conventions of the land use driven frameworks. The best practice study was conducted as means of highlighting similar approaches adopted by other cities in order to learn from these.

Five cities were assessed as part of this process. The planning approaches of each city were assessed, in terms of the approach adopted, vision established, and the significant initiatives that were put into play to ensure the realisation of the vision. The cities that were studied were the following:

- Brisbane (Australia);
- Curitiba (Brazil);
- Bogota (Colombia);
- Barcelona (Spain); and
- Seattle (Washington, USA).

It is important to highlight the fact that the main aspect that was assessed was the approach adopted by the cities and that while cities across the globe are different in character, people, culture and other factors, the study still showed some recurring themes between all five cities. As such it the study went on to assess each city based on the factors considered essential to achieve Sustainable Urbanism.

2.2 THE CASE OF BRISBANE (AUSTRALIA)

Brisbane has come to be described as a world city of note. Key to the cities success its vision to OPEN BRISBANE. The figure to the right summarises the story behind the success that Brisbane city is today. The approach adopted in the case of Brisbane city was that of creating a master plan for the city with the vision of and aim of opening the city to the world to the local people.

Open in terms the buildings and infrastructure opening the city for business big or small local and global, open to knowledge and ideas, and open by creating an open outdoor lifestyle.

The five strategies identified as key for the realisation of the vision involved:

1. Promoting economic development to create boundless opportunity,
2. Focusing of the public realm to create a leafy outdoor lifestyle,
3. Promoting the development of supportive built form through buildings that breathe,
4. Creating a stage for urban life to take place so as to address social and cultural needs,
5. Investing in transportation infrastructure to develop the city as a place were people connect.

The strategies were thus developed into "10 City Making Moves" that were believed informed the decision to focus specific 31 transformative projects. The figure to the right outlines these 10 City Making Moves.

Summary of Brisbane's Approach

Brisbane's 10 City Making Moves

2.3 THE CASE STUDY OF CURITIBA (BRAZIL)

The city Curitiba has a population of 1,727,010 inhabitants and is the capital of the state of Parana in Brazil covering an area of 430.9 km2. Curitiba can be seen as one of the leaders in the successful implementation of pro-sustainability policies and projects.

The city's planning approaches came to frontline of sustainability discussions through the work of its former mayor Jamie Lerner who made a decision to put people before cars as the city belongs to people. This vision thus led to the cities planning being focussed on 3 main strategies namely addressing the issue i) Mobility, ii) Identity and iii) Sustainability.

Today the city mainly know for the following flagship moves that lead to even more spin-off's:

- The BRT system designed known to be the most sustainable in the world as it is not subsidised.
- Street reclamation of certain streets in the CBD converted to become pedestrian only streets.
- Protection of Architectural heritage as policy was passed restricting the development that would compromise the façade of buildings of a certain age in the city.
- As a means of combating floods, creating parks in flood prone areas thus eliminating the need to build concrete canals.
- Promotion of the garbage that is not garbage project were people trade in garbage for vegetables of which the garbage is recycled thus leading to the city achieving the highest recycling rate in the world.

These flagship moves made by the city leaders although focused on only rooted in three issues, lead to positive spin-offs in other aspects of city life. Evidence of this is that 70% of the population is dependant on the BRT system and that more than 90% of the cities residents have a strong sense of belonging to the city.

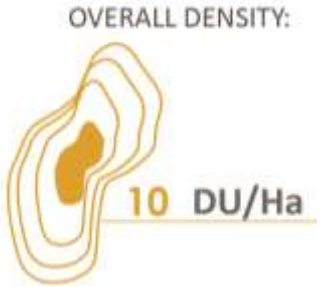


Figure: Summary of Curitiba's Approach

Figure: Curitiba's BRT Station

Figure: Park in Curitiba

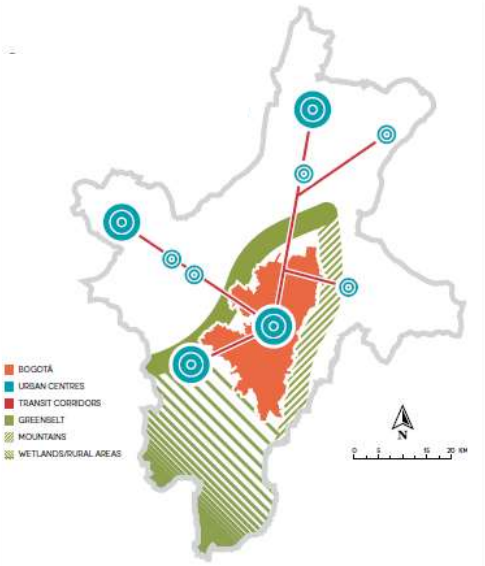
2.4 THE CASE STUDY OF BOGOTA (COLOMBIA)

Bogota is a city plagued by a number of social, economic, and political problems. Bogota is the capital city of Colombia and currently accommodates a total population of 1, 571, 345 within a area of 1,587 km2.

The new vision for the city is that of transforming Bogota into a World-class Transit oriented Metropolis. The strategy for achieving this vision is that of integrating land-use and transport planning in order to transform the city from having a mono-centric urban structure to a polycentric one. This would thus help improve the level of integration with the surrounding smaller cities.

The city faced a wide range of problems that include, failure to cope with the increasing urban population, air pollution, poor road infrastructure and network quality, very high level of brutal criminal activity along with high poverty and unemployment. In a bid to establish a feasible plan in this direction, the city created a benchmarking criteria against 13 cities in order to establish a clear understanding of its current liveability standing in comparison to other cities. The exercise revealed that Bogota displayed weak performance in terms of Safety and Security, Accessibility and hub function as well as Environmental Protection .

Although the city is still known to be facing some of the above mentioned urban challenges, it must be noted that as a result of the strategic decisions made leading to the development of the Transmilenio and promotion of NMT infrastructure, there has been a notable decrease in the level crime and as well as in the unemployment levels. This is attributed to the fact that the BRT system allows people more access to various centres around the city were employment opportunities are found. A key aspect of the approach is the use of public transport spines using polycentric centres.



Bogota Polycentric City Plan

Summary of Bogota's Approach

2.5 THE CASE STUDY OF 22@ BARCELONA (SPAIN)

With a population of 1,620 943 people and an area of 101.9 km2, Barcelona is the second largest city in Spain. Apart from its various cultural and heritage qualities and attractions, the city has become well known for its innovative urban planning project 22@ Barcelona.

Unlike the 4 examples that have be assessed thus far, 22@ Barcelona is different in the fact that it is a project that is focused only on a region within the city. It aims to transform 200 hectares of industrial land that had become obsolete and degraded, into an innovative district of the city. In approaching this project, the following 3 objectives were set: i) Urban Refurbishment, ii) Economic Refurbishment and iii) Social Refurbishment.

The objectives set for the revitalisation of the region were to be realised through the development of a new Compact city Model.

The model is centred around the idea of creating a knowledge based economy that will serve as a leading innovation hub not only in Barcelona but the world at large. The new compact city model would integrate the following to become the guiding principles for the revitalisation project.

- Innovative activities;
- Innovative facilities;
- Green Spaces;
- Subsidised Housing;
- Advanced Infrastructure;
- New Mobility Model;
- Industrial Heritage; and
- Revitalization of Public Spaces.

Summary of 22@ Barcelona's Approach

22@ Barcelona Compact City Model

2.6 THE CASE STUDY OF SEATTLE (WASHINGTON, USA)

The city of Seattle in Washington, USA accommodates has a population of 700 000 people. The city established a comprehensive plan that outlines the goals aligned policies for the city to accommodate growth over a 20 year period The vision for this plan was for the Realisation of a Sustainable Seattle.

The city thus identified four core values they believed were key in defining sustainability and in essence key in informing any decisions they made. These four values are Community, Economic opportunity, Environmental Stewardship and Social equity. A key move the city made was the establishing the Office of Sustainability and Environment (OSE) as a engine for the delivery of cutting-edge policies and effective programs to address Seattle's environmental challenges while creating vibrant communities and building shared prosperity for the city. The OSE works towards the realisation of the cities vision and strategy through its 7 departments focused on specific sector areas (the image on the right reflects these departments).

As a development strategy the city adopted the Urban Village strategy. The approach directs most new households and employment growth into places the plan designates as either urban centres or urban villages. Thus making various services and facilities more accessible to the population.

The diagram to the right illustrates the branches of the office and in essence the different areas city initiatives were directed. Various pro-sustainability initiatives have emerged as a result of the office, some of which include, pedestrian programs, public transport initiatives, investments in infrastructure that supports the use of electric cars, green building programs and various open space programs

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Summary of Seattle's Approach

Seattle Office of Sustainability and Environment Departments

2.7 LESSONS LEARNT FROM THE CASE STUDY

The best practice study highlights a number of lessons for any city to consider. Each of the cities assessed for this study can be viewed as having undergone a journey and arguably still continuing on it. The diagram to the right reflects a metaphorical explanation of the similar trends observed about each city.

Each city had a 'Target Destination' or idea of were the city should be or what kind of a city is desired. This was articulated in a vision statement or plan. The 'Specific Directives' or focus areas reflects acknowledgement that in order to ensure the city realises its vision or target destination, a specific direction/ or priorities must be taken or set. Inline with those priorities, each city adopted key moves in the form of policy, programs or projects and this is implementation aspect. One of the key elements observed in the study was that each city acted on its vision and strategies. Subsequent rewards relate to the various spin-offs that resulted from the key moves made as in the case of Bogota and Curitiba were the transportation projects lead to other issues such as unemployment in the city subsequently being addressed.

The study also further emphasised the ideologies of sustainable Urbanism that are the key foundation on which the methodology for this SDF review is built. This being that sustainable cities are those that are vibrant and both globally and locally competitive and connected as in the case of Brisbane. Vibrancy can only be realised through promotion of compact and complete environments were citizens move in and around safely and with ease. Apart from economic and social benefits, the promotion high densities around key mixed use centres also provides environmental benefits as it minimises sprawl. As such the best practice study thus supports the methodology that has been adopted for the review of the Msunduzi Municipal SDF. This being because the study further emphasises the idea of sustainable cities being those that are connected, productive, socially inclusive, with quality urban environments, sustainable transport, services and green structure.

Seattle Office of Sustainability and Environment Departments

03
MSUNDUZI CONTEXT

3.1 LOCAL CONTEXT AND DYNAMICS

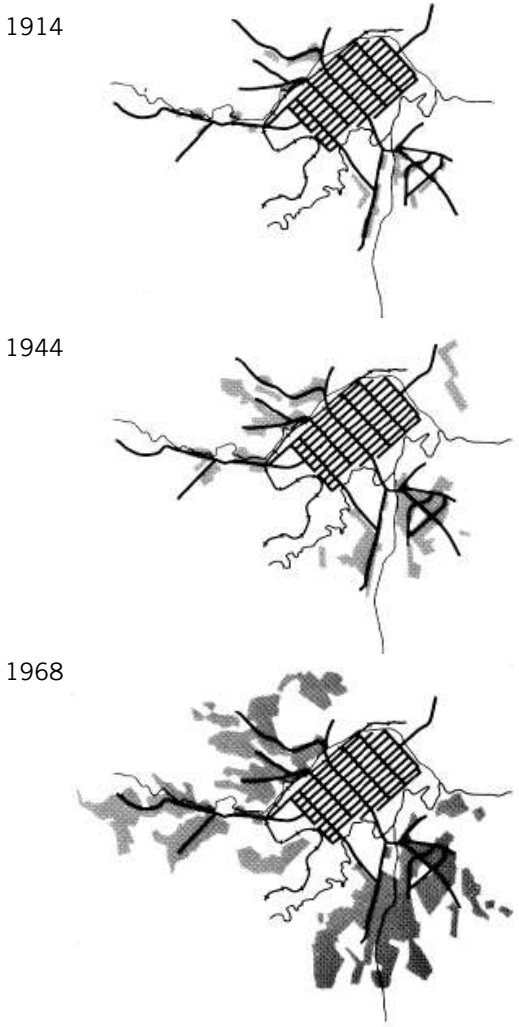
3.1.1 BACKGROUND

The local context and dynamics provides an overview of the development in the Municipality from a number of different perspectives; such as the historical to current perspectives identifying demographics, spatial planning, transport, infrastructure and the environment.

As a result of 150 years of development, and various elements contributing to the structuring of the City, Msunduzi has developed a distinct spatial economic structure.

Historically a series of structuring elements and policies impacted on spatial economic development of the Msunduzi Municipality. Link roads between Pietermaritzburg and Durban as well as a railway line linking through Pietermaritzburg set the scene for the development of the city in the 1800s. Manufacturing was introduced in the city towards the late 1800s with the establishment of amongst others a mill and a tannery.

Over a period of just more than 150 years the city was shaped by colonial and apartheid spatial development policies, with segregated development areas probably being one of the most significant characteristics of the spatial economy. A paper by Trevor Mills (1988), focusing on Msunduzi as a 'segregated city' provides a good basic understanding of the development of Msunduzi as a segregated city. The graphics below provides some understanding of the development of Pietermaritzburg over a period of 150 years.



DEVELOPMENT OF PIETERMARITZBURG 1944 TO 1968
Source: Trevor Wills in Laband and Haswell 1988

3.1 LOCAL CONTEXT AND DYNAMICS

3.1.2 APARTHEID POLICIES

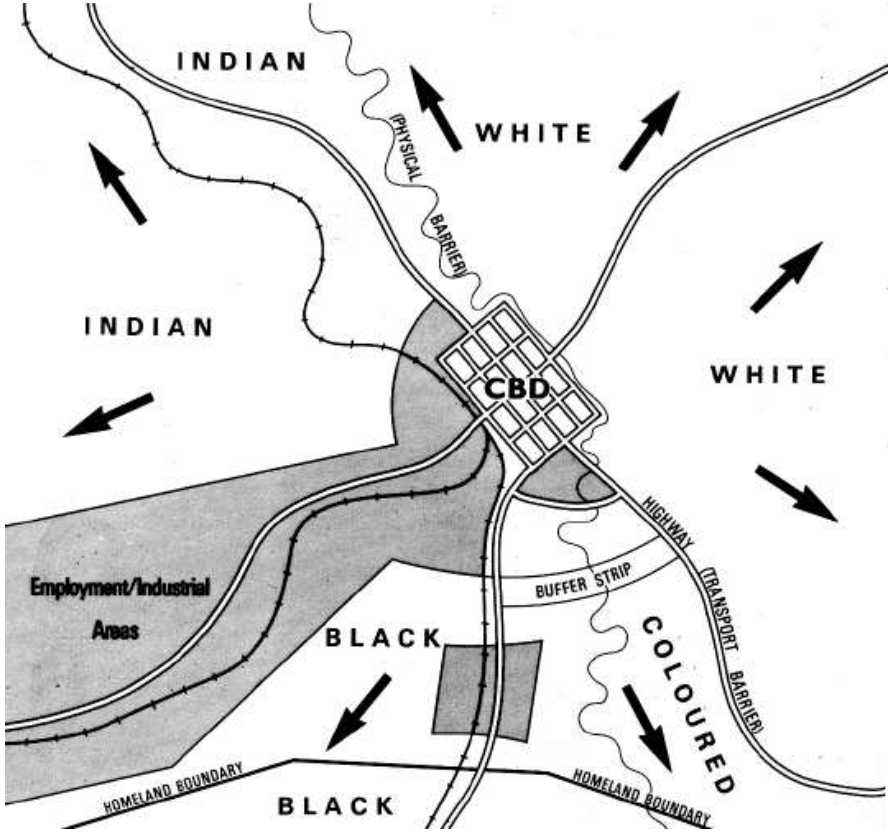
Probably most significant from the above is to recognise the extent to which Pietermaritzburg / Msunduzi developed over a relatively short (in a city context) timeframe. It is clearly illustrated that the current CBD was in 1914 the full extent of the City. The question must then be asked: Where will Msunduzi be in 100 years from now and what key spatial planning decision must be taken in 2014 to accommodate the potential changes?

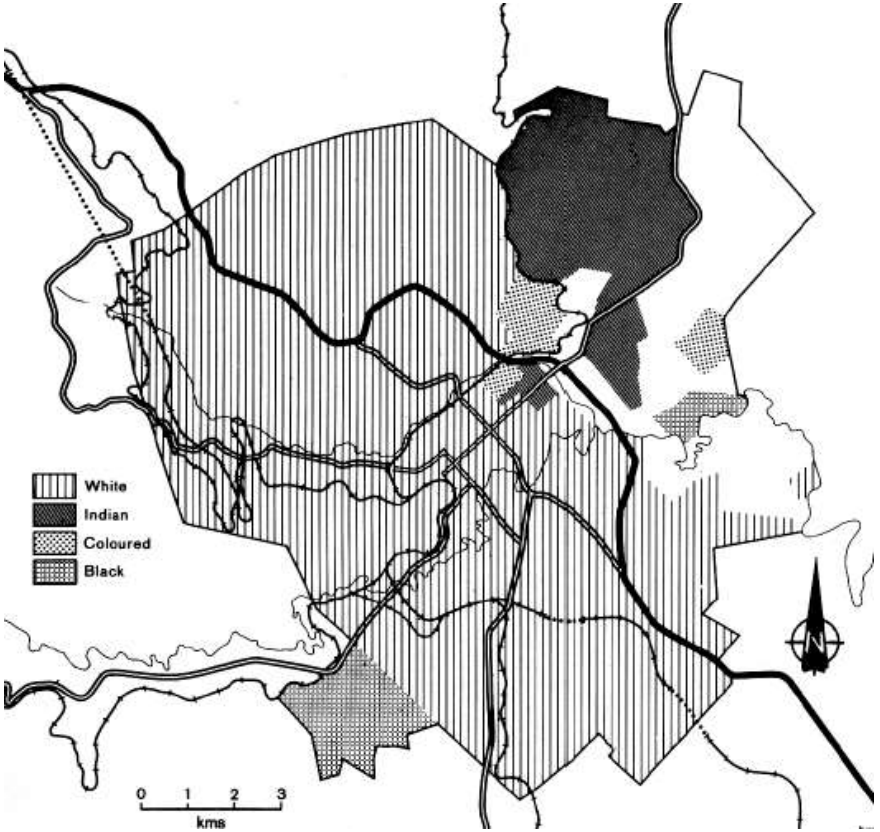
The spatial structure of Pietermaritzburg has emerged over the past 150 years linked to economic forces and infrastructure alignment. However, more significantly, colonial and apartheid policies shaped the City. In the graphic Pietermaritzburg is depicted as the model apartheid city and the racial segregation that still existed in 1988 is reflected in the Diagrams alongside.

Acknowledging the importance of restructuring the City with a view to, amongst other things, making it work efficiently, is essential.

3.1 LOCAL CONTEXT AND DYNAMICS

3.1.2 APARTHEID POLICIES





LEFT: PIETERMARITZBURG THE MODEL APARTHEID CITY
RIGHT: RACIAL SEGREGATION IN PIETERMARITZBURG
Source: Trevor Wills in Laband and Haswell 1988

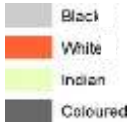
3.1 LOCAL CONTEXT AND DYNAMICS

3.1.3 POST APARTHEID

For the purpose of understanding the present impact of apartheid spatial policy, the plan on the right indicates population groups settlement patterns based on the most recent 2011 census data.

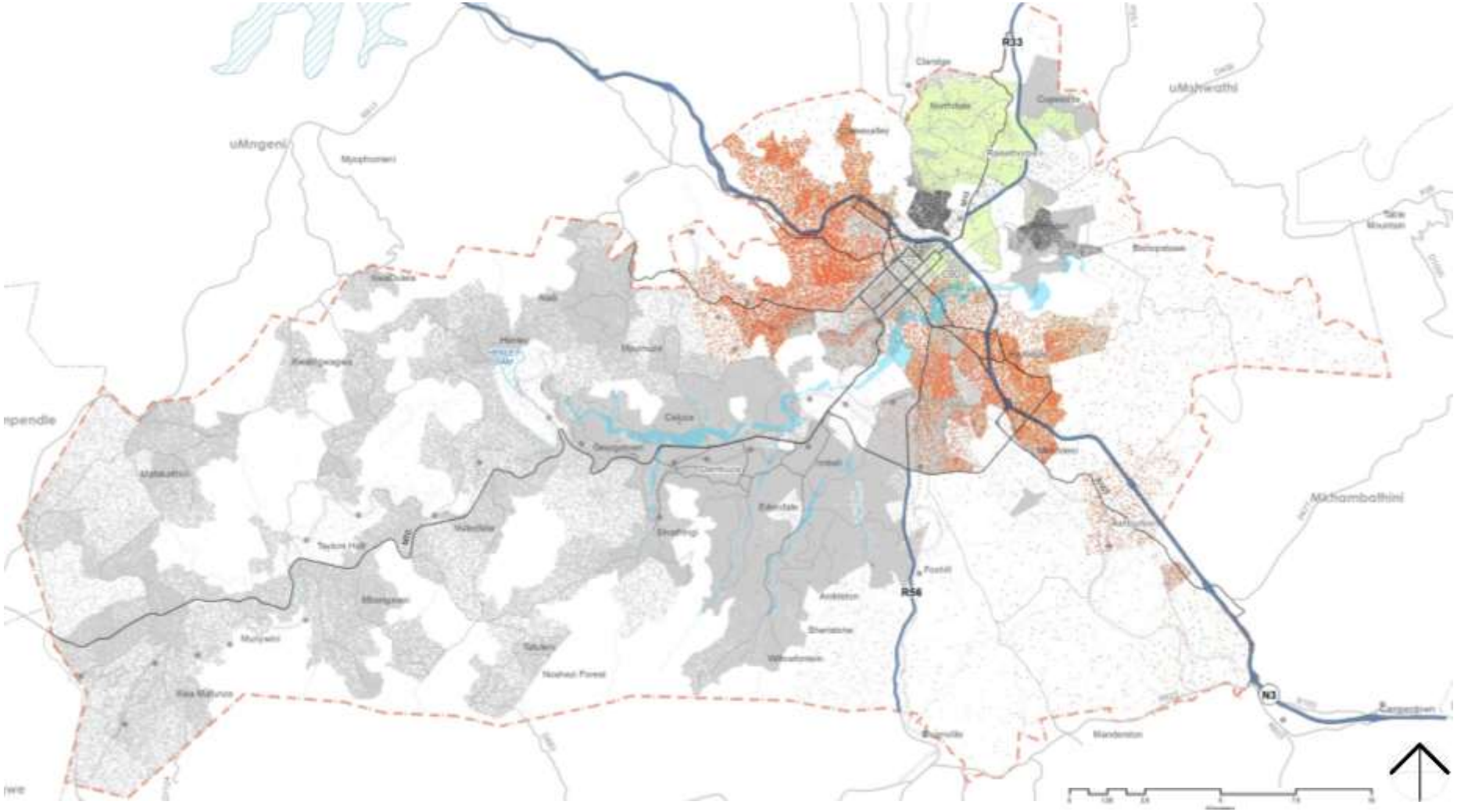
What is patently clear is that, apart from a noticeable shift in the CBD, the spatial geography of race are still evident in post apartheid Msunduzi.

Given governments objectives of building a non-racial society, it is imperative that programmes facilitate integration across race and social groups.



3.1 LOCAL CONTEXT AND DYNAMICS

3.1.3 POST APARTHEID



3.1 LOCAL CONTEXT AND DYNAMICS

3.1.4 HISTORIC INFRASTURE DEVELOPMENT

The historical spatial planning together with the movement infrastructure guided the spatial economic development of the city, with higher order activities generally locating on routes of national and regional significance, these routes originally passing through the Pietermaritzburg CBD. The N3 bypass, although now viewed as an important structuring element in the future spatial development, is a relatively recent addition to the movement infrastructure only coming into operation in, it is presumed, the 1970s. Although manufacturing opportunities linked to this road have been exploited over the past 30 years, it has only been over the past decade that the route also altered the spatial distribution of the commercial and retail sectors in the Municipality with the Liberty Mall and surrounding developments bearing testimony to this. Further retail developments is currently proposed in the Hillcove Hills area.

It should be considered in future spatial planning that a key impact of the N3 bypass on spatial development has been older industrial areas in Msunduzi becoming obsolete, or at least less attractive to the modern investor. Modern industry is 'obsessed' with getting good access to transport infrastructure. The majority of successful industrial developments in KwaZulu-Natal over the past two decades located on, or in very close proximity to either the N3 or the N2 freeways, bears testimony to this (examples include industrial development in Howick, and eThekwini examples including Riverhorse Valley, South Gate, Mahogany Ridge and others).

3.1.5 CURRENT SPATIAL AND STRUCTURAL PLANNING

The Post Apartheid planning has resulted in a myriad of spatial planning policies, which are in place to guide and structure the new South African landscape in a more integrated and inclusive manner. Key policies and plans guiding all Municipalities in the country are structured in terms of a National, Provincial, District and Local Hierarchy, and consist of;

I. National Policies and Programmes such as the National Development Plan and the New Growth Path;
II. Provincial Policies and Programmes such as the Provincial Growth and Development Strategy;
III. District Policies and Programmes, including the Umgungundlovu District IDP and SDF;
IV. Municipal Polices and Programmes which are both over arching at a municipal level such as the IDP and SDF, however also provide details for implementation focused at a line department level – Socio-Economic Profile, Environmental Management Framework, Transport Plans, Housing Strategies and Infrastructure plans.

The plans listed above under the four tiers are only a basic example of the existing Policies and Plans developed in the restructuring process. The development or review of the Msunduzi SDF requires an understanding of all the plans and polices guiding new spatial planning.

A crucial aspect of reviewing the Msunduzi Spatial Development Frameworks (SDF) at a local government level is ensuring its alignment with existing, overarching planning frameworks, policies and programs.

Apart from these it is also important to consider different Global informants in the form of policies or treaties the Republic may be a signatory to. The team found it important to ensure that key principles of these informants that specifically have implications on Msunduzi Municipality are considered in the review of the current SDF.

A full analysis of the documents reviewed was completed as part of the first phase of this project, identified as the 'Road-Map/ Consolidated Report'. A full copy of which is located within the Annexures of the report, listed as volume 2.

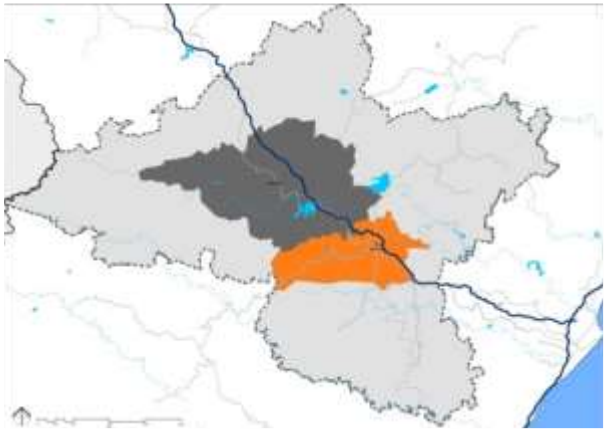
The Msunduzi Municipality forms part of the Umgungundlovu District Municipality, which is made up of six Local Municipalities. These Local Municipalities are identified as;

- Impendle Local Municipality;
- Umngeni Local Municipality;
- Umshwathi Local Municipality;
- Mkhambathini Local Municipality;
- Richmond Local Municipality.

The following influences or concerns have been identified within the Local Municipalities within the Umgunguldlovu District, which may have implications for the Msunduzi Municipality.

3.1 LOCAL CONTEXT AND DYNAMICS

3.1.5 CURRENT SPATIAL AND STRUCTURAL PLANNING



IMPENDLE LOCAL MUNICIPALITY

Impendle Municipality is located west of Msunduzi Municipality and is one of the smaller local municipalities within the Mgungundlovu District. Impendle is largely composed of rural scattered settlements. As such the municipality collects very little revenue from rates, thus making it largely dependant on grants from the national government.

The SDF for Impendle Municipality, highlights the importance of Arable Land with good potential on the interface of the two municipalities – Impendle and Msunduzi. The identification of Arable Potential land is compatible with land use on the western boundary of Msunduzi Municipality, which is also largely agricultural and rural in nature. Future spatial planning should observe and reinforce the existing compatibility in the land uses of both Municipalities.

UMNGENI LOCAL MUNICIPALITY

North of Msunduzi Municipality is the Umngeni Local Municipality, which is one of the larger municipalities within the Mgungundlovu District. The Municipality has been identified as having high agricultural and tourism potential.

When looking at the spatial development of the Municipality one observes that the land closest to Msunduzi has been earmarked for urban agriculture as there are a number of areas that are close to small urban settlements. The evidence of urban settlement along the southern boundary of Umngeni Municipality thus reflects the possibility that rural residents residing in the northern region of Msunduzi Municipality are dependent on the services provided in the nearby urban settlements of Umngeni Municipality.

UMSHWATHI LOCAL MUNICIPALITY

Umshwathi Local Municipality is located along the North eastern boundary of the Msunduzi Municipality. The main link between Umshwathi and Msunduzi Municipality Is the proposed R614 Development corridor. The corridor aims to provide an alternate route to the N3 and N2 for linking Umshwathi Municipality through Ndwedwe Municipality to King Shaka Airport, Dube Tradeport and other Developments in the northern region of KZN.

The development of this corridor is expected to have positive spinoffs for Umshwathi, iLembe as well as Msunduzi as it will allow for increased accessibility to the northern region.

3.1 LOCAL CONTEXT AND DYNAMICS

3.1.5 CURRENT SPATIAL AND STRUCTURAL PLANNING

MKHAMBATHINI LOCAL MUNICIPALITY

Mkhambathini Local Municipality is located south east of Msunduzi Municipality. It lies in between the eThekwini Municipality and Msunduzi, and thus it is linked to both municipalities by the a major National Road the N3.

The municipality has a high concentration of poultry producers and is supported by a network of service suppliers, as well as pig and beef farming. Tourism is also a major component of its economy with attractions such as the Tala Game Reserve, Nagle Dam and Umgeni Valley.

The main link between Mkhambathini and Msunduzi Municipality is the N3 as it can be seen as a key development catalysts for both municipalities.

RICHMOND LOCAL MUNICIPALITY

The Local Municipality of Richmond is located south of Msunduzi Municipality. The majority of the population in the Municipality resides in areas that can be classified as being largely rural in nature. These areas are characterised by low levels of basic services, facilities and generally high unemployment.

The municipality aims to leverage the growth of its neighbouring municipalities. When looking at some of the rural nodes in the Southern region of the Msunduzi Municipality there is evidence that they provide services to both rural residents of Msunduzi and those residing in the Northern region of Richmond.

Its main link to Msunduzi Municipality is the R56 provincial route which is identified as a primary corridor at both district and local municipal level. The northern region of the Municipality which is closest to Msunduzi Municipality has been identified as having high agricultural potential hence it is dominated by farming activities.

3.1 LOCAL CONTEXT AND DYNAMICS

3.1.6 MSUNDUZI LOCAL MUNICIPALITY ABM'S

The Integrated Development Plan (Msunduzi 2013) identifies five management areas, referred to as AMB (Area Based Management Zones) within the Municipality. The Management areas are:

Northern Areas

The Northern areas of the Msunduzi Municipality consists of portions of the CBD, Clarendon, Montrose, Chase Valley, Woodlands, Northdale, Raisethorpe, and Bishopstowe. The primary characteristic of this management area is provided by the N3 corridor which traverses the ABM, providing a movement corridor between the dominant urban cores of Johannesburg and Durban. The nature of this systems provides limited access to this road, therefore opportunity points exist at key intersections of the route.

CBD, Ashburton, Eastern Areas

The CBD is the primary market place for the Municipality and provides an opportunity for social interaction and integration. Pietermaritzburg, specifically the CBD, enjoys the Capital City Status, therefore attracting various Provincial Departments, which contribute to the growth and stability of the area.

The CBD together with Ashburton and the Eastern areas provide the majority of the employment for the city's working population. A major contributor to the employment is the location of the government departments within the central areas, while others are employed in the city's industries in Mkhondeni, Pelham, Willowton, and on the periphery of Northdale and Mountain Rise.

The city's major education institutions are also located within this ABM, including the University of KwaZulu-Natal and Durban University of Technology in Scottsville as well as UNISA and FET College/s in the central area. The CBD also serves as the gateway city to the surrounding tourist destinations, it in itself being a tourist destination.

Edendale (Greater Edendale and Greater Imbali)

The topography within this ABM plays a major part in structuring and constraining growth and development. The area has major valleys and steep topography, particularly areas closer to the Vulendela ABM.

The majority of the population in the Greater Edendale and Imbali areas are located to the east and south east of Edendale Road. Older areas on either side of Edendale Road comprise a mix of both formal and informal settlement patterns, mostly located on older cadastral layouts.

Settlements to the south and east are a mixture of traditional and formal settlements. The residential areas in the central and eastern portions of the site are dominated by more recent formal settlement patterns. Undeveloped land, with great potential for development, is located to the east of the ABM and adjacent to the Ashburton ABM.

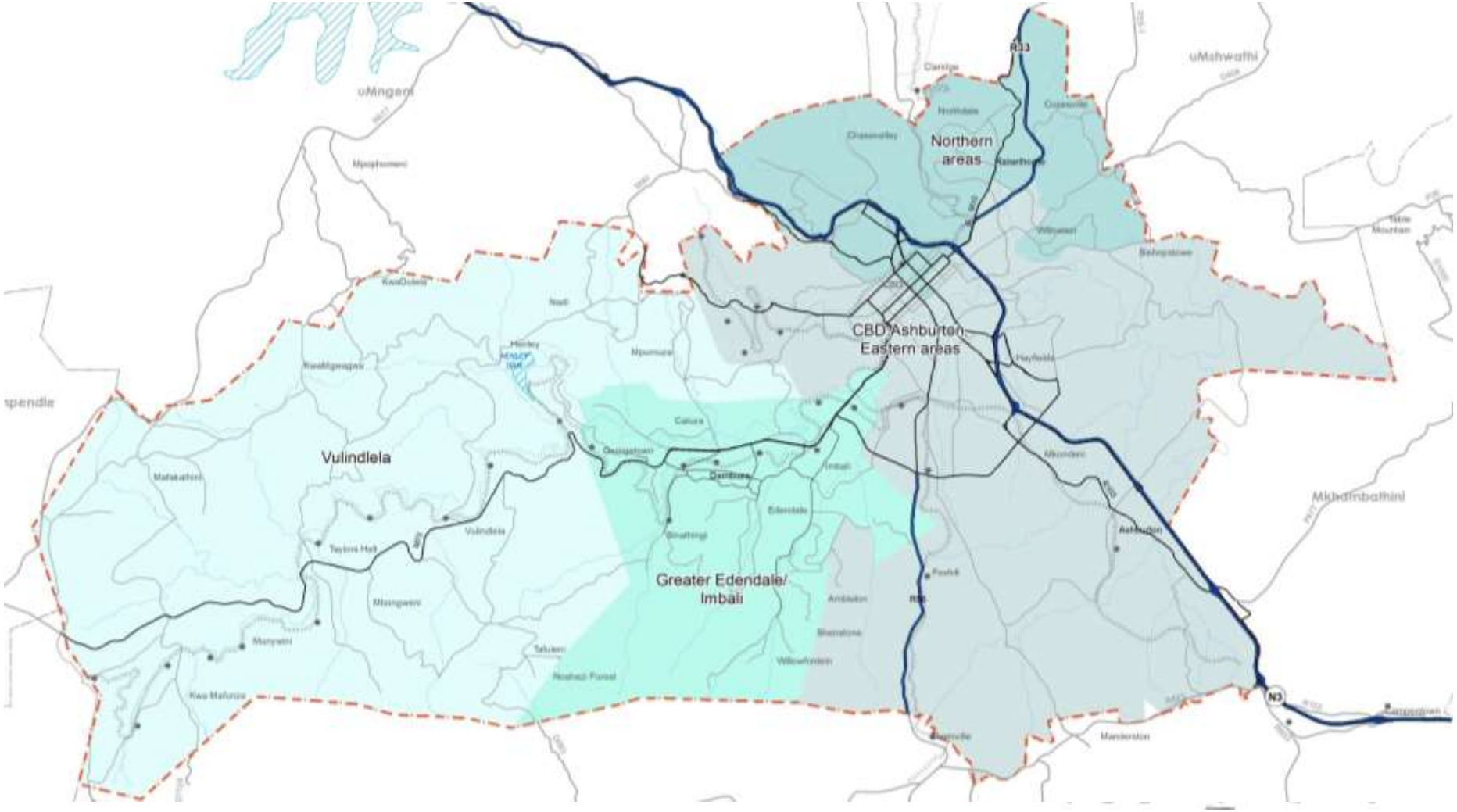
Vulindlela

Vulindlela is situated to the west of Pietermaritzburg and northwest of the Greater Edendale area. The majority of the land falls within the Ingonyama Trust (Traditional Authority areas). The area is predominantly rural and underdeveloped.

The Vulindlela area covers a vast area (approximately 28 000 ha in extent). The study area is made up of 9 wards. The leadership in these areas consists of ward councillors, as well as Amakhosi for Mafunze TA, Inadi TA, Mpumuza TA, Nxamalala TA, and Ximba TA.

(the following is based on an extract from the IDP Review 2013/ 2014 – 2016/ 2017)

3.1 LOCAL CONTEXT AND DYNAMICS



3.1 LOCAL CONTEXT AND DYNAMICS

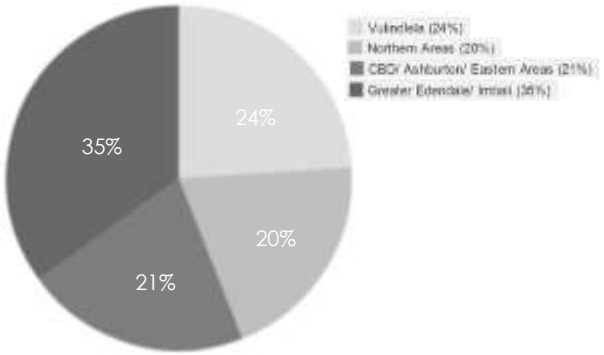
3.1.7 MSUNDUZI LOCAL MUNICIPALITY DEMOGRAPHICS

The following statistics were generated on a ward level using the 2011 Census data, as this is viewed as the level of information needed in order to make informed strategic spatial planning decisions.

2011 census data indicated that the population of the Msunduzi Municipality contributes 61% (618 533 people) of the District population totalling 1 017 763 people. The adjacent table confirms the Edendale management area as being home to the largest percentage of the population, and that together with the Vulindlela Area, the previously disadvantaged areas are home to 60% of the City population. The CBD/ Eastern Areas and the Northern Areas contributes 21% and 20% respectively.

Between 2001 and 2011 the population of Msunduzi experienced growth of 1.12% per annum. In terms of the management areas Edendale made the greatest contribution to growth, growing at a rate of 1.9% per annum over the period. Interesting trends are observed when studying the Ward statistics and these should be further analysed and discussed.

The gender distribution within the Municipality, reflected in the table alongside, is in line with what is generally found in urban areas, i.e. a slightly higher percentage of women than men. The management area and the ward level statistics, as reflected in the Annexure, reveal that this is also fairly consistent across the management areas and wards of the municipality, with only a couple of wards deviating



from this norm. From a planning perspective this highlights the importance of gender equity considerations in planning decision-making.

It was noted that in some rural municipalities in the Umgungundlovu District Municipality more than 50% of the population are below 20 years of age. This is viewed as a very youthful population. Despite the under-20s making up only 39% of the population in Msunduzi this is still regarded as a large group whose current needs are not adequately catered for and that will be moving into the job market over the next twenty years

	Male	Female
Msunduzi Local Municipality	48%	52%
Vulindlela	48%	52%
Northern Areas	48%	52%
Greater Edendale/ Imbali	47%	53%
CBD/ Ashburton/ Eastern Areas	48%	52%

2011 Age Distribution in Msunduzi Management Areas

Area	Population	0 - 20	21 - 40	41 - 60	61 - & above
Msunduzi Local Municipality	618533	39%	36%	18%	7%
Vulindlela	147999	45%	33%	15%	7%
Northern Areas	124587	34%	36%	22%	9%
Greater Edendale/ Imbali	213583	41%	38%	16%	5%
CBD, Ashburton, Eastern Areas	132364	33%	39%	19%	9%

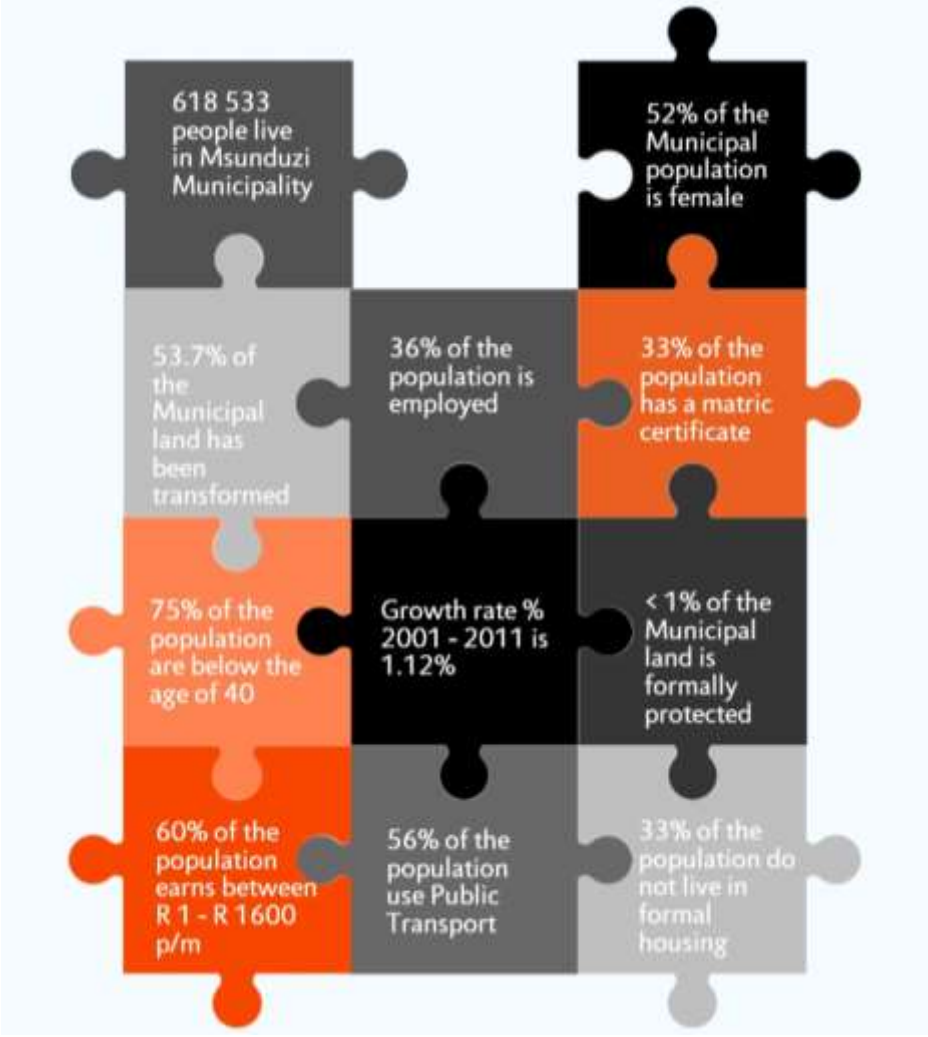
Source: Census 2011

It is further noted from the above that in terms of the management areas the youthfulness of the population is directly related to the level of development. In Vulindlela, an underdeveloped area, 45% of the population is under 20. In the CBD and Eastern Areas, arguably the more developed area, the under 20s make up a substantially smaller part of the population at 33%. The implications of this for planning is well-documented, but then specifically the need for age appropriate recreation, entertainment, education facilities etc., should be emphasized.

It is also noted that the more established management areas have an aging population with nearly 10% of the population in these areas being older than 60. Again, the needs of these groups are to be considered in planning. The longer term implications of this in terms of population growth should be considered.

3.1 LOCAL CONTEXT AND DYNAMICS

3.1.8 MSUNDUZI LOCAL MUNICIPALITY FACTS



In addition to the above context analysis of the Msunduzi Municipality, the image on the left provides a brief synopsis of the current conditions. Greater detail and analysis will follow in the Sustainable Urbanism Pillars in the proceeding sections.

MSUNDUZI MUNICIPAL FACTS

04
GLOBAL CONNECTIVITY

04 GLOBAL CONNECTIVITY

4.1 INTRODUCTION

Cities and Towns that perform well are those which are globally connected.

Global connectivity refers to both physical and non-physical connections or dimensions. Physical connections may be identified as major structuring elements such as roads, and rail that enhance connectivity to opportunities, whereas the non-physical connectivity refers to digital connectivity.

It is important to enhance access and connectivity at a national and regional scale. Key in this regard is linkage within the space economy. Strategic global connectors such Ports and Airports is critical to global connectivity. Regional road and rail connectivity is paramount to the increased performance and sustainability of a city.

Secondly a key aspect of global connectivity is ensuring non-physical connectivity through access to next generation digital connectivity to increase participation within the wider global economy. This is also critical in contributing to enhancing access to knowledge, growing the skills and education of base of cities. Global connectivity is an essential quality of sustainable urbanism.

OBJECTIVE	BENCHMARK
Improve air and road travel	Maintain current frequency of flights at Oribi Airport
	Upgrade current Airport Infrastructure
	Regular maintenance of national roads, particularly N3 to the Durban Port
Extend spatial lattice	Improve road and rail linkages to adjacent municipalities
Extend fibre optic network and last mile network	90% of households have access to telecommunication and high-speed broadband more cheaply and cost effectively
	100% of indigent households have free access to telecommunication and high-speed broadband
	100% of businesses, government departments and schools have easy access to business-grade and bi-directional high-speed broadband
	Telecommuting reduces conventional energy usage by 20%

4.2 PHYSICAL CONNECTIVITY

4.2.1 INTERNATIONAL LEVEL CONNECTIVITY

The physical connectivity of Msunduzi Municipality at an global scale is facilitated through two main forms of connectivity namely Air and Sea for the purposes of freight and public transportation. It must be noted from the onset that the municipality does not have primary connectivity at an international level however it's current location and supporting infrastructure, allow it direct access to two cities in the country that are well connected at a global level.

Johannesburg is the capital of the countries wealthiest province Gauteng and is known to have the largest economy of any Metropolitan region in Sub-Saharan Africa. The city is also known for having the largest and busiest Airport in Africa. Pietermaritzburg (Oribi) Airport links Msunduzi Municipality to Johannesburg as it offers regular direct flights to OR Tambo International airport.

Durban is the second largest city in South Africa, and is also known as the second most important manufacturing hub in the country. It is famous for having the busiest general cargo port in Africa and being home to one of the largest and busiest container terminals in the Southern Hemisphere. In addition to this is Dug-out Port mentioned by the President in his 2013 state of the nation address reflects the growth in the cities level of connectivity at an international level.

The ability to maximise on the access that Msunduzi municipality has to the above infrastructure in the Johannesburg and Durban complexes is what determines its ability to compete as city an international level. The means by which the Municipality is has access to the City of Johannesburg is discussed further in the following section on national level connectivity.

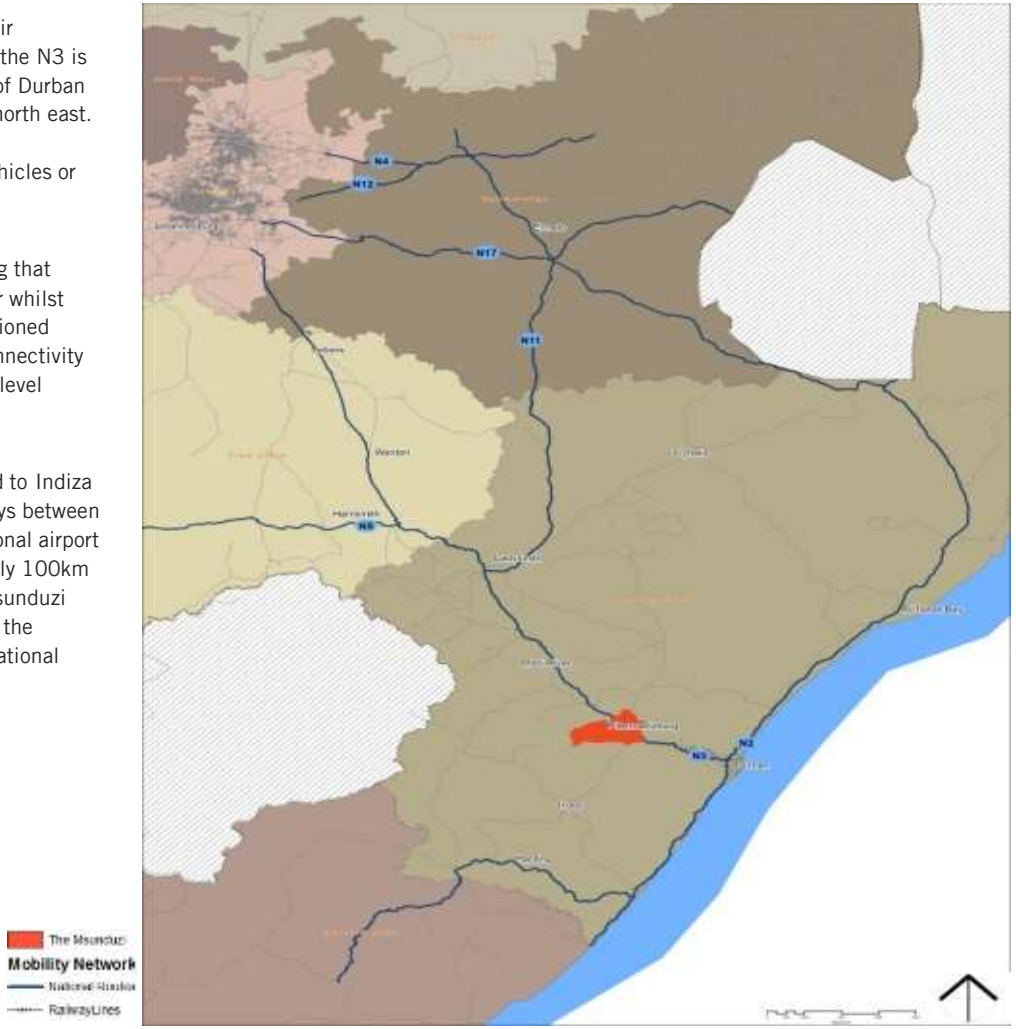
4.2 PHYSICAL CONNECTIVITY

4.2.2 NATIONAL LEVEL CONNECTIVITY

At a national level, the Municipalities' connectivity is facilitated through rail, road and air infrastructure used for freight and public transportation. In terms of road infrastructure, the N3 is the only primary distributor within the Msunduzi municipality, connecting it to the City of Durban to the southwest and Johannesburg in Gauteng as well as the Freestate province to the north east. The N3 is a movement and freight corridor accommodating both passenger and freight transportation. Passenger transportation along the N3 is mainly in the form of private vehicles or public coaches running to and from Gauteng on a daily basis.

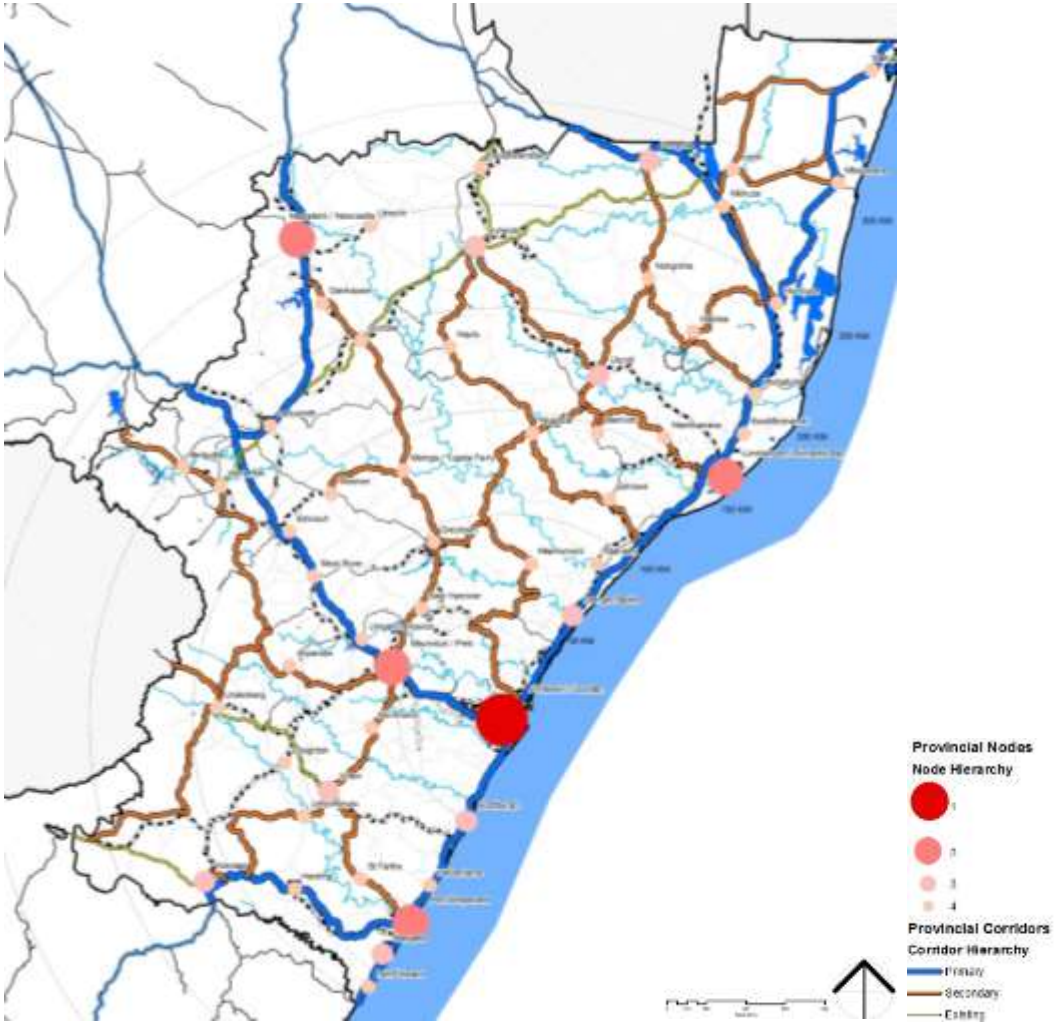
In terms of rail infrastructure, the mainline between Ethekwini Municipality and Gauteng that passes through Msunduzi Municipality. The line primarily serves as a goods line however whilst also serving the intercity Shosholoza Meyl Passenger service. Apart from the above mentioned mainline there are a number of branch lines which radiate from Msunduzi, providing connectivity with the surrounding towns and centres. These are discussed further under the regional level connectivity.

Pietermaritzburg airport is the main airport in the city and its management is outsourced to Indiza Airport management company. There are currently between 4-6 flights between both ways between Pietermaritzburg and Johannesburg each day excluding Saturdays. The closest international airport to Msunduzi however is the King Shaka International Airport that is located approximately 100km from Msunduzi Municipality. The above reflects a clear connective network that links Msunduzi municipality to various cities at a National Level. The national connective networks feed the international connections thus increasing the city's connectivity at a national and international level.



4.2 PHYSICAL CONNECTIVITY

4.2.2 NATIONAL LEVEL CONNECTIVITY



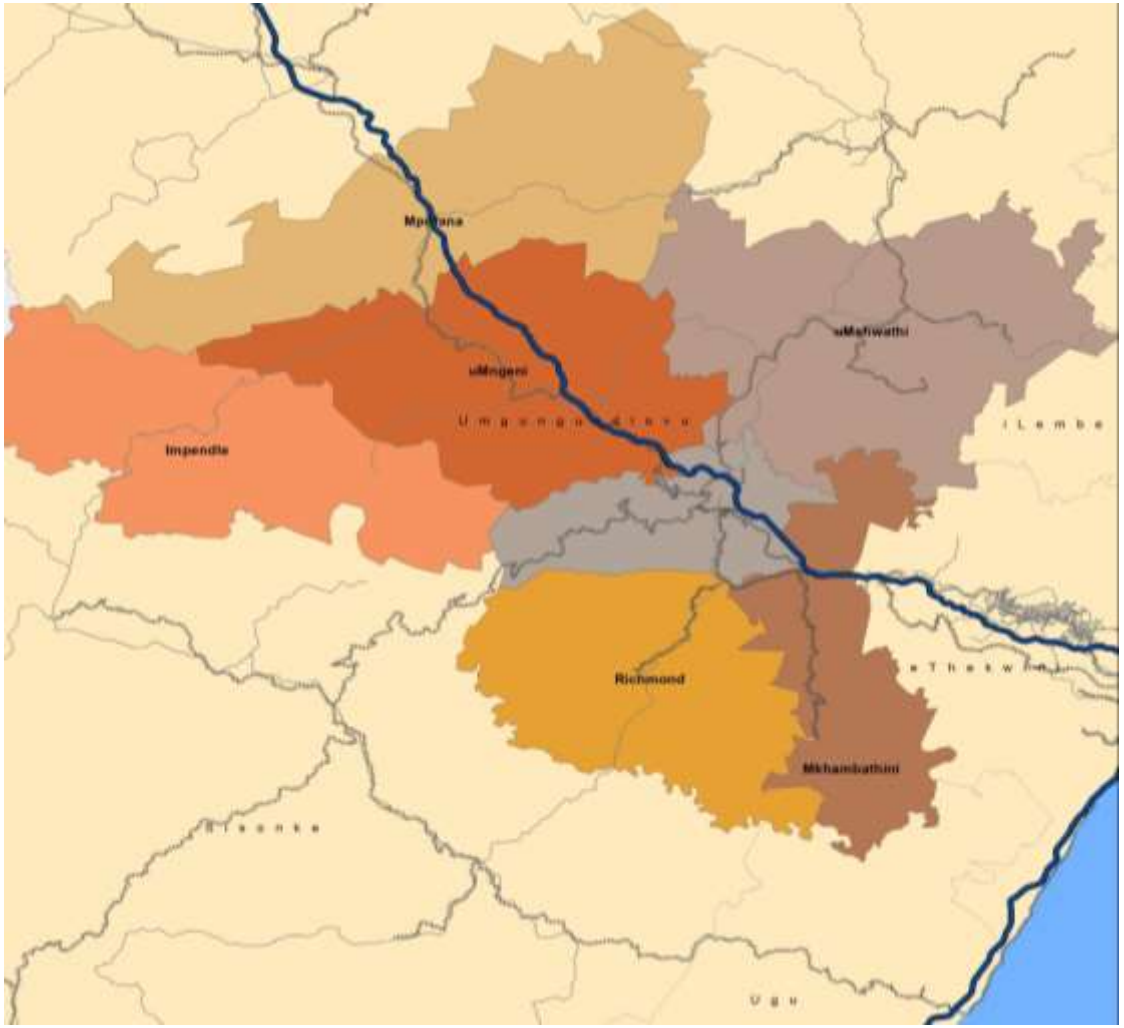
4.2 PHYSICAL CONNECTIVITY

4.2.2 REGIONAL LEVEL CONNECTIVITY

At a regional level, connectivity within Msunduzi is observed is observed through 2 main modes namely, road and rail. In terms of road, infrastructure, the N3 is identified as an key multi-sectoral corridor within the province. The link it provides between Msunduzi and eThekwini Municipality is thus seen as having the potential to become similar to the development N1 development corridor between Pretoria and Johannesburg in Gauteng.

Other key road networks at a regional scale include, R103 travelling parallel to the N3 through Ashburton, Scottville, Pietermaritzburg CBD. While linking the Municipality with surrounding municipalities, it also provides a mobility and accessibility to the eastern towns like Bothas Hill and Hillcrest as well as western towns like Howick, Estcourt and Mooi River. Other key regional road linkages include the following:

- The R56 a primary and regional distributor (Class1 and Class2) which runs from the south east of the municipality to the Pietermaritzburg CBD. This road provides access for the south eastern suburbs within the municipality like Westgate, Richmond Crest and Bisley and mobility and for the south eastern towns beyond the municipality borders like Thornville, Richmond and Ixopo.
- The R33, a regional distributor road on the northern side of the CBD and the N3 highway providing access for Neighbouring Umshwathi municipality and northern residential areas to the CBD.
- The M70/M10 a regional distributor running from the Northern areas through the CBD to the south western parts of the city and neighbouring Impendle and Ingwe Municipalities.
- The M80: a district distributor (Class 2) road which stretches from the northern city of Hilton passing through Mount Michael, Winterskloof, Sweetwaters, Blackridge and Prestbury into the CBD.



4.2 PHYSICAL CONNECTIVITY

4.2.2 REGIONAL LEVEL CONNECTIVITY

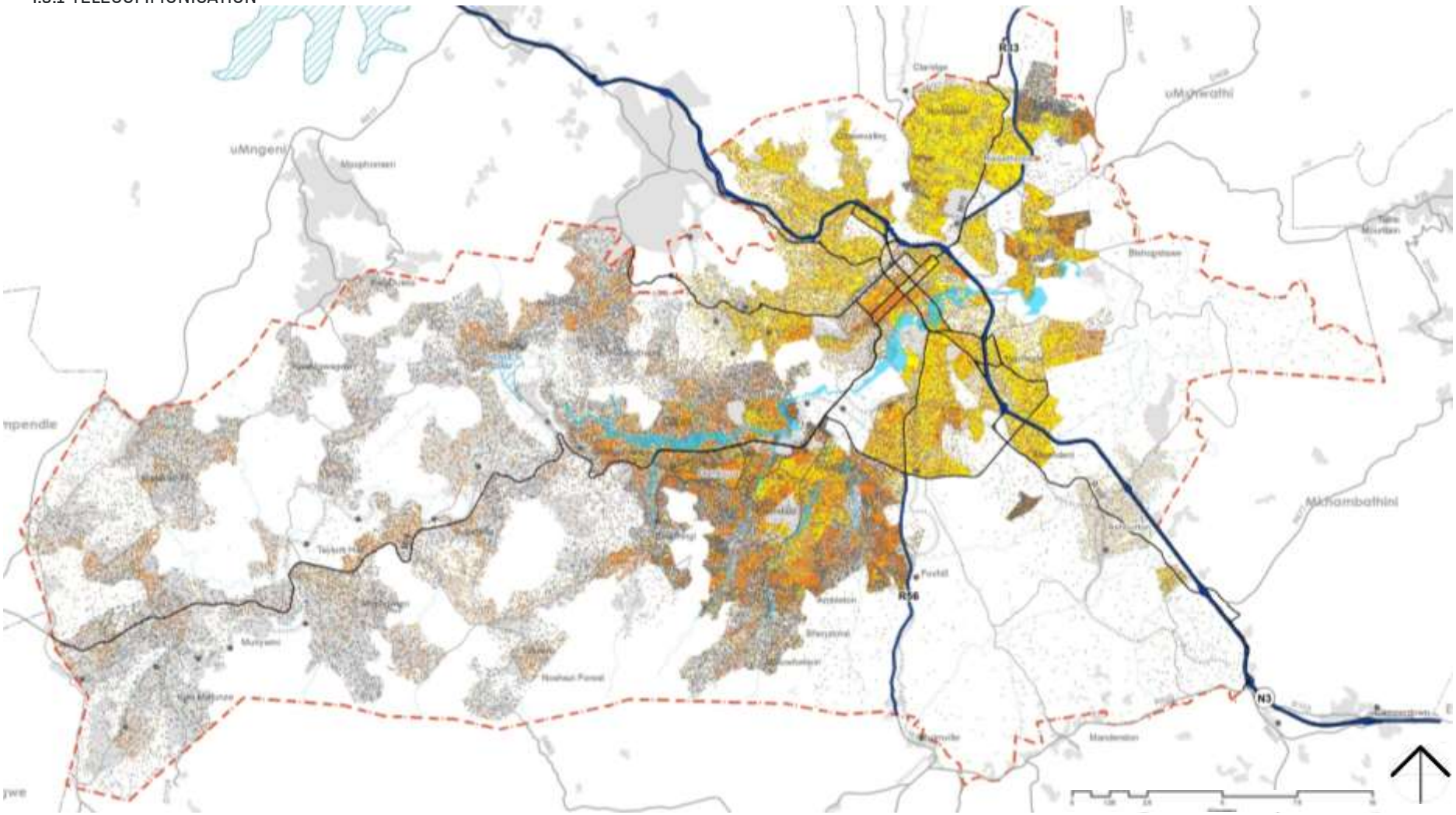
These linkages improve the accessibility of Msunduzi Municipality to surrounding municipalities thus promoting the connectivity within the regional context.

4.2.3 REGIONAL LEVEL CONNECTIVITY

In terms of connectivity through rail infrastructure, apart from the earlier discussed mainline, there are a number of branch lines which radiate from Msunduzi Municipality, providing connectivity with many of the towns and centres within the district and beyond. These lines are used almost exclusively used for freight services. The map reflects a clear indication of the access the surrounding municipalities have to Pietermaritzburg CBD through the rail infrastructure.

4.3 NON-PHYSICAL CONNECTIVITY

4.3.1 TELECOMMUNICATION



4.3 NON-PHYSICAL CONNECTIVITY

4.3.1 TELECOMMUNICATION

The power of non-physical means of connectivity in the twenty first century cannot be over emphasised. Ever changing technology in the telecommunication and ICT industry across the globe is evolving and becoming a key component of the functioning of modern cities. As such it is essential to comprehend the present state of the ICT and Telecommunication environment within Msunduzi Municipality.

The analysis conducted firstly looks and Landline and cell phone ownership and use within the municipality. The census 2011 data reflected that the number of households within the municipality with access to landline telephones had dropped from 45 471 in 2001 to 35 779 in the year 2011. However in terms of cell phones the opposite was recorded as the number of households with cell phones almost trebled over the same period from 43 593 in 2001 to 146 407 in 2011. Along with this, 62 701 households indicated that they had access to the internet.

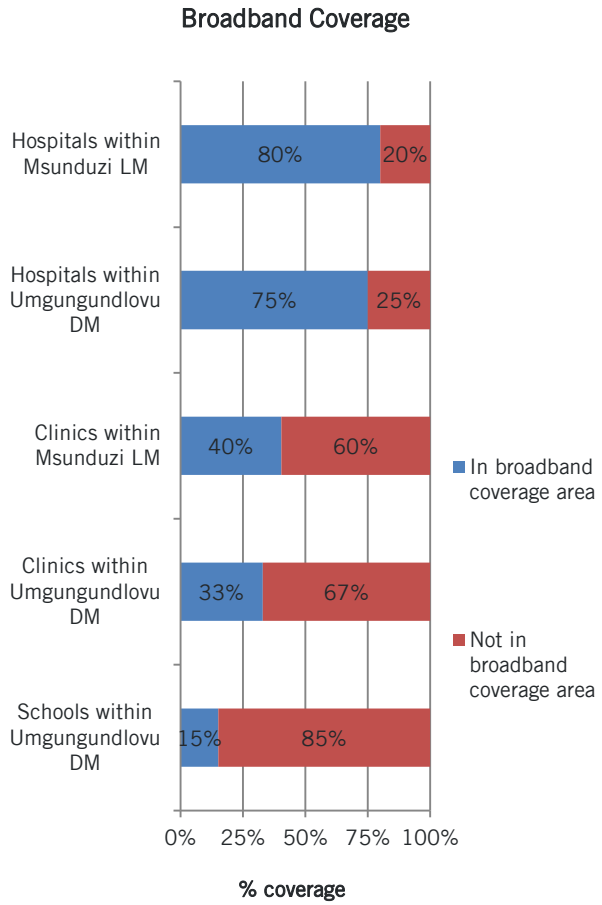
The map to the right reflects overall ICT connectivity within the municipality. As reflected in the map, the most dominant mode of connection is via cell phones. This is evident from the broad distribution across the whole municipal area. Landline connectivity is highly concentrated in the CBD, Northern areas, portions of Imbali and Hayfield areas. This possibly reflects potential lack of provision of adequate infrastructure in the more rural or underdeveloped poorer areas possibly attributed to the lack of affordability of the people. The map also reflects that a large percentage of the population has got access to the internet. This is evident from the wider distribution of orange reflected in the map. It is important to note is the way in which access to internet appears to be more evident in areas were people have access to cell phones. This can be attributed to the fact that most cell phones today easily allow the user to access to the internet. However, without wifi fixed cost connectivity, it is assumed that current access will be at a substantial cost to users and possibly prohibitive to many. This is a major factor in terms of access to knowledge.

4.3 NON-PHYSICAL CONNECTIVITY

4.3.1 TELECOMMUNICATION

The Msunduzi Municipal IDP reflects that ICT connectivity has been identified as being an important issue currently being addressed within the municipality and province at large. Apart from identifying increased broadband accessibility as one of its catalytic projects, the Municipality has also prepared a policy for the development of Cellular Telecommunications infrastructure to establish a uniform and comprehensive set of standards and assessment criteria to assist in the control, development, and installation of cellular telecommunications infrastructure. It is important to highlight the way in which the Municipalties strategies in regard to improving ICT connectivity, align with the Provinces Goal of providing "high speed always on internet connectivity to the entire province and its citizens".

Currently Msunduzi Municipality is ranked 19th out of 51 municipalities within the KwaZulu Natal in terms of broad band coverage. The figure to the right reflects Broadband coverage within Umgungundlovu District Municipality and Msunduzi Local Municipality. As reflect on the graph, while Hospital connectivity within the Msunduzi is at 80%, the is still the challenging of increasing the connectivity in Clinics and Schools within Msunduzi and Mgungundlovu District.



Based on data sourced from "KwaZulu Natal Broadband Report"– KZN Department of Economic Development (2012)

4.4 SYNTHESIS EVALUATION

One common theme that has been evident in the introductory section of this report is that of the potential within Msunduzi Municipality. The same theme will keep recurring in the chapters that follow, especially in the productive systems section. However as the Sustainable Urbanism discourse would tend to argue, cities that do well are not cities that are isolated but those that are connected.

From a physical point of view, the geographic location of Msunduzi municipality allows it the opportunity of becoming well connected in the global economy due to the access it has to the earlier mentioned O.R.Tambo airport in Johannesburg and Durban Harbour and airport. These cities can be viewed as potential gateways for the municipality to make its mark at a global scale. The surrounding municipalities and towns possess various growth potential in various sectors such as Tourism and Agriculture. As such it is essential for physical connectivity of the municipality to be improved at all levels.

Non-physical connectivity has become just as important as Physical connectivity in the 21st century as the internet is now seen not just as a business tool but also as access to a world of opportunity. A broadband demand survey in the province revealed the need for high speed internet in educational institutions, hospitals and clinics as well as in the local governance as a means of improving the functioning and quality of services rendered.

As such while the assessment has revealed that there is improved connectivity in the Municipality, but there is also a need for a more integrated and non-discriminatory approach in the provision of both physical and non-physical infrastructure necessary to ensure an improved level of connectivity for all residents within the municipality.

4.4 SYNTHESIS EVALUATION

Objective	Benchmark	Synthesis Evaluation
Improve air and road travel	1. Maintain current frequency of flights 2. Upgrade of airport infrastructure to accommodate larger range of aircraft 3. Regular maintenance of national roads, especially to the Durban port	1. There are 4-6 flights to and from Johannesburg everyday with the exception of Saturdays. This is reasonable and means that the travel time is reduced if a direct flight from Pietermaritzburg to Johannesburg is taken rather than transferring to KSIA and taking a flight from there. In the former instance the duration of the flight would be 1h20 plus say 1 hour for secondary activities. In the latter case, travel time would comprise a road-based trip to KSIA (1h) plus check in and secondary activities (30min) and flight time between KSIA and ORTIA** (1hr) = 2.5hours. Other than time-saving, route choice would governed by cost to user. 2. The Pietermaritzburg Airport in currently undergoing upgrades. 3. According to the CITP 2010-2015 (Goba 2011), "overloading of the municipal road network and the impact this has on pavement deterioration is recognized as a serious problem for the Municipality. Monitoring of trucks for overloading is carried out on major roads with particular emphasis on the N3 freeway from Hilton to Ashburton, which is managed by the Municipal Traffic police supported by the RTI. A weighbridge located at the RTI testing grounds allows testing of vehicles suspected of overloading. Whilst these controls and restrictions do much to reduce the practice of overloading, there remains the need to develop a comprehensive plan of freight and hazmat routes, controls and monitoring that ensures effective movement and access of freight to and through the Municipality, without threat to the Community and negative impact on the road network and infrastructure."
Extend spatial lattice	Improve road and rail linkages to adjacent municipalities (quality and quantity, if applicable)	A high-speed commuter rail link between Durban, Pietermaritzburg and Johannesburg is currently in the feasibility phase.
Extend fibre optic and last mile network	1. 90% of households have access to telecommunications and high-speed broadband more cheaply and cost effectively.* 2. 100% of indigent households have free access to telecommunications and high-speed broadband.* 3. 100% of businesses, government departments, and schools have easy access to business-grade and bi-directional high-speed broadband.* 4. Telecommuting reduces conventional energy usage by 20%.*	1, 2 & 3. The "KwaZulu Natal Broadband Report"– KZN Department of Economic Development (2012) is the first step in working towards the benchmark. The report states that government "cannot afford to provide the access networks across the province itself. Moreover, access network technologies have relatively short lifespans when compared to backbone technologies. Rather, the access networks can be done via entrepreneurs and ISP's on an "open access" basis. This would drive penetration and uptake, creating jobs and stimulating economic growth." 1. Trends in the workplace are shifting towards flexible working arrangements. "Virtual workers are increasingly becoming part of the traditional organisation…57.1% [of participants in a telecommuting study] indicated that they would prefer to work from home more than they currently do" (Baard, N and Thomas, A, 2010). The achievements benchmarks 1 to 3 will enable and promote telecommuting.

05
PRODUCTIVE SYSTEMS

05.1 INTRODUCTION

Sustainable cities are productive cities. Cities facing economic decline and with limited growth, are likely to have an unsustainable future. Securing production relates to economic production (the production of jobs and incomes) as well as agricultural production (securing food production).

Economic production involves the development of new businesses and providing for jobs to create an employed and healthy population. Healthy cities require the development of productive economic regions. Given the significance of global competition, it is vital that Cities innovate and adapt to changes in the market. Defining the competitive edge of particular regions and their infrastructure advantages are paramount to successful cities. It is vital therefore to retain, secure and expand, the productive capacity of cities, whilst adapting to new opportunities as a result of global markets and competition.

Agricultural production relates to securing access and availability of food. This includes ensuring that the all urban residents have access to a wide range of types of food in adequate quantities. Ensuring that areas are set aside for productive agricultural use within proximity to urban settlement is critical to food security.

Sustainable cities are diverse in landuse providing for a range of opportunities. One of the most important of these is access to economic opportunity.

OBJECTIVE	BENCHMARK
Encourage a diverse mix of appropriate land uses throughout the Municipality. Provide additional opportunities for appropriate new greenfield and brownfield redevelopment throughout the Municipality.	Ensure effective management of land uses within the Msunduzi Municipality
	Increase greenfield industrial development by 50ha per annum
	Increase brownfield redevelopment by 50ha per annum
	Additional new retail GLA provided
	New office GLA provided
	Trading space for informal sector provided
	Production space for informal sector provided

05.2 STATUS QUO ANALYSIS

5.2.1 MSUNDUZI IN KWAZULU-NATAL

Although its economy is significantly smaller than that of eThekwini, Msunduzi Municipality is still an important economic hub within KwaZulu-Natal as well as the Umgungundlovu District. Its location on a national development corridor also makes it of national significance it allows the city to be linked with a number of key provincial and interprovincial transportation routes thus strengthening its role as the core.

These routes include (Isikhungusethu 2012):

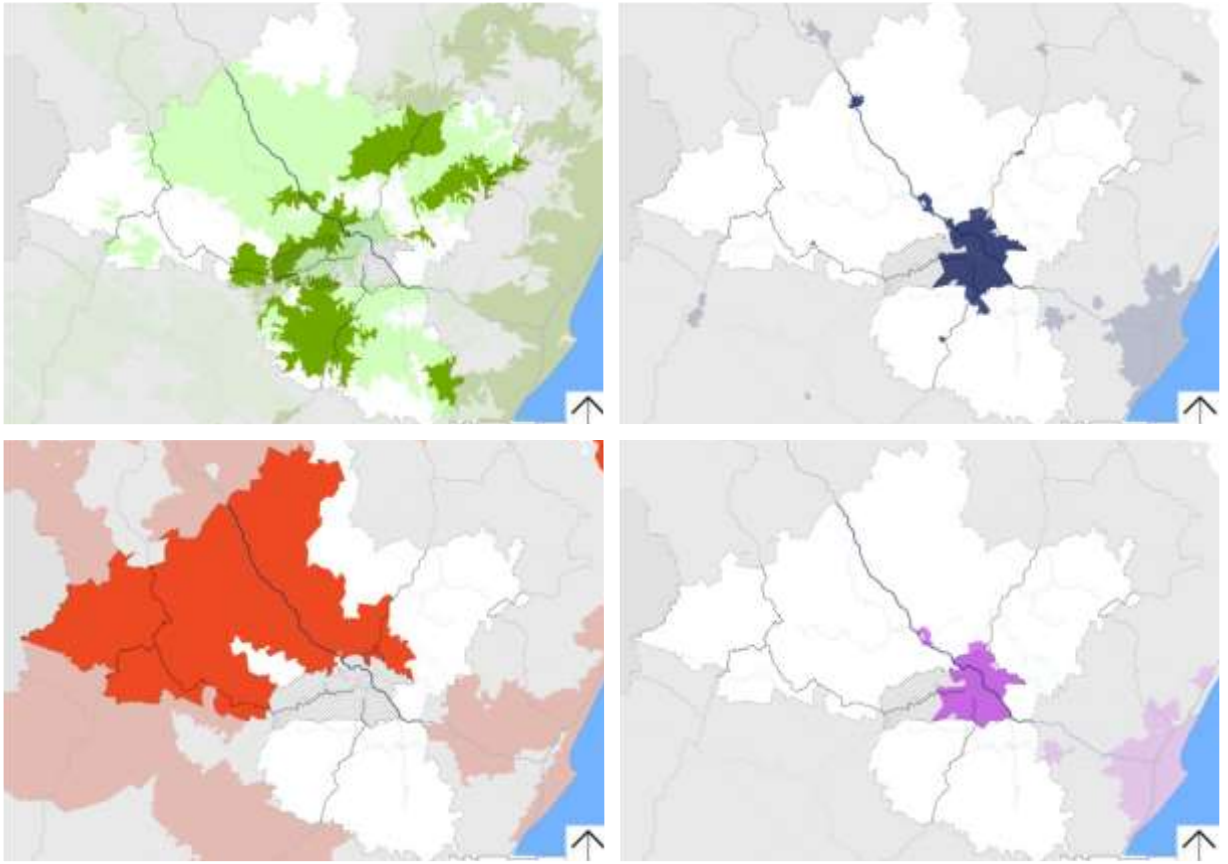
- The KwaZulu-Natal-Midlands and the Eastern Cape link via Bulwer, Underberg and Kokstad;
- KwaZulu-Natal-Midlands and the Eastern Cape via Richmond and Ixopo; and
- KwaZulu-Natal-Midlands and the north coast via Wartburg and/or Greytown R33.

Msunduzi and other municipalities along the N3 corridor are also well served by a developed but underutilised rail system.

The Provincial Spatial Economic Development Strategy (PSEDS) identifies key elements relevant to Spatial Economic Planning of Msunduzi municipality as being,

- Industrial development seen as central to economic growth in the province and corridor linking two (Port) nodes & extending to Howick form the primary zone of industrial potential;
- Tourism development seen as second in importance and Primary sectors of tourism potential are beach, cultural and eco-tourism. Provincial tourism priorities are:
  - Greater Durban & Pietermaritzburg area
  - Drakensberg region….(and others) ; and
- Agriculture and agribusiness are seen in the PSEDS, inter alia as having:
  - Massive potential for growth;
  - Largest existing or potential employer in rural areas; and
  - can make greatest impact on reducing poverty levels in rural areas.

Umgungundlovu District Spatial Economic Potential (Per Sector)



05.2 STATUS QUO ANALYSIS

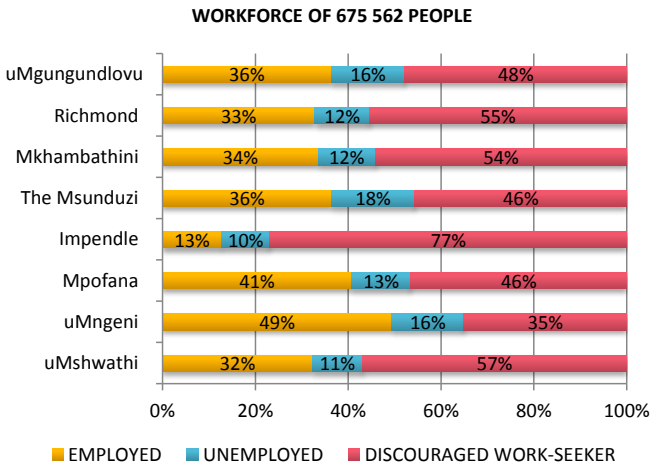
5.2.2 MSUNDUZI IN UMGUNGUNDLOVU DISTRICT

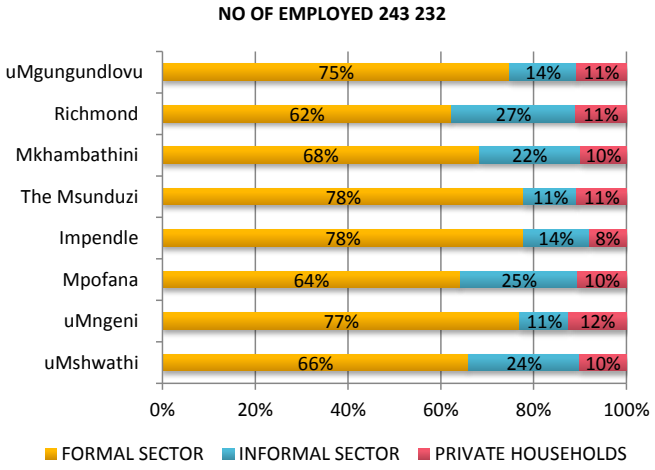
At a more District level, Msunduzi Municipality fulfils a dominant role in the economy of the Umgungundlovu District. The graph to the right indicates the workforce demographics per local municipality within the District. Employment is highest in uMngeni (49%) and Msunduzi (36%), forming part of the urban core.

In Mooi-Mpofana, a pre-dominantly commercial farming area with limited rural settlement the employment rate is also high at 41%. In rural Impendle the employment level is the lowest with only 13% of the workforce in employment. The second graph shows that the majority (75%) of those employed are working in the formal sector with the informal and household sectors contributing 14% and 11% respectively.

Msunduzi Municipality makes up the development core of the Umgungundlovu District Municipality both in terms of its contribution to the District economy and the overall population of the District. It is to be accepted that the future development of Msunduzi has the potential to impact on the District as a whole. Of specific importance in considering future Msunduzi spatial planning will be:

- Maintaining and strengthening the transport linkages between Msunduzi and the rest of the District;
- Coordinating spatial development with other municipalities to ensure that there is limited unnecessary competition between municipalities for private and public sector investment, but rather that developments in municipalities are mutually reinforcing; and building on the growth of a metropolitan city structure in the District.

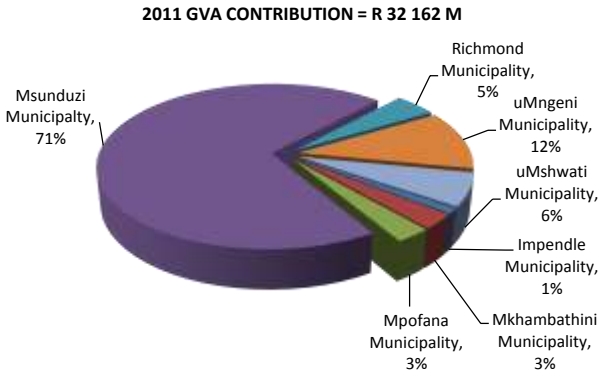




05.2 STATUS QUO ANALYSIS

5.2.3 THE ECONOMY OF MSUNDUZI

Msunduzi Municipality makes an important contribution to the economy of both Umgungundlovu District and KwaZulu-Natal Province as reflected by the Municipal contributions to GVA chart to the right. The table to the right also shows a 2011 GVA contribution of R22.702 billion of a total of R32.162 billion of the district economy by Msunduzi Municipality. The table also suggests that the manufacturing (21%), finance and real estate (19%) and government (19%) sectors all make a substantial contribution to the district economy, suggesting a well-balanced and vibrant economy. The transport, storage and communication sector, as well as the wholesale and retail sector also make a contribution of 14%. Despite the District often being recognised for the contribution of it's agricultural sector, in Msunduzi this sector only contributes 3% to the output of the Municipality.



The Msunduzi economy as a whole showed substantial growth during the period 2001 to 2006, but this growth appeared to have slowed down, as would be anticipated, during the period 2006 to 2011. The above provides a longer term view of the changing structure of the Msunduzi economy. In the longer term (1996 to 2011) the only significant structural changes in the economy have been in the transport, storage and communications sectors with the contribution of this sector increasing from 8% to 14%, and the contribution of the government sector decreasing from 24% to 19%. Shorter term changes, between 2006 and 2011, have been more significant with declines in the contribution of the manufacturing, and finance / real estate sectors, but growth in the contribution of the government sector from 17% to a significant 19%.

INDUSTRY	1996	2001	2006	2011
Manufacturing	21%	24%	24%	21%
Finance, insurance, real estate and business services	19%	19%	20%	19%
General government	24%	19%	17%	19%
Transport, storage and communication	8%	9%	12%	14%
Wholesale + retail trade, catering and accommodation	11%	12%	11%	10%
Community, social and personal services	7%	6%	6%	6%
Agriculture, forestry and fishing	1%	2%	2%	3%
Electricity, gas and water	5%	4%	3%	3%
Construction	2%	3%	2%	3%
Mining and quarrying	1%	1%	2%	2%
TOTAL PERCENTAGE	100%	100%	100%	100%
TOTAL IN Rm	15,689.70	16,265.10	20,041.90	22,701.90

05.2 STATUS QUO ANALYSIS

5.2.4 THE SPACE ECONOMY OF MSUNDUZI

As a result of 150 years of development, and various elements contributing to the structuring of the City, Msunduzi has developed a distinct spatial economic structure. These influencing elements are a combination of infrastructural elements (link roads railway lines between Pietermaritzburg and Durban) and political elements (Apartheid segregation policies). When considering that the current CBD was in 1914 the full extent of the City, the question must then be asked: Where will Msunduzi be in 100 years from now and what key spatial planning decision must be taken in 2014 to accommodate the potential changes?

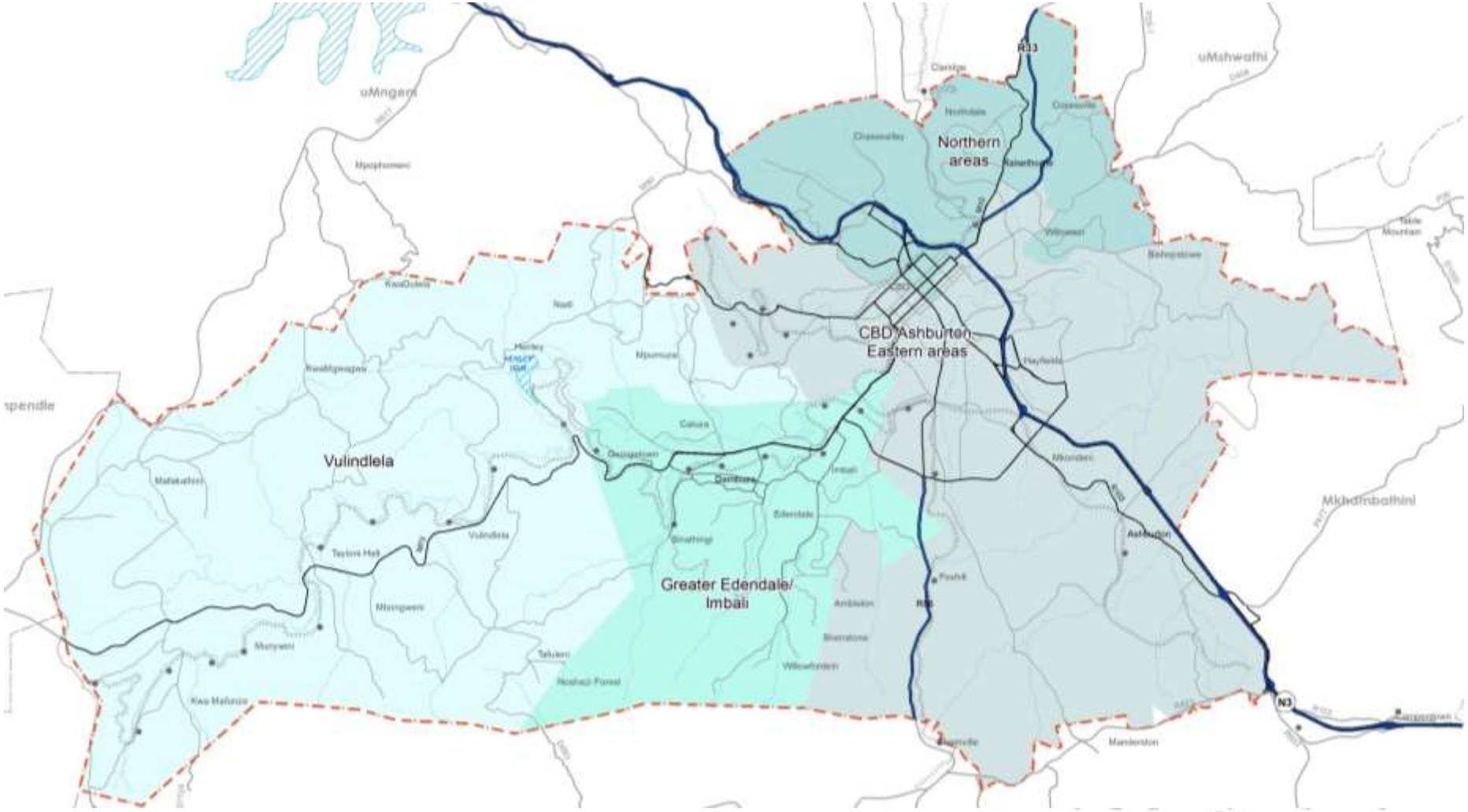
Movement infrastructure guided the spatial economic development of the city with higher order activities generally locating on routes of national and regional significance, these routes originally passing through the Pietermaritzburg CBD. The N3 bypass, although now viewed as an important structuring element in the future spatial development, is a relatively recent addition to the movement infrastructure only coming into operation in, it is presumed, the 1970s. Although manufacturing opportunities linked to this road have been exploited over the past 30 years, it has only been over the past decade that the route also altered the spatial distribution of the commercial and retail sectors in the Municipality with the Liberty Mall and surrounding developments bearing testimony to this. Further retail development is currently proposed in the Hillcove Hills area.

It should be considered in future spatial planning that a key impact of the N3 bypass on spatial development has been older industrial areas in Msunduzi becoming obsolete, or at least less attractive to the modern investor. Modern industry is ‘obsessed’ with getting good access to transport infrastructure. Thus, the majority of successful industrial developments in KwaZulu-Natal over the past two decades locating on, or in very close proximity to either the N3 or the N2 freeways, bears testimony to this (examples include industrial development in Howick, and eThekwini examples including Riverhorse Valley, South Gate, Mahogany Ridge and others).

The following section will continue looking at the spatial economy of Msunduzi Municipality however at a lower lever. The Municipality is composed of four local areas and as such each area will be assessed individually.

05.2 STATUS QUO ANALYSIS

5.2.4 THE SPACE ECONOMY OF MSUNDUZI



05.2 STATUS QUO ANALYSIS

5.2.4 THE SPACE ECONOMY OF MSUNDUZI (NORTHERN AREAS)

The largest part of this management area borders on and is located to the north of the N3. The Msunduzi IDP suggests that "due to the limited access nature of this road, opportunity points exist at key intersections or off-ramps along its route". The predominant land use in the northern area is formal, primarily middle to high income, residential with informal housing development in areas such as Claridge and Copesville.

It would appear that the demarcation of this area specifically intended to exclude industrial areas, with Willowton and Rosedale (Allandale Road area) excluded from this demarcation located immediately to the south.

The significant retail and commercial nodes located within the northern areas include the Liberty Midlands Mall, retail / commercial development in the vicinity of Armitage Road, the CBD north of Church Street accommodating a range of retail businesses and primarily service industries, the Cascades Shopping Centre and retail nodes along Chota Motala Road.

One of the most significant recent commercial developments in Msunduzi, the Victoria Country Club Estate, which is located in this area just to the north of the N3, and has received substantial interest from major national and multi-national companies. The extent of availability of land in this estate is not known, but it appears as if there are still a number of undeveloped sites.

From an economic perspective the major regional health institutions located in the northern areas, The Grey's Hospital and Townhill Mental Institution, should receive specific mention. These institutions again reflect the regional service centre role that Msunduzi fulfils.

From a spatial economic perspective agriculture remains a dominant land use (in terms of area of land) with the western portions including substantial plantations along Otto's Bluff Road and in the Chase Valley area. It is anticipated that this agricultural land, now with limited environmental value, may in future be targeted for urban development. There are substantial active/passive open spaces in this area with the largest being Queen Elizabeth Park and some agricultural land in the Copesville area.

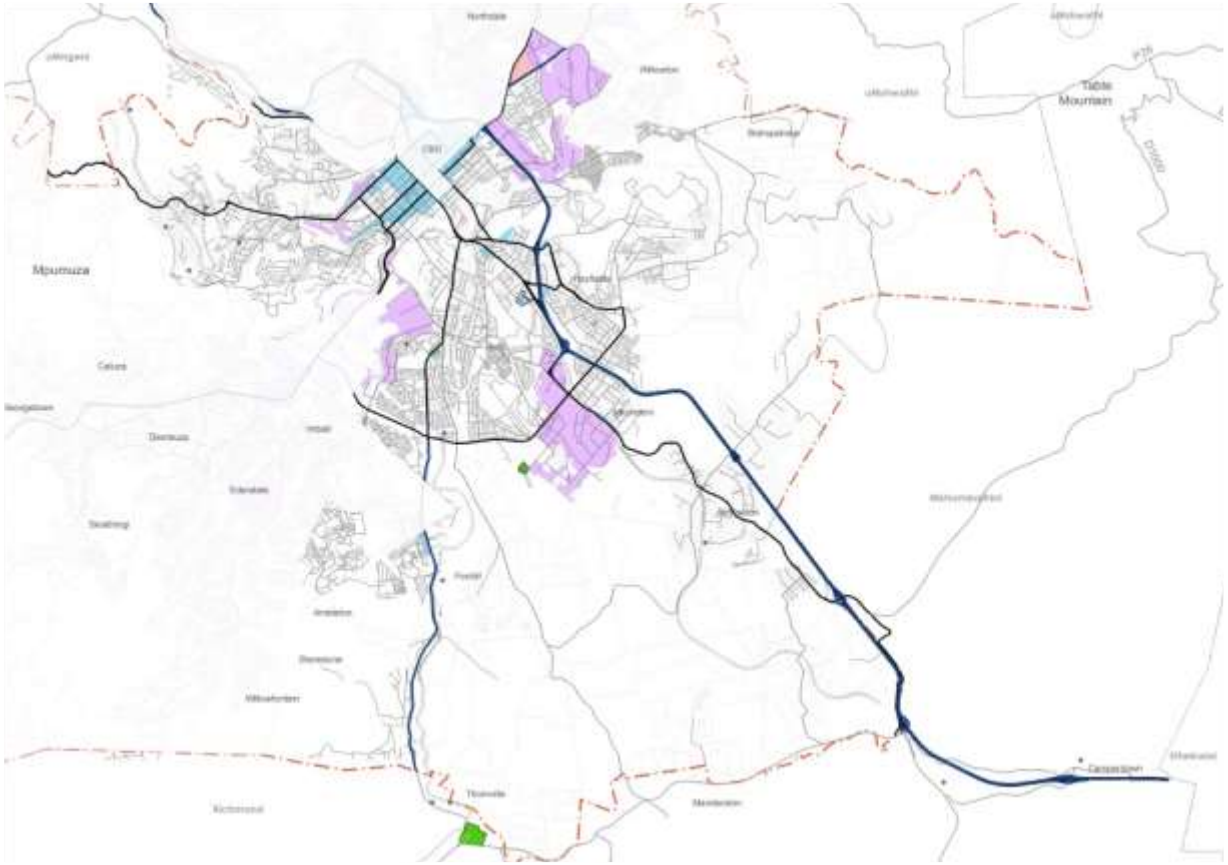
05.2 STATUS QUO ANALYSIS

5.2.4 THE SPACE ECONOMY OF MSUNDUZI (CBD, ASHBURTON & EASTERN AREAS)

This area will be assessed in two portions in order to enable more accurate and comprehensive analysis, especially considering the size of the area and the diverse characteristics observed within it. The South Eastern District to the east of Mkhondeni Industrial area, including Ashburton and areas to the north and south of the N3, presents the only opportunities for larger greenfield type development in the Municipality. Considering the limited land available for development in the rest of the municipality, as well as development constraints specifically in the western parts of the municipality, this underdeveloped area will be of strategic importance to the long term development of Msunduzi

The most significant spatial economic structuring elements in this area is the Mkhondeni industrial area immediately to the west and the N3 and R56 stretching in easterly and southerly direction through the area. On the N3 the two existing interchanges, and the R103 running parallel to the N3, present significant future development opportunities. Robbins (2013) notes various development pressures experienced in this area in recent years and indicates that environmental constraints may limit the extent of land available for development. His assessment based on available material and discussions with various stakeholders, suggests that the following issues relating to economic development may emerge (Robbins 2013):

In the first instance the areas adjacent to the N3 are likely to face ongoing developer interest as well as interest from those seeking to establish homes (formal and informal). The pressures on land availability in eThekwini and the investments associated with the N3 corridor are likely to escalate the need for Msunduzi and others alongside the corridor to provide land and infrastructure to service the demand. The necessity to consider appropriate mixed use developments at some planning scale (to avoid fragmentation) is key to the area. It should also be noted that this would require important balancing of interests between agricultural players, residential interests, the protection of the environment and its related biodiversity and services as well as those of new economic players. For instance there is and will continue to be demand for properties adjacent to the N3 for light industrial and distribution activities whilst to date much of this has been allocated to residential uses – perhaps in part because of the lower demand on municipal infrastructure in a context of weak municipal investment performance. Links with, and even possible growth of Mkhondeni, must be considered in



05.2 STATUS QUO ANALYSIS

5.2.4 THE SPACE ECONOMY OF MSUNDUZI (CBD, ASHBURTON & EASTERN AREAS)

this mix. Such development is likely to have substantial impacts, as will the N3 corridor development, on road networks (such as R103) and other infrastructure in the area.

From the preceding information it is observed that most types of development are currently being catered for in the new development areas, except for affordable housing. This suggests that the separation between workers housing and their (potential) place of work is further entrenched in current spatial development. A small informal settlement to the south of Mkhondeni suggests that if affordable housing is not provided in this area more informal settlement may in future be anticipated closer to the N3 (see also example of informal settlement at the Tweedie interchange in Mngeni Municipality).

Central Area and CBD Extension (including the CBD and stretching as far as Mkhondeni industrial area in the east) represents the economic core of the city that includes a variety of activity such as:

- The Central Business District with substantial office/ commercial, retail and government sector activity;
- Industrial Areas including Panorama Gardens, Willowton, Mayors Walk area, Mkhondeni and others;
- Educational Institutions centred around the Pietermaritzburg campus of the University of KwaZulu-Natal and the Durban University of Technology in Scottsville, and UNISA and FET College/s in the central area;
- Msunduzi Airport, the Pietermaritzburg Station and the N3 as key spatial structuring elements together with the Edendale-Northdale Corridor; and
- Various tourism and recreation related facilities including the Scottsville Race Course, the Golden Horse Casino, the National Botanic Gardens, various museums, sport clubs and parks.

The IDP (Msunduzi 2013) indicates that the CBD "functions as the primary market place for the municipality, a place of concentration of power (financial, economic and political), an investment location, a rates revenue generator, and provides an opportunity for social interaction and integration. It also serves as the gateway city to the surrounding tourist destinations, it in itself being a tourist destination".

Robbins (2013) provides an overview of the spatial distribution of economic activity located specifically in the core CBD and this should be considered in more detailed spatial planning. He identifies and discusses the following economic activities in the CBD, viz. the parliamentary complex, KZN Government head offices, a number of retail hubs, a medical services precinct, a cluster of legal businesses, a housing cluster, light industrial areas, diversified automotive sales and educational institutions. His analysis notes the following opportunities for the CBD and CBD Extension area of relevance to the future spatial planning:

- The continued development of the core CBD public sector precinct;
- Public sector interventions relating to transport;
- Continued commitment to the heritage and cultural assets in the CBD;
- The potential to "create and sustain unique identities for different areas of the CBD and corridors connecting these areas to surrounding areas"; and
- N3 corridor related developments.

Robbins (2013) also notes a number of challenges for the future development of the CBD including current levels of urban management, lack of infrastructure investment and new investment, cost of maintaining and upgrading the historic building stock, the "flight of higher grade professionals" from the CBD and competing developments.

05.2 STATUS QUO ANALYSIS

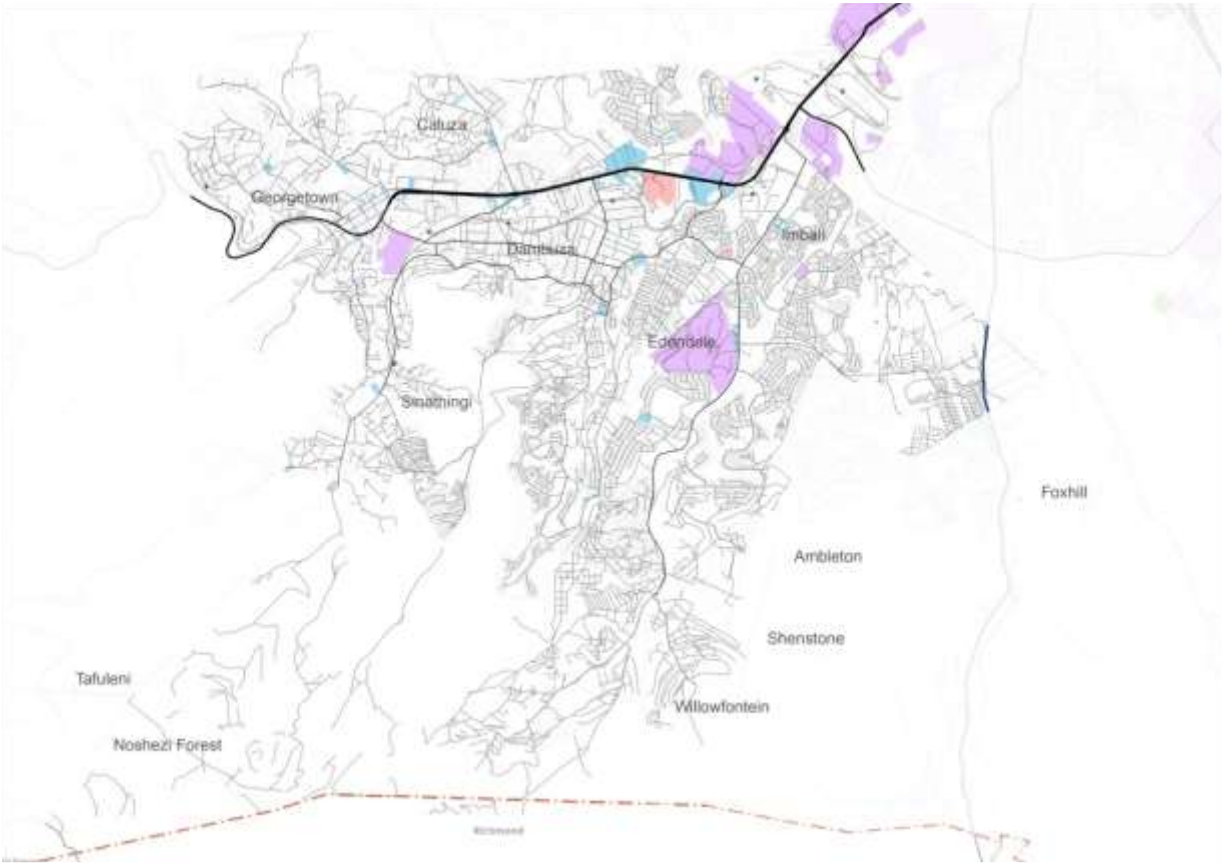
5.2.4 THE SPACE ECONOMY OF MSUNDUZI (GREATER EDENDALE AREA)

Edendale has historically been a dormitory township for labour employed in the formal economy of Msunduzi. However, from a economic development perspective the area has seen some development in the eastern parts. Industrial development in the Mason's Mill area, specifically the Hulett Aluminium plant, industries established at Plessis-Laer, the government and education and training facilities in the Imbali area, and new major shopping centres established since 2010 provides a basis for future economic development.

The major government and education and training facilities include Umgungundlovu FET, the Durban University of Technology, the Edendale Hospital and Transnet related activities outside of the eastern zone there are no substantial concentrations of economic activity in Edendale, although previous assessments of the area suggested that a large number of home based production orientated businesses do exist.

Edendale has a unique place in the settlement history of South Africa and currently the Msunduzi Municipality is making every effort to facilitate development in the area, most notably through the Greater Edendale Development Initiative (GEDI). The Edendale-Northdale Corridor project is aimed at integrating Edendale into the structure of the large Msunduzi Municipality. This corridor aims to establish an improved public transport system/ corridor extending from Georgetown through the CBD to Northdale over a length of 17 kilometres.

Over the past decade substantial effort has been made in planning for spatial, social and economic development in the Edendale area. Resources are required to effectively implement this initiative. Most planning assessments promote commercial and industrial development as important focus areas for future economic development. The socio-economic assessment confirms that more than a third of the Msunduzi population resides in Edendale. The area experiences high levels of unemployment, high population densities, and low household incomes. These findings all stress the desperate need for economic development in the Edendale area. Sustainable economic development should be encouraged in the area. The alternative is for Edendale to remain a dormitory township providing cheap labour to other areas of the Msunduzi Municipality. Importantly, emerging businesses is clearly visible in the area and potentially provide a basis for developing the local economy.



05.2 STATUS QUO ANALYSIS

5.2.4 THE SPACE ECONOMY OF MSUNDUZI (VULINDLELA)

Vulindlela is what is commonly referred to as a traditional settlement area (an area in which the land belongs to the Ingonyama Trust, residential buildings range from formally built to the traditional, and also some informal structures). The areas is located to the west of Pietermaritzburg and northwest of the Greater Edendale area and to some extent seen as an extension of the more formally settled Edendale area. It belongs to the Ingonyama Trust and covers a substantial percentage of the total land area in Msunduzi Municipality. The Municipal IDP (Msunduzi 2013) indicates that Vulindlela is made up of 9 wards; and the following traditional council areas Mafunze, Inadi, Mpumuza, Nxamalala and Ximba. In 2011 the area was home to nearly a quarter of the population of the municipality.

From a spatial economic development perspective the key feature of this area must be the limited concentration of any economic development of note in the Vulindlela area. Key economic spatial structuring elements impacting on Vulindlela include the M70 stretching through the area in an east west direction linking into Edendale, and stretching to the regional access route, the R617, in the west (this route links Msunduzi with Impendle and onwards to Bulwer and Underberg). Other important spatial economic features to consider in the case of Vulindlela include:

- The spread-out nature of educational facilities and other public sector facilities throughout the area;
- Pockets of arable land in Vulindlela not settled on as yet; and
- The previous identification of primary, secondary and tertiary nodes in Vulindlela (Msunduzi 2009).

05.3 SYNTHESIS EVALUATION

Significantly, as is the case for most South African cities and towns, the different management areas in the City, each offer a unique range of opportunities and challenges for future economic development. The broad land-use of the ares supports the findings of the analysis that shows that agglomeration of most economic opportunities within the CBD, Ashburton& Eastern areas as well as the Northern areas.

As such considering the history of the city outlined in the background section, one would note that spatial economic pattern that the city has continued to follow the apartheid city model. This is evident from the may in which development has been concentrated in the previously white areas (Northern and Eastern Areas). The Greater Edendale/ Imbali although a former Black area under the apartheid has recently been earmarked an area in the Municipality for an Urban Network Strategy project. As such it anticipated that the spatial economic profile of the area will in future change.

However the Vulindlela area on the other hand appear to becoming more of a neglected or forgotten space in terms of development from an investment point of view. As such an overall challenge for the City moving forward will be that of ensuring effective integration of the component parts (the management areas) of the city, not only to end racial or spatial segregation, but to also ensure the more efficient functioning of the city structure.

OBJECTIVE	BENCHMARK	SYNTHESIS EVALUATION
Encourage a diverse mix of appropriate land uses throughout the Municipality. Provide additional opportunities for appropriate new greenfield and brownfield redevelopment throughout the Municipality.	Ensure effective management of land uses within the Msunduzi Municipality	Benchmarks to be adopted and incorporated within future phases of the project.
	Increase greenfield industrial development by 50ha per annum	Benchmarks to be adopted and incorporated within future phases of the project
	Increase brownfield redevelopment by 50ha per annum	Benchmarks to be adopted and incorporated within future phases of the project.
	Additional new retail GLA provided	Benchmarks to be adopted and incorporated within future phases of the project.
	New office GLA provided	Benchmarks to be adopted and incorporated within future phases of the project.
	Trading space for informal sector provided	Benchmarks to be adopted and incorporated within future phases of the project.
	Production space for informal sector provided	Benchmarks to be adopted and incorporated within future phases of the project.

06
GREEN STRUCTURE

6.1 INTRODUCTION

Enhancing the Green Structure of cities is paramount to sustainable urbanism. It is important to understand the inextricable relationship between human well-being and the natural environment. The positive integration of green space within cities, and planning for the various dimensions of green space, is an absolute fundamental of sustainable urbanism.

At an ecological level, it is important to understand the significance of protecting natural systems as systems in their own right, and not just in terms of the resources that these provides. Therefore an essential starting point is the restoration and enhancement of natural functioning systems and the preservation of those elements considered irreplaceable.

Green structure should include open space opportunity for passive and active recreation. This is tied directly to enhancing human well-being, health and liveability.

Another dimension of green structure is the incorporation of productive open space within cities. This includes urban agriculture in suitable areas. The overall concept of sustainable urbanism is dependent on the positive integration of high quality urbanism with an integrated green structure.

OBJECTIVE	BENCHMARK
Increase and protect key biodiversity areas, corridors, buffers, watercourses and nature reserves in the SDF planning process and must be accessible to all in the Msunduzi Municipality	100% of social infrastructure delivery complies with national standards regarding minimal environmental impact
	100% of residents are within a 15 minute walking distance to facilities within the city's public, open and green space network
	100% residential, commercial and industrial precincts incorporate green spaces
	100% compliance with environmental bylaws within the city environs

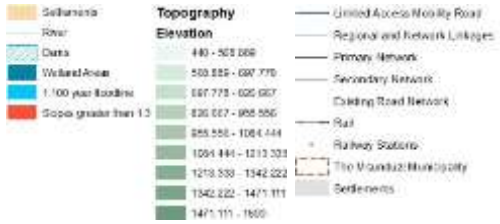
6.2 STATUS QUO ANALYSIS

The natural environment need not be viewed as a limit to economic development, but should instead be viewed as the basis on which all economic activity is founded – offering land, minerals, fresh air, water, a sense of relief from dense urban environments and so forth. As such, it can be viewed as the 'natural capital' of any given area (KZN PPC, 2012).

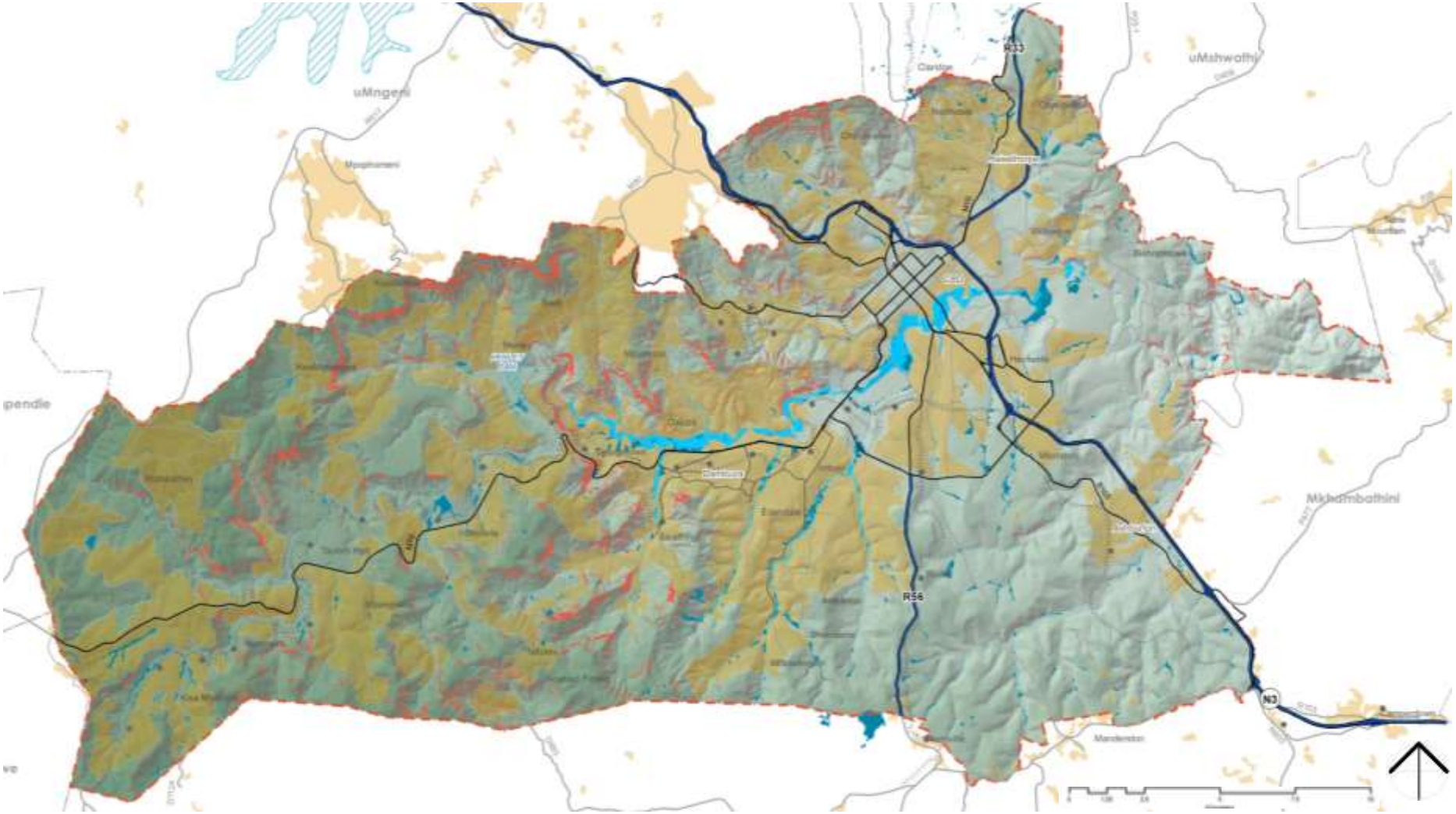
The Municipality comprises of 63, 385ha of which 29, 344ha remain natural open space, which is approximately 46.3% . The area is situated in the basin of the uMsunduzi River and its tributaries, hence the name the Msunduzi Municipality. The topography in the region ranges from 495 to 1795 metres above sea level, and the Municipality generally slopes from west to east. The adjacent map illustrated the existing topographic conditions in the area, denoting slopes >1:3 in red, which are typically located around the Edendale and Vulindlela areas.

The topography, assisted by the river systems form the primary structure on which the Municipalities development form is moulded. This is evident in the formation of urban and rural settlement typologies throughout the Municipality.

The growth and development of the CBD has been constrained by topography, therefore resulting in the formation of a number of small urban hubs outside the urban core.



6.2 STATUS QUO ANALYSIS



6.2 STATUS QUO ANALYSIS

The Msunduzi Municipality has made enormous strides in terms of proactive environmental planning. In line with world-class national policy, legislation and best practice, it has developed a robust Integrated Environmental Management Policy which sets in place their future vision for the city and its natural environment. It also recently developed an Environmental Management Framework (EMF) in response to the high development pressure that the city is experiencing.

Spatially, it has developed an Environmental Services Plan (also more commonly referred to as a Municipal Open Space System) as part of its EMF – the purpose of which is to meet ecological targets by systematically securing/ protecting the land that falls within it from inappropriate development.

The Green Structure is essentially the environmental 'network' of the SDF – the layer of ecological infrastructure around which planning will take place. The notion is that the key biodiversity areas, corridors, buffers, watercourses and nature reserves identified in the EMF that comprise this 'network' will be respected in the SDF planning process, so that the city remains sustainable and meets its ecological targets.

The Environmental Services Plan (ESP/ MOSS) layer is the environmental network layer which is to be principally used for the development of the Green Structure, which is illustrated in the adjacent map. The ESP/ MOSS layer has been extracted from the Msunduzi EMF for the purposes of this project and identified as the Msunduzi 'Green Structure'. It is a progressive planning layer because of its spatially precautionary nature. In the same vein, we believe that climate change is spatially well-considered in the EMF's ESP/MOSS layer – particularly in terms of:

- The creation of terrestrial and aquatic corridors which act as wildlife refuge areas, as carbon sinks, and linkages of key watercourses and terrestrial habitats and ensure altitudinal, latitudinal and longitudinal variation for plants and animals to adapt/ spread/move to new locations over time;
- The use of the 1:100 year floodline in case of major rainfall events; and
- The presence of wetland buffers in the plan – although it is suggested that these be expanded to be greater than 20m given their inherent importance, these nevertheless protect wetlands from edge effects and ensure water availability in times of drought.

The ESP/ MOSS layer has also been formulated irrespective of land ownership and indiscriminately maps transformed/ untransformed areas of the landscape, with a view to rehabilitating degraded areas and preserving already-pristine areas and as a result, create a distinct Green Structure for the city over time.

The natural environment need not be viewed as a limit to economic development, but should instead be viewed as the basis on which all economic activity is founded – offering land, minerals, fresh air, water, a sense of relief from dense urban environments and so forth. As such, it can be viewed as the 'natural capital' of any given area (KZN PPC, 2012).

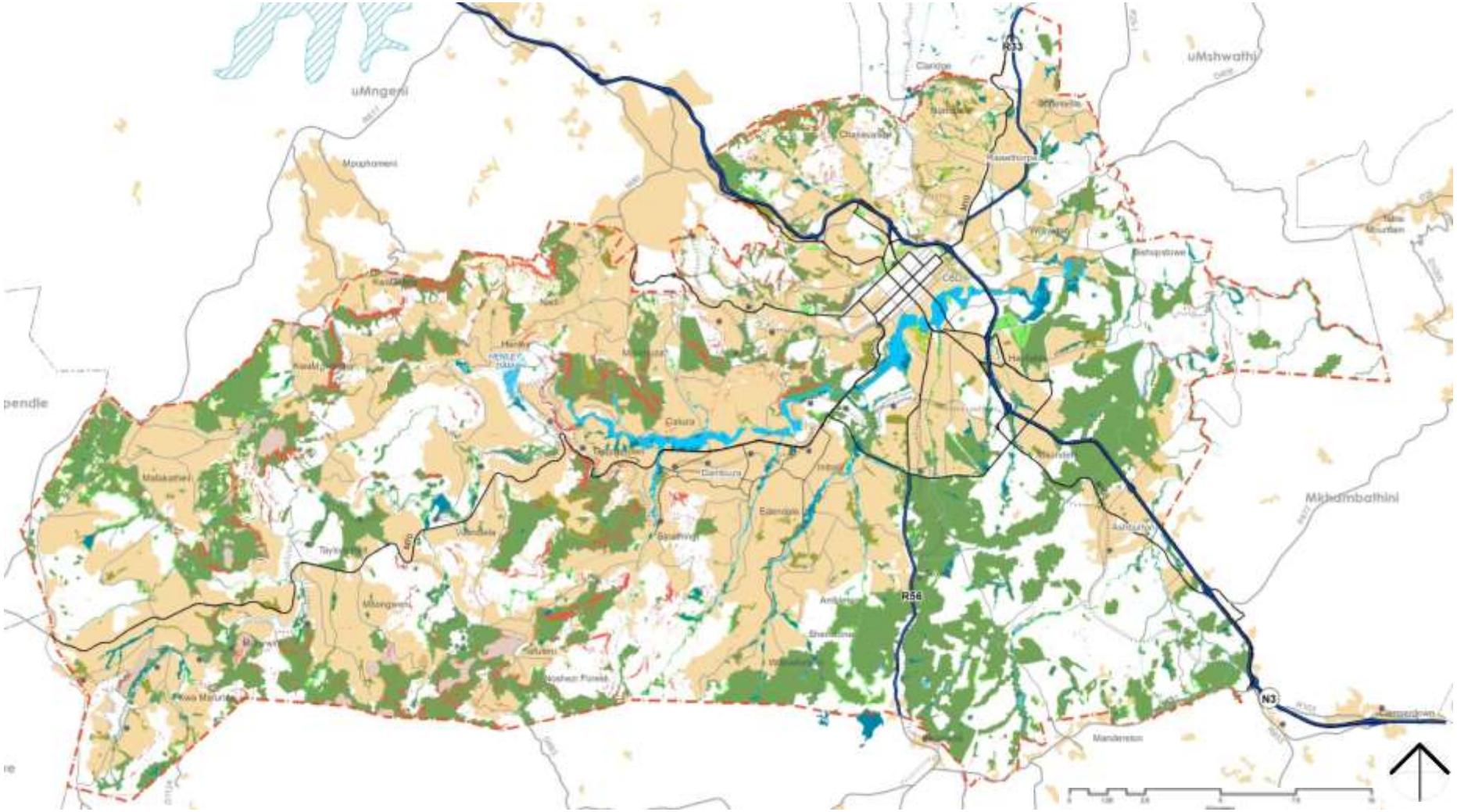
FORMALLY PROJECTED AREAS

Queen Elizabeth Park	93.5ha

LESS FORMALLY PROTECTED AREAS

Bisley Valley Nature Reserve	358.4ha
Ferncliff Nature Reserve	147.6ha
Worlds View Conservation Area	31.7ha
Hesketh Conservation Area	92.5ha
Alexandra Park	71.4ha
Wylie Park	10.6ha
Pietermaritzburg National Botanical Gardens	47.7ha

6.2 STATUS QUO ANALYSIS



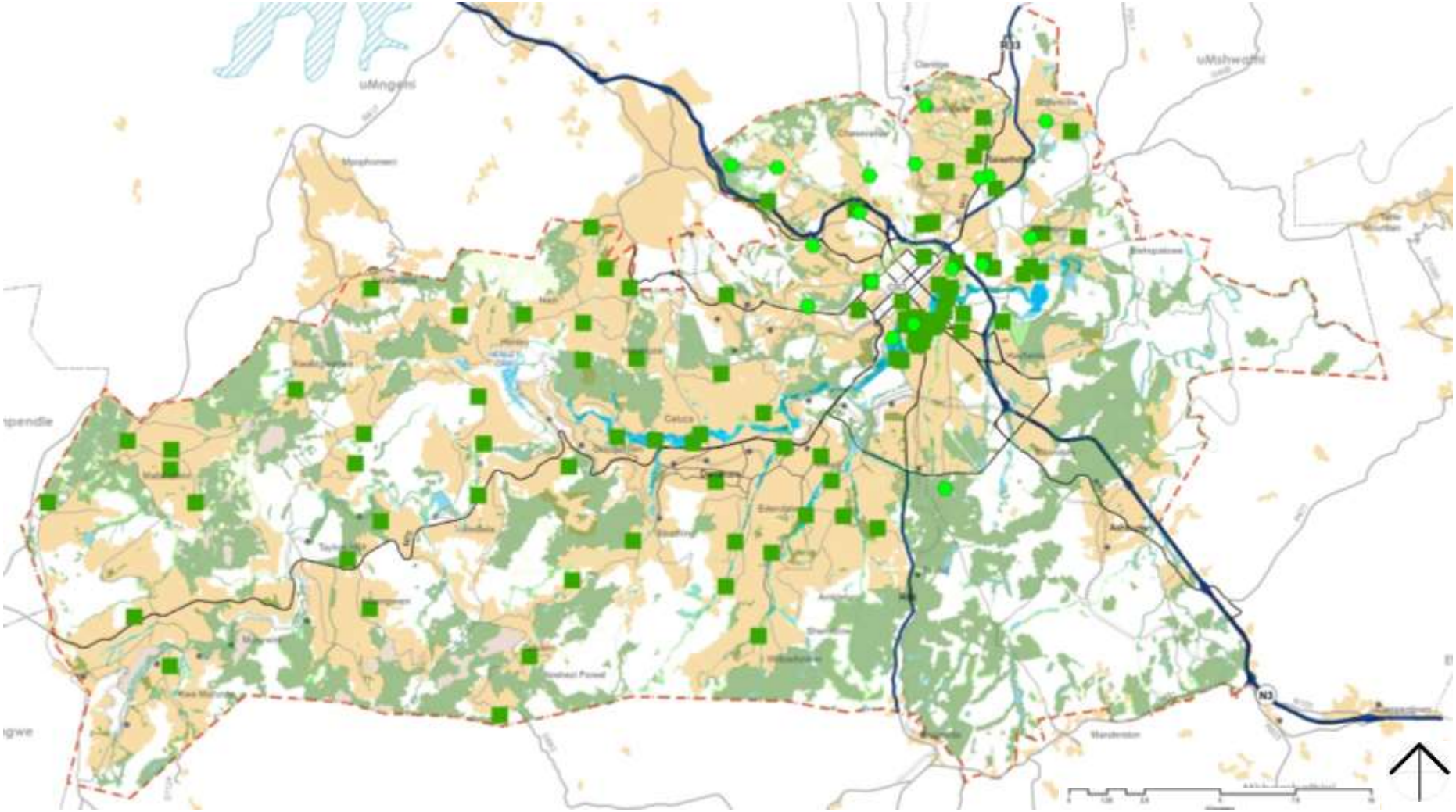
6.3 STATUS QUO ANALYSIS

Parks and sporting facilities form part of the Green Structure. The adjacent map identifies the locations of the parks and sporting facilities within the Msunduzi Municipality.

The primary concentration of parks and sporting facilities are located to the south of the Pietermaritzburg CBD, where a 'sports precinct' has been established over the years. The precinct consists of; Hayfield Maritzburg Golf Course, Scottsville Race Course, Woodburn Rugby Stadium, Alexandra Swimming Pool, Harry Gwala Stadium as well as a number of school facilities with their associated playing fields.

Although a number of open spaces and sports facilities existing within the municipality, one of the benchmarks set by the IDP 2013/ 2014 – 20116/ 2017 states that '100% of residents are within a 15 minute walking distance to facilities within the city's public, open and green space network'. The current state of environment within the Municipality would need to be addressed and upgraded to meet this target, as a number of residents within the western districts will not adequately meet this objective.

6.2 STATUS QUO ANALYSIS



6.3 SYNTHESIS EVALUATION

The Municipality comprises of 63, 385ha of which 29, 344ha/ 46.3% remain natural open space. The existing arrangement of the Municipality has been structured according to the undulating topography. The areas of Edendale and Vulindlela experience the greatest topographical ranges within the Municipality. The growth and development of the CBD has been constrained by topography, therefore resulting in the formation of a number of small urban hubs outside the urban core.

As identified above the Msunduzi Municipality has developed proactive environmental planning tool, which sets in place their future vision for the city and its natural environment - Environmental Management Framework (EMF).

The EMF was developed in response to the high development pressure that the city is experiencing.
The purpose of the EMF was to meet the ecological targets by systematically securing/ protecting the land that falls within it from inappropriate development.

Parks and sporting facilities form part of the Green Structure. The primary concentration of parks and sporting facilities are located to the south of the Pietermaritzburg CBD. To achieve one of the benchmarks set by the IDP 2013/ 2014 – 20116/ 2017 to ensure that a '100% of residents are within a 15 minute walking distance to facilities within the city's public, open and green space network', the current state of environment would need to be addressed and upgraded to meet this target, as a number of residents within the western districts will not adequately meet this objective.

OBJECTIVE	BENCHMARK	SYNTHESIS EVALUATION
Increase and protect key biodiversity areas, corridors, buffers, watercourses and nature reserves in the SDF planning process and must be accessible to all in the Msunduzi Municipality	100% of social infrastructure delivery complies with national standards regarding minimal environmental impact	Benchmarks to be adopted and incorporated within future phases of the project.
	100% of residents are within a 15 minute walking distance to facilities within the city's public, open and green space network	The current public open and green environments need to be addressed and upgraded to meet this target, as a number of residents within the western districts will not adequately meet this objective.
	100% residential, commercial and industrial precincts incorporate green spaces	Benchmarks to be adopted and incorporated within future phases of the project.
	100% compliance with environmental bylaws within the city environs	Benchmarks to be adopted and incorporated within future phases of the project.

07
SUSTAINABLE TRANSPORT

07 SUSTAINABLE TRANSPORT

7.1 INTRODUCTION

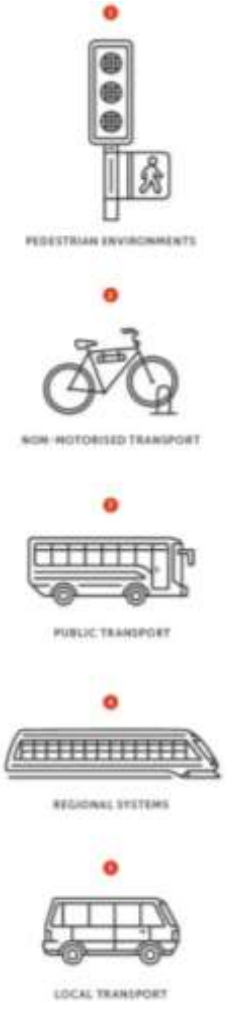
Environments that perform well for people are those, which provide maximum choice and accessibility. Choice refers to movement at both pedestrian and at a vehicular levels. A key objective of sustainable urbanism is providing for improved public transport use and a shift away from the dependence of individual private travel.

Sustainable transport consists of strengthening or replacing current transport systems of an area with more fuel-efficient and environmentally safe alternatives such as bus or rail rapid transport systems, cycling or pedestrian oriented movement. Sustainable transport systems would make a positive contribution to the environmental, social and economic sustainability of the communities they serve.

A key component of sustainable transport is the provision and support for NMT systems. In mixed-use urban environments, given the proximity of residences to employment opportunities, NMT represents an extremely viable option for local access.

The shift from private transport to public transport is vital in achieving sustainability relating to reducing emissions and improving air quality.

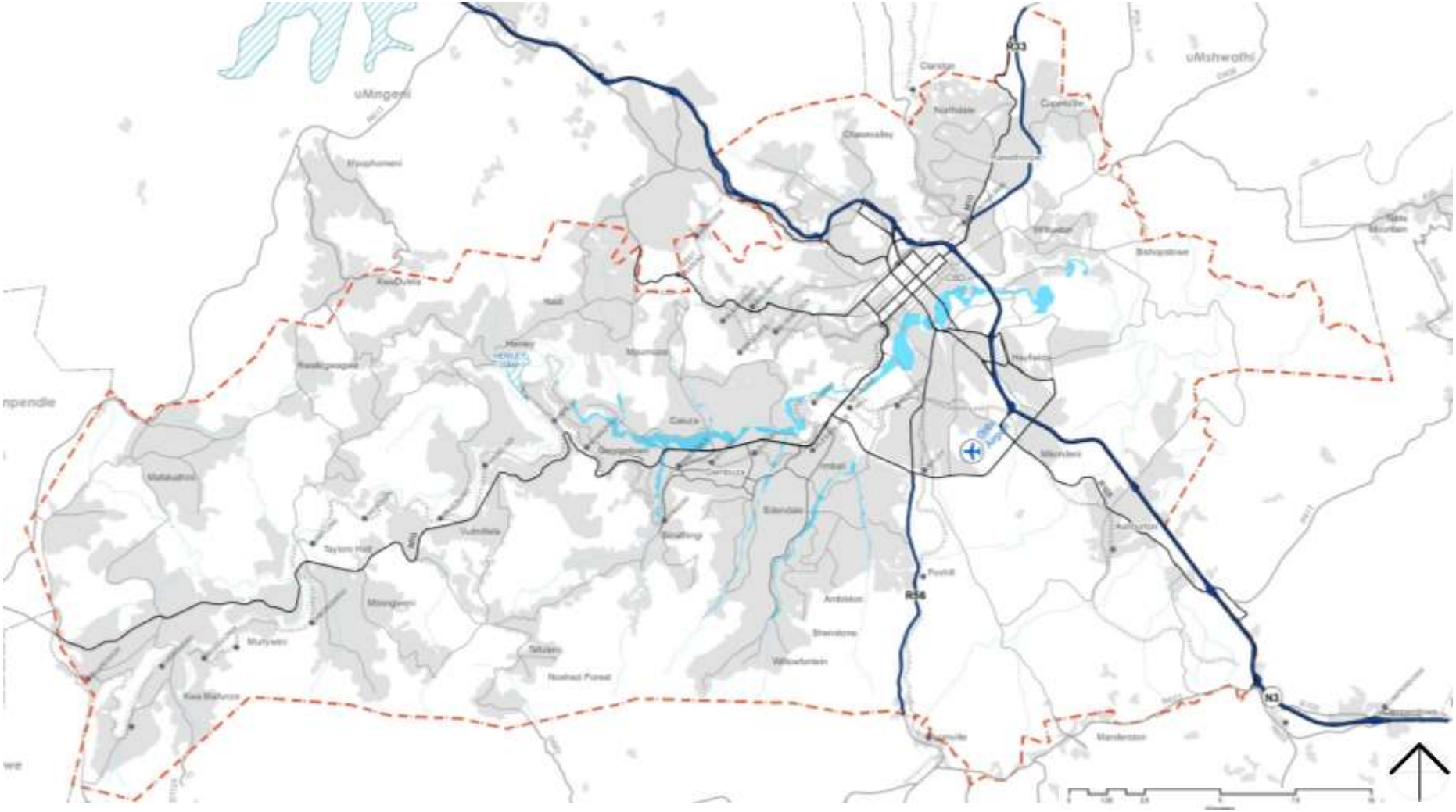
Sustainable transport is a key facet of sustainable urbanism.



OBJECTIVE	BENCHMARK
Equity of access to public transport system	Population within 500m of public transport system
A diversity of private (cars, bikes, walking) and public (trains, buses and taxis) transport options, using a range of adequate physical infrastructure (roads, rail and bikeway/ walkways) is readily available to all residents	Road and rail infrastructure backlogs are reduced such that 90% of communities have access to road and rail services
	100% compliant with Roads Infrastructure Management Plan
	90% of Msunduzi residents can get to work with 45 minutes
	Reliable public transport services are available 24 hour per day, with accessibility every 15 minutes to key activity nodes
	90% of travel in morning peak periods comprises walking, cycling or energy efficient public transport
	100% of roads in former black townships and major arterial roads in rural areas are tarred

'A sustainable transport system is one that is accessible, safe, environmentally-friendly, and affordable'.
(ECMT 2004, in Victoria Transport Policy Institute 2013)

7.2 STATUS QUO ANALYSIS



7.2 STATUS QUO ANALYSIS

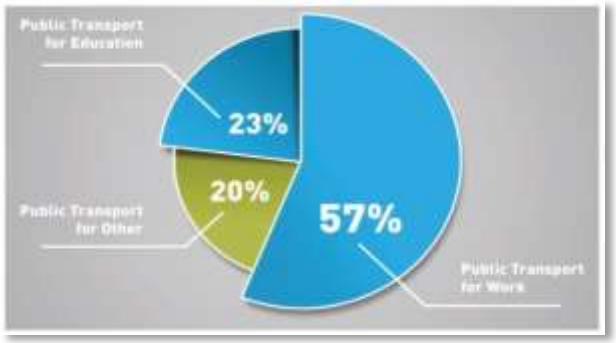
The Msunduzi Municipality is structured in accordance with a number of radial oriented road linkages. The Municipal structure primarily hinges on;

i. The N3, traversing north to south linking Pietermaritzburg to Durban and Johannesburg;
ii. The R56, connecting in a south westerly direction to Ixopo;
iii. The R33, connecting north east to Greytown;
iv. R103 running on the western side of the N3, providing an alternative route to the National highway;
v. The M70 connecting east to west, linking the CBD with Edendale and Vulindlela;
vi. The M10 linking the CBD to the Northern Suburbs.

Despite the acknowledgment of these structuring elements, the adjacent map illustrates a better image of the accessibility and connectivity, or lack therefore of the Msunduzi Municipality.

The central and core of the Municipality is provided with choice of movement, giving the CBD flexibility, however the areas to the east and west of the CBD have limited choice of movement therefore making the areas less permeable and harder to access.

The topography to the west presents challenges to providing desirable access.

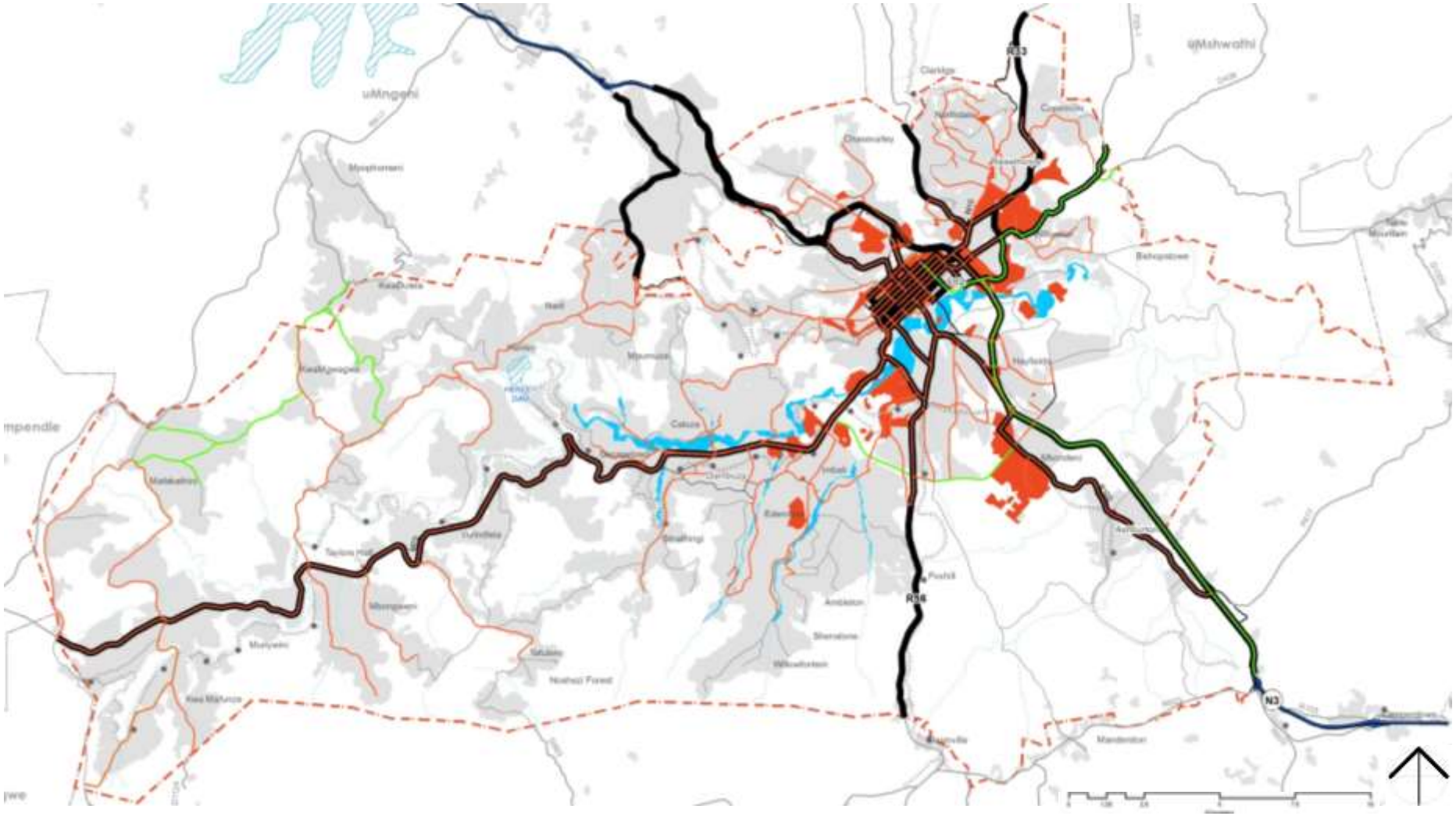


EXISTING SETTLEMENT AND TRANSPORT

The adjacent plan illustrates the distribution of population and employment areas together with the existing public transport routes throughout the Municipality. There is a distinct south-west to north-east development corridor between Edendale and Northdale. The Msunduzi SDF (2009) identified this corridor as the most prominent corridor in the municipal area. This corridor traverses through the CBD, a primary employment area for these communities.

As indicated in the adjacent plan the majority of the settlement (in grey) are located in close proximity to the road network, specifically public transport routes.

7.2 STATUS QUO ANALYSIS



7.2 STATUS QUO ANALYSIS

PUBLIC TRANSPORT

The 2001 Census showed that the daily modal split in Msunduzi Municipality was 48% for non-motorised transport (walk and cycle), 27% by public transport (bus, mini-bus taxi and train) and 25% by private vehicle (car and motorcycle)

The high dependency on public transport and the high level of pedestrian activity places a focus on the need for high standard public transport services throughout the Municipality with attention to non-motorised transport (NMT) integrated with the public transport system.

A number of problems were identified, in the Msunduzi Comprehensive Integrated Transport Plan (CITP, 2011), with the current public transport system including the Edendale-Northdale corridor. These include:-

- A complicated route system with service overlaps and duplication, and unnecessary transfers;
- Lack of continuous services along the length of the primary corridor linking Edendale and Northdale;
- Modes not operating within their optimal economic regime;
- Poor positioning of infrastructure within the PT system.

Scenarios which included road and rail-based public transport options were developed to determine the most efficient approach for the provision of public transport services along the corridor.

ROAD CAPACITY

Numerous arterials leading to the Pietermaritzburg CBD exhibit volume/ capacity ratios indicating poor levels of service and the need for intervention. A forecast demand model, indicates that all major arterials leading to the Pietermaritzburg CBD are expected to exhibit signs of distress either by 2011, 2016 or 2026. (A detailed breakdown of which is located within the Sustainable Transport Annexure attached as part of Volume 2).

NON-MOTORISED TRANSPORT

The Msunduzi Municipality Non-Motorised Transport Plan (NMTP, 2009) concentrates on walking and cycling. The policies and strategies are consequently centred on the needs of these users. The report highlights deficiencies, and opportunities to address these deficiencies in terms of a prioritized schedule of interventions.

<u>Pedestrian Problems</u>

The report identifies the following pedestrian problems:

- A lack of sidewalks in residential areas;
- Intersections where informal trading is taking place;
- A lack of sidewalk maintenance;
- Speed of vehicles approaching pedestrian crossings; and
- Trading activities blocking sidewalks.

The following locations have been identified as pedestrian problem areas. Potential projects have been recognised to address the current concerns.

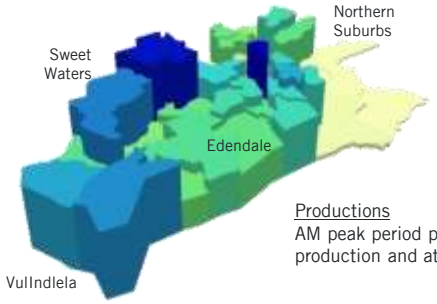
I. The CBD;
II. The Old Greytown Roads;
III. F.J.Sithole Road;
IV. Politique Road; and
V. The Slangspruit/ Ambleton connection from F.J.Sithole Road through ward 13.

7.2 STATUS QUO ANALYSIS

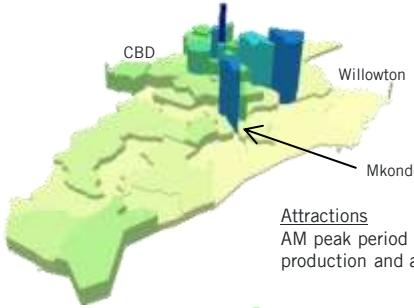
TRIP PRODUCTIONS AND ATTRACTIONS

The images below illustrate the relationship between existing employment areas and the location of residential development trip patterns. A heavy demand exists between Edendale and Northdale.

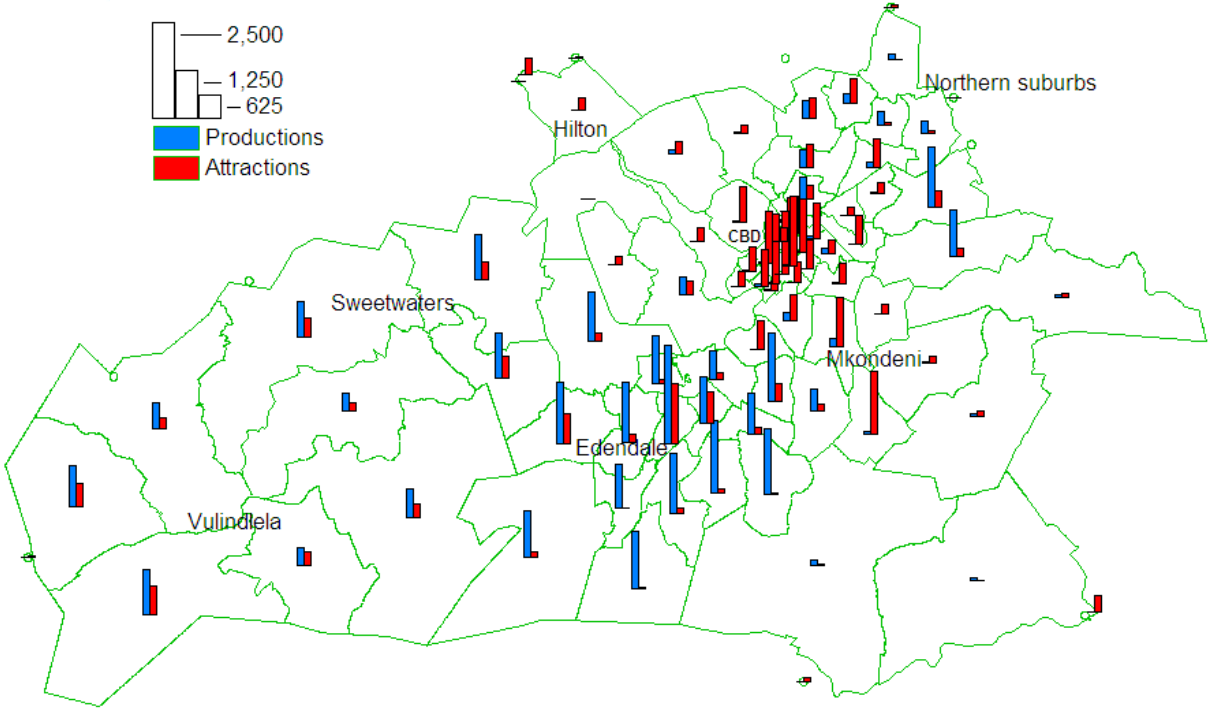
The adjacent graphics shows public transport trip productions and attractions per km^2 . The largest trip productions originate in the north-eastern areas of the municipality while the largest trip attractors are the Pietermaritzburg CBD and surrounding areas. 37% of all public transport passenger trips are destined for the CBD during the AM peak hour (NDoT PTISG, 2013).



Productions
AM peak period public transport trip production and attractions per km^2



Attractions
AM peak period public transport trip production and attractions per km^2



7.3 SYNTHESIS EVALUATION

The Msunduzi Municipality, as a whole, lacks a dynamic accessibility structure rending the area permeable and accessible to all. The limited movement choice is hindered by the undulating topography located to the east and west of the Municipal area.

The Municipality, as with many in the South African context, have a high dependency on public transport as well as a high level of pedestrian movement. The current system does not sufficiently support the needs of the communities leading to costly and unnecessary time wasted on the service through overlaps, duplication or unnecessary transfers. The system also has inadequate infrastructure.

The existing road capacity has been highlighted with potential capacity issues in intervals from 2011, 2016 and 2026.

The concerns to the public transport, pedestrian movement and road capacity issues identified have been considered in the proposed IRPTN project. Should the project be implemented as envisaged it would be addresses these concerns, however should the project be stalled for whatever reason these issues will need to be taken forward and addressed.

OBJECTIVE	BENCHMARK	SYNTHESIS EVALUATION
Equity of access to motorised public transport system	Population within 500m of public transport systems	Currently Edendale, Vulindlela and Sweetwaters are the most deprived portions of the city. With the introduction of the IRPTN, 87% or 165000 households living within the municipal area are projected have access to the restructured system.
A diversity of private (cars, bikes, walking) and public (trains, buses, and taxis) transport options, using a range of adequate physical infrastructure (roads, rail, and bikeways/walkways) is readily available to all residents.*	1. Road and rail infrastructure backlogs are reduced such that 90% of communities have access to road and rail services.* 2. 100% compliant with Roads infrastructure management plan.* 3. 90% of Msunduzi residents can get to work within 45 minutes.* 4. Reliable Public transport services are available 24 hours per day, with accessibility every 15 minutes to key activity nodes.* 5. 90% of travel in morning peak periods comprises walking, cycling or energy efficient public transport.*	1. A number of infrastructure projects listed in Section 2.2 will seek to address this issue. 2. This will need to be monitored continuously and non-conformances raised and addressed. 3. A travel time survey post-implementation may be done to ascertain extent of achievement of this benchmark 4. The Msunduzi Operations Plan is likely to achieve this. This should form part of the review of the operations plan before implementation 5. A household travel survey post-implementation may be done to ascertain extent of achievement of this benchmark

08
QUALITY URBANISM

8.1 INTRODUCTION

Quality Urbanism is about establishing the timeless qualities of 'good urbanism' that create opportunity, facilitate choice, and promote safety. This has at its basis the development of places that work for all people which is an essential ingredient of sustainable cities.

A key aspect of quality urbanism is encouraging density, compactness and complexity. This is a foundation for sustainable urbanism. Apart from land being understood as a scarce resource, density and compact environments are generative in nature and can yield a wider range of urban opportunity.

Density and compactness leads to complexity allowing a greater mix of land uses, shared spaces and services, and reducing the cost of infrastructure. The goal is to promote a particular pattern of fine grain urban form which is complex in profile, and which reduces the negative impacts of sprawl.

Mixed use environments increase the choices available to people, having the ability to live and work in an area. Providing the ability to access local needs is an essential aspect of sustainable urbanism.

OBJECTIVE	BENCHMARK
Prepare and develop compact, integrated communities that are well connected to all services (transport and infrastructure)	100% eradication of informal settlements
	Rural residential housing infrastructure backlogs are reduced such that less than 10% of households remain without access to formal housing
	Zero tolerance for exclusions based on racial, ethnic, religious or other demographic characteristics, is reflected in 100% of new settlement patterns
	20% of each new mixed-use development consists of rental stock
	30% densification of urban space

8.2 STATUS QUO ANALYSIS

8.2.1 PHYSICAL FORM AND STRUCTURE

MOVEMENT STRUCTURE

The map above reflects the movement structure of the Municipality. The structure is built around five main channels and provide access to the CBD. The dominant of these channels is the N3 as it has a significant role at a national and provincial level. The N3 also serves as the main means of connecting the CBD to the Northern areas and South eastern areas of the Municipality. The other four movement channels include the M70 linking the western areas, R56 linking southern areas, the R33 linking the northern areas and M80 connecting the North western areas.

PHYSICAL FORM

Physical form is generally dictated by the natural environmental constraints of an area. This is apparent in the case of Msunduzi Municipality as the map above shows the way in which the Municipal areas is characterised by undulating topography and as a result, the main movement structure generally meanders through the valleys or transverses along the ridges or few flat areas.

PHYSICAL FORM AND MOVEMENT STRUCTURE

Topographical constraints and the functional ecological systems are generally the foundational elements on which settlements are built. The position of the CBD is a confirmation of this as the flat land in and around the central areas has resulted the current grid iron street pattern that characterises the CBD, allow at the same time enhancing permeability of the city centre. The above reflects provides an understanding of were the settlements have formed resulting from the natural environmental factors as well as the movement structure.

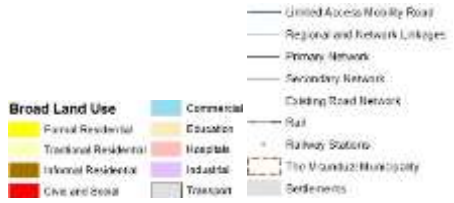
SOURCE: CENSUS DATA 2011

8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE

BROAD LAND USES

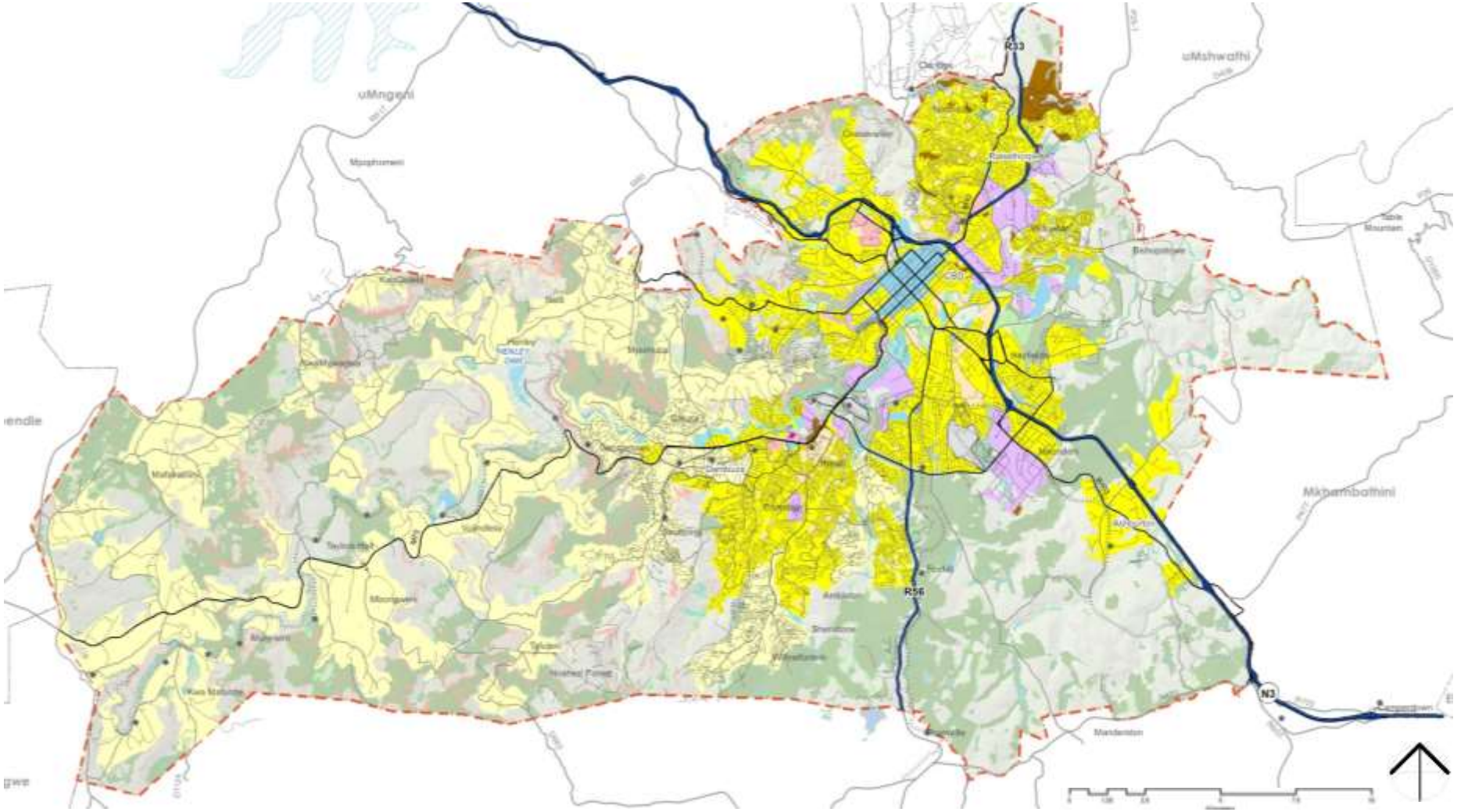
The map above is a broad representation of land use within the municipality. As reflected in the map, there is a dominance of residential activity with high concentration of commercial activities in the city centre. Industrial activity is generally located outside the CBD with highest concentration north east of the CBD. The map thus clearly reflects the separation of uses within the municipal area.



SOURCE: CENSUS DATA 2011

8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE



8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE

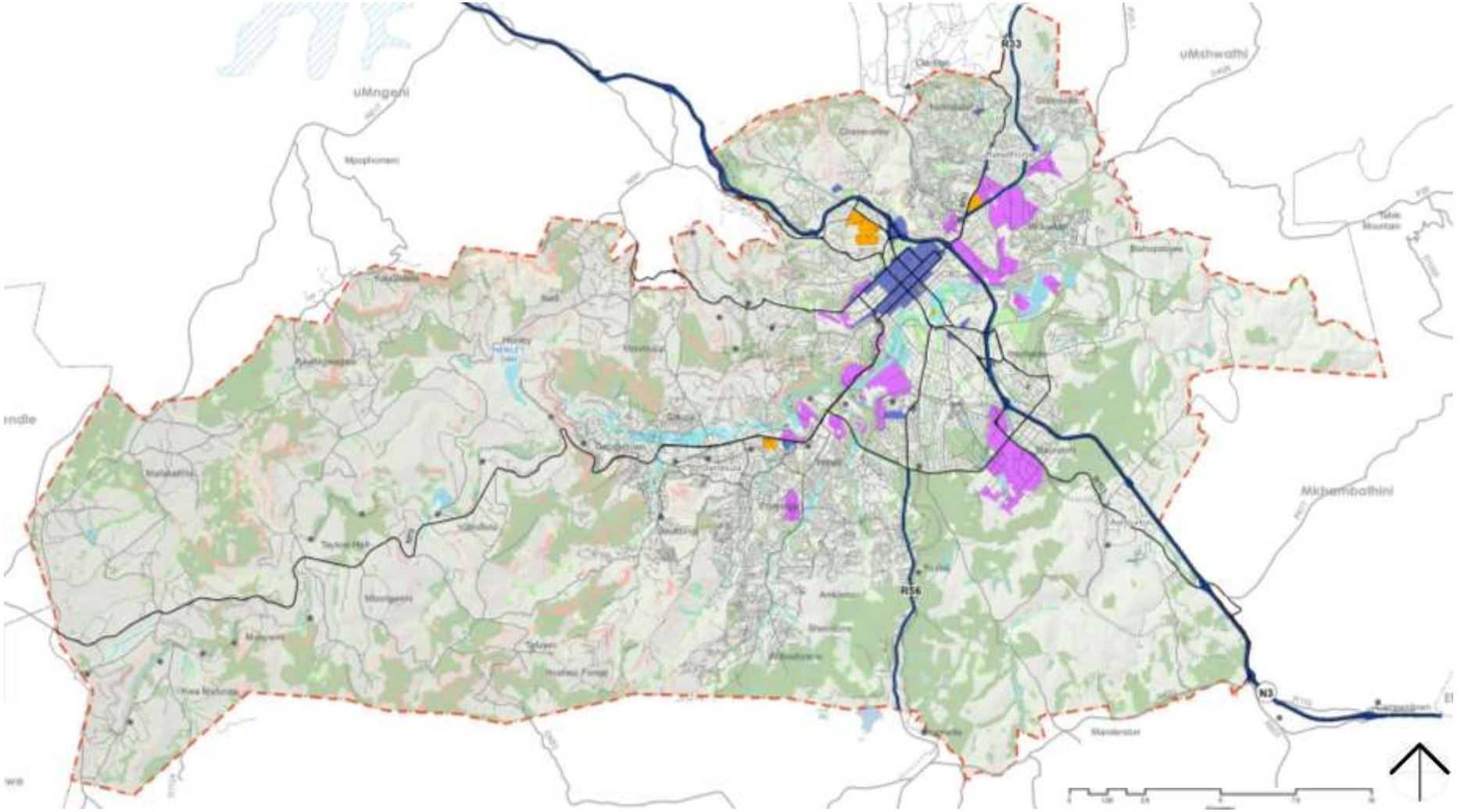
RANGE OF ECONOMIC ACTIVITES

The map above reflects the main areas of economic activity within the municipality. The identification of the main areas of economic activity will in essence reflect the main areas of formal employment and daily travel destinations. One of the essential elements of sustainable urbanism is the idea mixed use environments were residents can live and work in an area. The map above reflects that the main areas of employment are segregated from residential areas.

SOURCE: CENSUS DATA 2011

8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE



8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE

ACTIVE RECREATIONAL ACTIVITIES

Another element of quality urbanism is that of promoting vibrant public spaces. The map above reflects active recreational spaces within the municipal area. These have been identified as Major Park and Sporting facilities within the municipality.

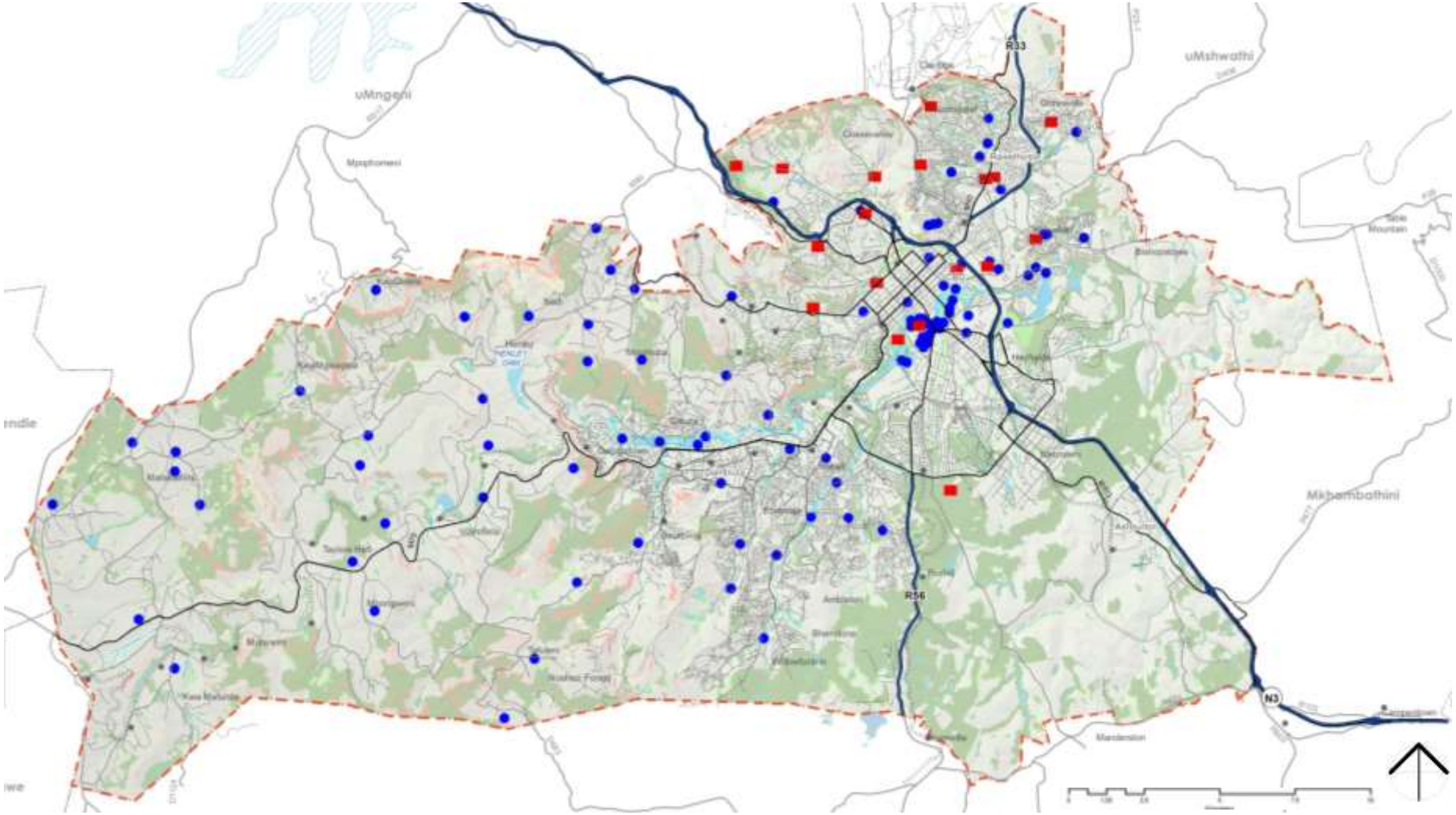
The map reflects a concentration of major parks in the northern areas these indicating the limited access that residents residing in the Greater Edendale/ Imbali and Vulindlela have to these facilities.

It must also be noted that while the map shows a wider provision of sports facilities in the municipality, the quality and use of these has not been confirmed.

SOURCE: CENSUS DATA 2011

8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE



8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE

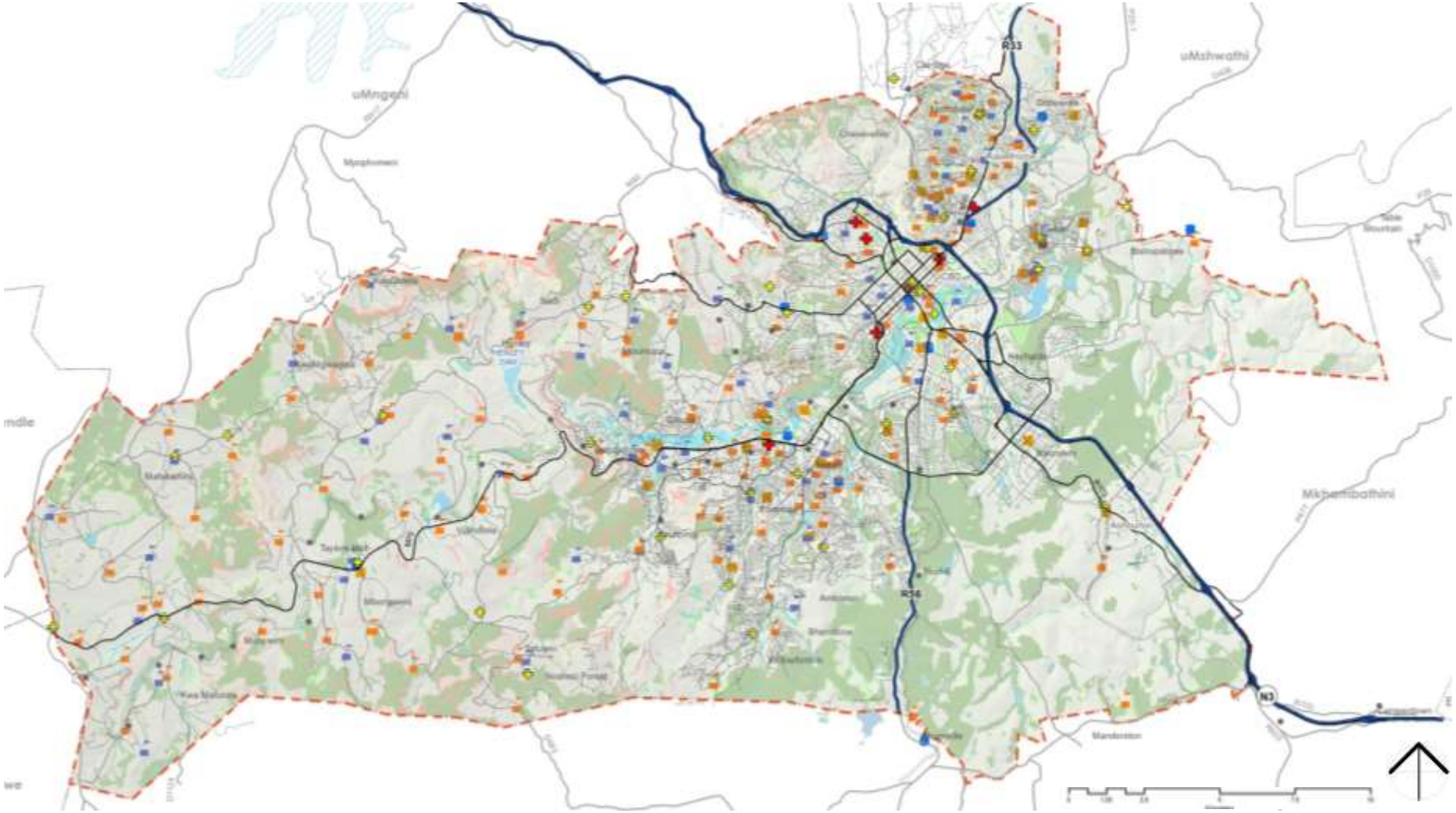
SOCIAL FAICILITIES

The access that residents have to a range of facilities is an essential element of the quality urbanism. The map on the left reflects that the northern areas possess a wider range of facilities as compared to the Ashburton and VulindIlela ABM areas. In other words Ashburton and Vulindlela residents would have to travel further to the Greater Edendale, CBD or Northern areas to be able to access the same variety and level of facilities.

SOURCE: CENSUS DATA 2011

8.2 STATUS QUO ANALYSIS

8.2.2 DIVERSITY AND MIXED USE



8.2 STATUS QUO ANALYSIS

8.2.3 DENSITY AND SETTLEMENT TYPOLOGIES

A number of policy document developed at a Municipal as well as a Provincial level identify densification as a clear policy imperative for growth and development moving forward. The following documents form the foundation and guide of the following section:

- Msunduzi Municipality IDP/ SDF (2013/2014 – 2016/2017);
- NDP (2012);
- PGDP (2012).

The densification process is a global city phenomenon. In the SA context, it is viewed as a tool for the restructuring of the apartheid city.

Advantages of densification processes include:

- Initiating redevelopment / regeneration;
- Supporting public transport viability;
- Creating thresholds to support wider range of economic activities; and
- Improving quality of life in general.

It is for these reasons that this particular section emphasisesin understanding the spatial structure and make-up of the Municipality.

When referring to population densities a number of different methods of calculations are used depending on the desired result. Therefore the following definitions are provided for clarity of use within the following section.

Overall Density

Overall Density refers to the total population divided by the total land area, including all land uses (agriculture, undevelopable land, residential, commercial etc).

Gross Density

The residential density of a designated area. Includes all land used for uses such as industry, commerce, education, transportation and parks but excluded land extensive areas such as agricultural land and nature reserves/ parks areas.

Net Density

The residential density on a specific site, excluding public roads and public open space (i.e. including the area allocated for residential uses and internal roads).

Site Density

The residential density on a specific site which includes only the residential component of the land area.

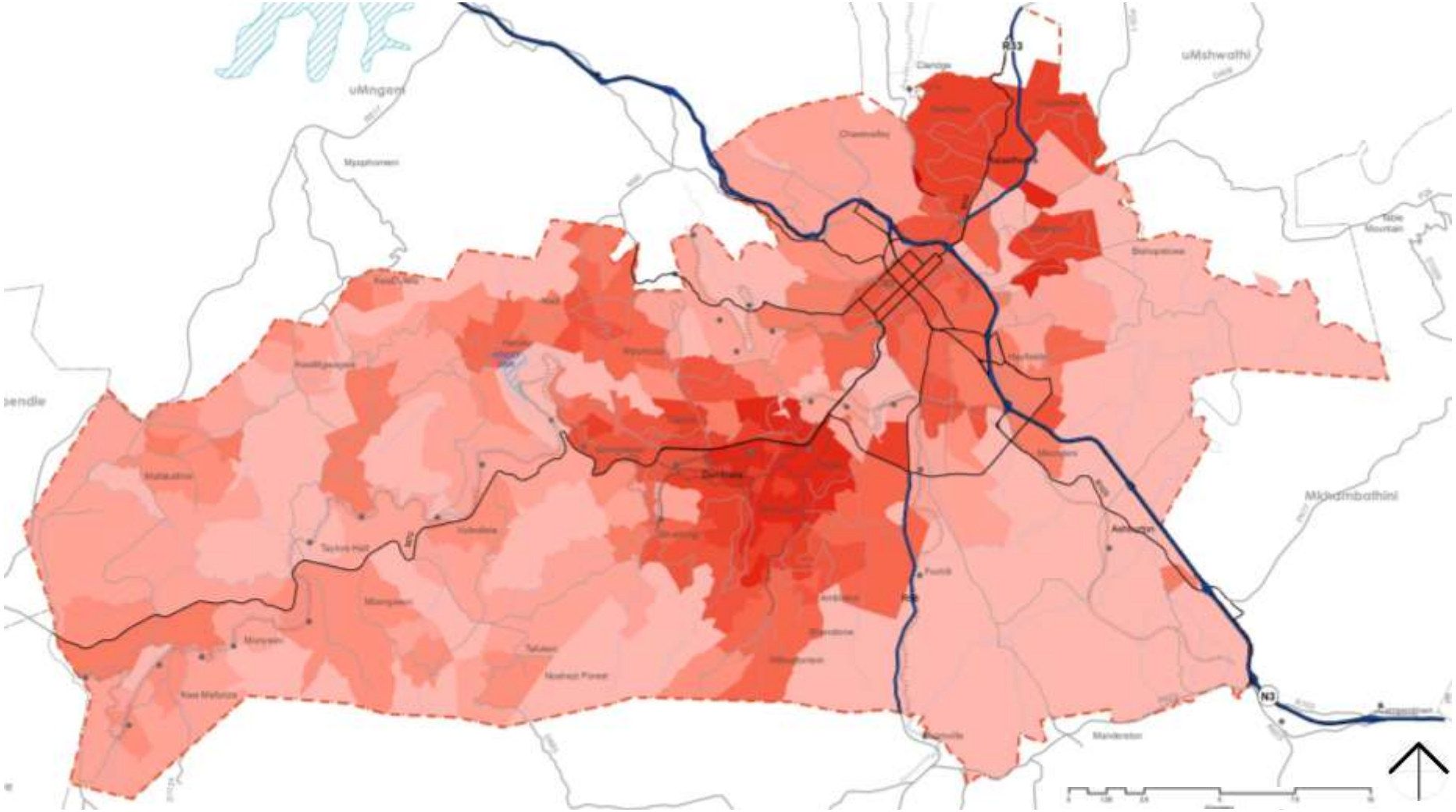
The rationale behind the promotion of dense urban spaces is related to discouraging sprawl and creating and promoting the development of compact environments that enable the population to support enhanced access services and facilities. The density map to the right was created as part of an analysis conducted in order to establish were the most densely populated areas in the Municipality are. As reflected in the map, the most dense areas in the municipality are the northern areas, Dambuza, Edendale and Imbali areas.

It was however established that a more detailed study was required to gain a better understanding of the settlement typologies and patterns within the Msunduzi Municipality. The detailed study would provide a better explanation of the density patterns and settlement structure present. A series of settlement samples was conducted with the aim assessing the following qualities across the municipality:
Settlement Form, Settlement Type, Settlement Structure, Dominant Land use, Gross Density

A total of 7 different settlement typologies were identified across the municipal area. The classification these typologies was established based on the qualities investigated as well as the settlements location in proximity to the CBD. The following section details these the findings of the study.

8.2 STATUS QUO ANALYSIS

8.2.3 DENSITY AND SETTLEMENT TYPOLOGIES



8.2 STATUS QUO ANALYSIS

8.2.3 DENSITY AND SETTLEMENT TYPOLOGIES

URBAN SETTLEMENTS

This settlement contains 2 subsets namely the urban Core and the Frame. The core is characterised by a mixture of services and higher buildings in the centre of the CBD while the frame is characterised by less dense but specialised areas still within the CBD.

FAST FACTS:

SUB-SETS:	Core & Frame
GROSS DENSITY:	3.41 DU/Ha
WARDS:	27, 32, 33
AREA EXAMPLES:	City, Scottsville

SUBURBAN SETTLEMENTS

Suburban settlements are those that formally, well planned with a clear structure, movement network and good access to necessary services and amenities. They can be classified into High density and low density suburban settlements based on the overall density.

FAST FACTS:

SUB-SETS:	High & Low Density
GROSS DENSITY:	8.93 DU/Ha
WARDS:	16, 19, 24, 26, 28, 31, 34, 35, 36
AREA EXAMPLES:	Dambuza, Bisley

TOWNSHIP SETTLEMENT

This type applies to areas that possess a very high overall density as the plots and units are smaller and more compact. Townships are generally inhabited by the lower income population. They are not informal as they formally planned parcels and are registered.

FAST FACTS:

SUB-SETS:	
GROSS DENSITY :	13.98 DU/Ha
WARDS:	10, 17, 21, 23
AREA EXAMPLES:	Kwapata, Ematshaheni

8.2 STATUS QUO ANALYSIS

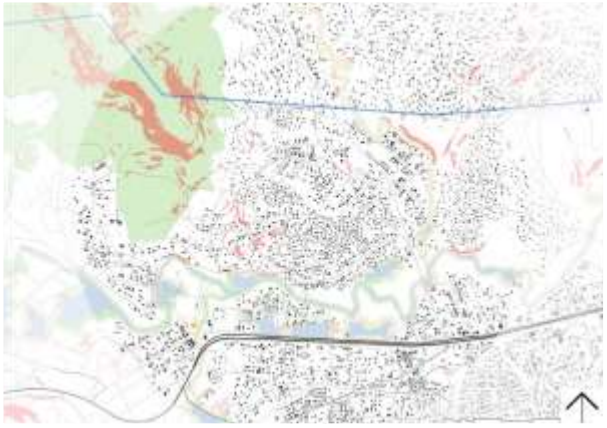
8.2.3 DENSITY AND SETTLEMENT TYPOLOGIES

INFORMAL SETTLEMENT

Informal settlements are generally areas were units are not located on a registered parcel. The settlement pattern is very compact but not structured. Two subsets of this settlement are formalised (were upgrading initiatives have taken place) Not yet formal (were upgrading has not taken place). Both have high densities.

FAST FACTS:

TYPES:	FORMALISED & NON-FORMALISED
GROSS DENSITY:	15.66 DU/Ha
WARDS:	13, 15, 29
AREA EXAMPLES:	Slangspruit, Imbali Unit 8



PERI-URBAN SETTLEMENT

Peri-urban settlements can be seen as the transition from more urban settlements to rural settlements. Although displaying a dispersed settlement pattern they are slightly denser than rural settlements and generally have higher levels of access to services and amenities.

FAST FACTS:

TYPES:	-
GROSS DENSITY :	7.96 DU/Ha
WARDS:	12, 20, 22, 30
AREA EXAMPLES:	Edendale, Raisethorpe

RURAL SETTLEMENT

Rural settlements are located a considerable distance from the more urban settlement thus having limited access to basic services. They are generally characterised by a scattered or dispersed settlement pattern. Based on the overall density subsets, rural settlements include dense and scattered rural settlements.

FAST FACTS:

TYPES:	Dense & Scattered
GROSS DENSITY:	2.31 DU/Ha
WARDS:	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 14
AREA EXAMPLES:	Sweetewaters, Phayiphini

8.2 STATUS QUO ANALYSIS

8.2.3 DENSITY AND SETTLEMENT TYPOLOGIES

LIFESTYLE SETTLEMENTS

These settlements are characterised by very low densities and large plot sizes. Categories of lifestyle settlements include, estates (gated communities) as well as Small holdings (small scale farming plots)

FAST FACTS:

SUB-SETS: Small Holding & Estates

GROSS DENSITY: 0.72 DU/Ha

WARDS: 18,25,37

AREA EXAMPLES: Ambleton, Chase Valley

8.2 STATUS QUO ANALYSIS

8.2.4 PUBLIC ENVIRONMENTS

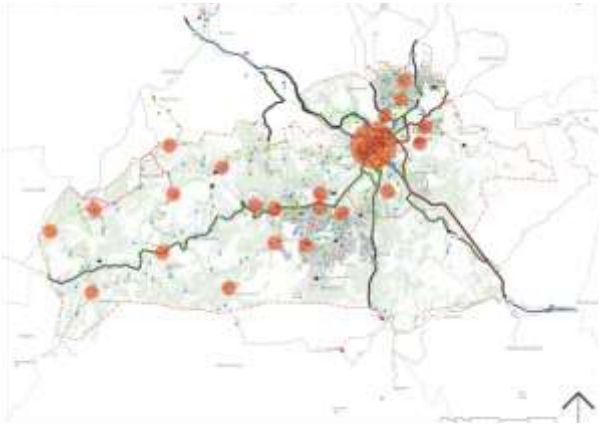
POPULATION CONCENTRATION

The public environment encompasses spaces and facilities used by the general public. These include, educational and government institutions, health and recreational facilities such clinics and parks. The accessibility of each of these has a key role in ensuring sustainable quality urban environments. As such the map above reflects the most densely populated areas in the municipality.

CONCENTRATION OF FACILITIES

The concept of densification is promoted as one of the elements that is key in creating Quality urban environments. The reasoning behind this is that the promoting high densities around activity clusters leads to potential economic growth through improved quality of life and residents access to a wider range of facilities.

The map above reflects a wide variety of facilities across the Municipality in relation to the concentration of people.



MAIN ACTIVITY CLUSTERS

The map above reflects main activity clusters across the municipality. The clusters were identified locating areas that had at least 3 or more different public facilities facilities in close proximity to each other serving a reasonably high concentration of people. This not only shows access of the facilities but also existing vibrancy and possible areas of economic growth and densification.

SOURCE: CENSUS DATA 2011

8.2 STATUS QUO ANALYSIS

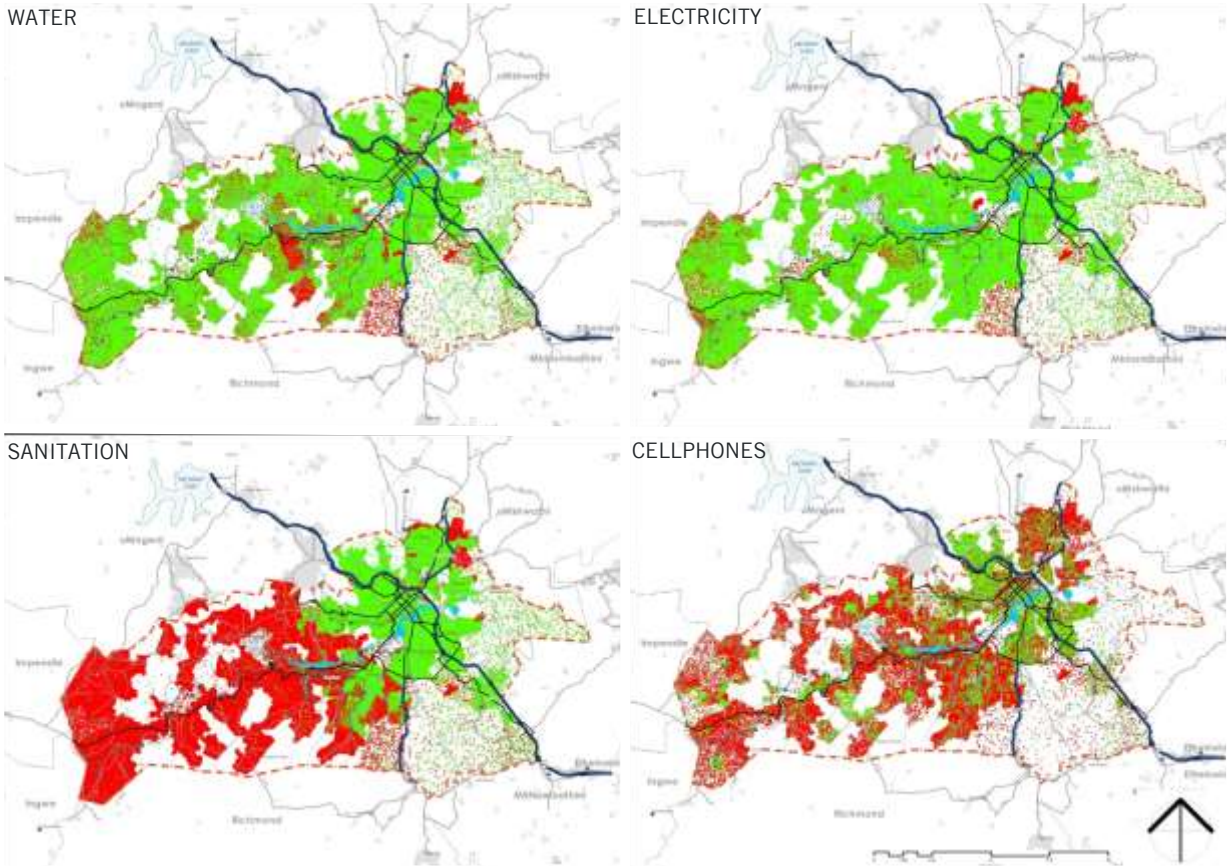
8.2.5 ACCESS TO SERVICES

Quality urban environments are those that allow residents adequate access to basic services. The 4 maps displayed on the right, reflect whether or not different areas in the municipality have access to specific services. Areas illustrated in red reflect no access to services, while the areas identified in green have access to the specified service.

In terms of water and electricity, the majority of the municipality is fully serviced with adequate access to water and electricity services as reflected by the dominant green colour on the maps to the right. Nevertheless there are still portions in the northern region and Greater Edendale/ Vulindlela region of the Municipal area that lack access to water and electricity.

The sanitation map reflects that the majority of the settlements within the municipality do not have access to adequate sanitation facilities. This is visible by the dominant red colouring reflected on the map. The map reflects the only areas with access to adequate sanitation as being the more formal settlements such as the CBD, Ashburton and Eastern areas, the Northern areas as well as portion of the Imbali area south-west of the CBD.

The access to cellphones map reflects that although there is a larger percentage of the population without access to cellphones, the is a wider distribution of the user within the Municipal area. However as expected the CBD as the cities centre of commerce shows a high concentration of users.



SOURCE: CENSUS DATA 2011

8.3 SYNTHESIS EVALUATION

As stipulated in the introduction component of the report, the spatial form of Msunduzi Municipality was significantly impacted and shaped by colonial and apartheid policies. These policies led to areas north and north-east (white area) of the CBD being better developed and serviced than those to the south and south-west (black areas).

The findings provided in this section reflect that more or less the same patterns are still visible today. The sample area analysis revealed that majority of settlements located north and north east of the CBD are well planned settlements with formal and a relatively compact structure. The plot sizes were generally found to be larger thus reflecting that the areas are predominantly inhabited by the wealthier communities in the city. In terms of services and facilities, the northern and north eastern areas generally possess a wider variety and concentration of services and facilities.

The areas East, South-east and south of the CBD main within the Vulindlela area were to a large extent were found to be short of services and facilities despite being the most populated areas in the municipality. Sanitation services were found to be the least of all services provided in these areas. The areas both reflect a high concentration of informal settlements and traditional settlements. While there are some areas in the area were recreational spaces have been provided, the quality, maintenance and accessibility to the communities they are supposed to serve in these areas is questionable.

Nevertheless, the studies conducted for this section of the report revealed that the municipality has areas that could be ideal for future densification programs. This was established through the recognition of areas that possessed diverse range of services and facilities which are concentrated, attracting a dense and nucleated settlement pattern around them. While the quality of urbanism within most areas of the municipality may be considered to be low mainly due to the issue of access to services, it must be noted that Msunduzi Municipality does have substantial potential in this area.

OBJECTIVE	BENCHMARK	SYNTHESIS EVALUATION
Prepare and develop compact, integrated communities that are well connected to all services (transport and infrastructure)	100% eradication of informal settlements	Benchmarks to be adopted and incorporated within future phases of the project.
	Rural residential housing infrastructure backlogs are reduced such that less than 10% of households remain without access to formal housing	Benchmarks to be adopted and incorporated within future phases of the project.
	Zero tolerance for exclusions based on racial, ethnic, religious or other demographic characteristics, is reflected in 100% of new settlement patterns	Benchmarks to be adopted and incorporated within future phases of the project, through the development of integrated, inclusive, mixed use environments.
	20% of each new mixed-use development consists of rental stock	Benchmark to adopted, however it remains too detailed for implementation at a spatial planning level.
	30% densification of urban space	Benchmarks to be adopted and incorporated within future phases of the project.

09
SOCIAL INCLUSIVITY

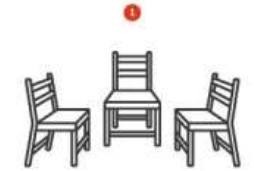
9.1 INTRODUCTION

Enhancing social inclusivity is a cornerstone principle of sustainable urbanism.

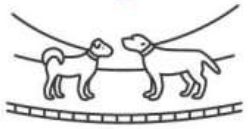
There are many aspects to social inclusivity, at the broadest level; this deals with the notion of people centered cities, whereby citizens have an active role in shaping their futures. Participation in decision-making is therefore an essential aspect of social inclusivity.

The physical environment is an important influence in social wellbeing and in fostering inclusivity. A key determining feature of socially inclusive environments is the ability of an environment to cater for the youngest, and at the same time, oldest members of society. Successful urban places are those that adequately address the needs of the widest range of society, with a particular emphasis on those with limited means – including the young and the old.

Creating physical environments that enhances quality of life, and which affords equal opportunities and enables integration is paramount to sustainable cities.



'ARTICIPATIVE PLANNING APPROACHES



PLACES FOR SOCIAL INTERACTION AND MEETING

EQUAL OPPORTUNITIES

QUALITY OF LIFE

OBJECTIVE	BENCHMARK
Improve quality and efficiency of social facilities within the Municipality	90% of communities have adequate social infrastructure within a 30 minute walk or ride
	100% of business centres are supported with appropriate community recreational and meeting facilities inclusing health and educational facilities
Create opportunities to extend the existing workforce for skilled as well as the informal sector	Work force employment increases from 36% to 50%
	Informal sector employment increases from 11% to 20%
	Skilled workforce increases from 13% to 20%

9.2 STATUS QUO ANALYSIS

9.2.1 DIVERSITY OF HOUSING ENVIRONMENTS

Msunduzi Municipality makes up the development core of the Umgungundlovu District Municipality both in terms of its contribution to the District economy and the overall population of the District. It is to be accepted that the future development of Msunduzi has the potential to impact on the District as a whole. Of specific importance in considering future Msunduzi spatial planning will be:

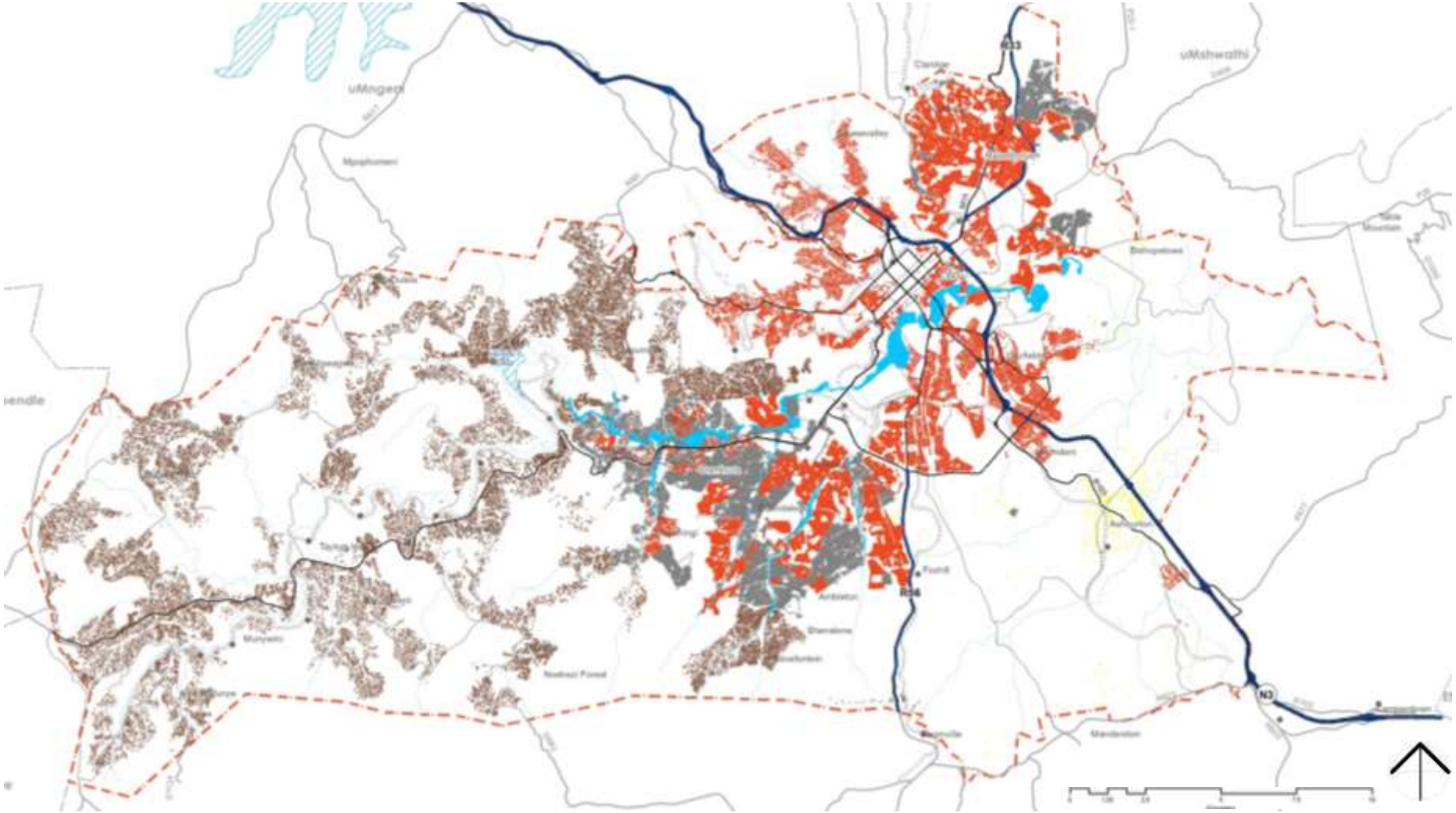
- Maintaining and strengthening the transport linkages between Msunduzi and the rest of the District;
- Coordinating spatial development with other municipalities to ensure that there is limited unnecessary competition between municipalities for private and public sector investment, but rather that developments in municipalities are mutually reinforcing; and
- Building on the growth of a metropolitan city structure in the District.

The map above reflects the various housing environments within the municipality. As the map above reflects, the Vulindlela area most characterised by Traditional village type of housing, while the Edendale/ Imbali area has high density formal housing aswell as a high concentration of informal housing.

Moving to the Northern, CBD, Ashburton and Eastern Areas, predominantly formal housing is observed, with pockets of informal settlements at Willowton and Copesville north east of the CBD.

9.2 STATUS QUO ANALYSIS

9.2.1 DIVERSITY OF HOUSING ENVIRONMENTS

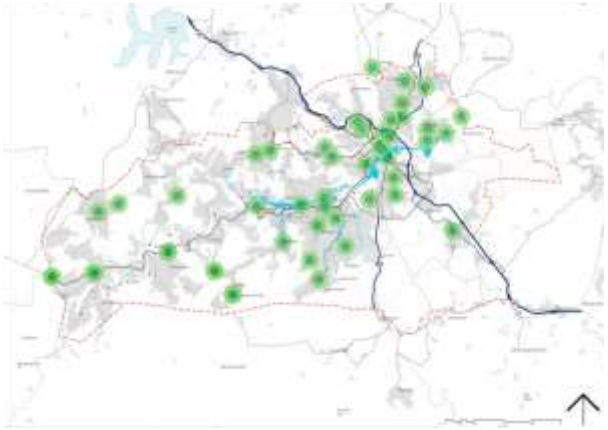


9.2 STATUS QUO ANALYSIS

9.2.2 SOCIAL FACILITY AUDIT

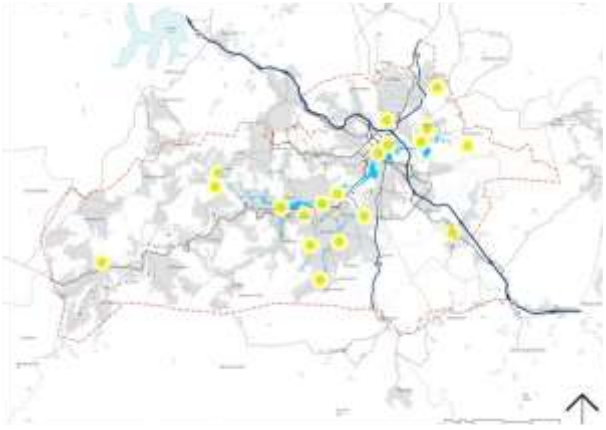
HOSPITALS

The map reflects the existence of 6 Hospitals within the municipality as well as both a 5 and 10 minute walking proximity radius around. What stands out clearly is the non-existance of a hospital in the Vulindlela region. Vulindlela has the second most populated of all four ABM regions within Msunduzi. On the other hand the central portion of the municipality is viewed as a medical hub with 6 major hospitals. As such it is evident to hospitals for the more rural populations is very limited.



CLINICS

In terms of medical centres and clinics, the map above reflects a wide range of clinics located across the municipality. Once again there is an increased concentration of these facilities closer to the central region of the municipality.

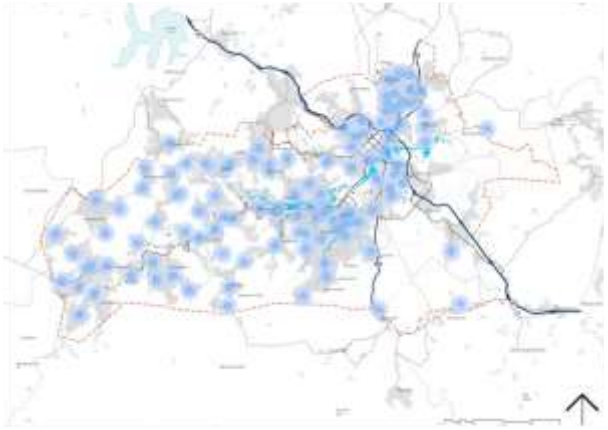


COMMUNITY HALLS

The map above shows the location of community halls across the municipality. From the onset what stands out is the high concentration of community halls in the Greater Edendale/ Imbali area. Considering the fact that the provision of such social facilities is established based on the population to be served, it evident that this areas should have a higher concentration of community halls due to its high population level.

9.3 STATUS QUO ANALYSIS

9.3.2 SOCIAL FACILITY AUDIT

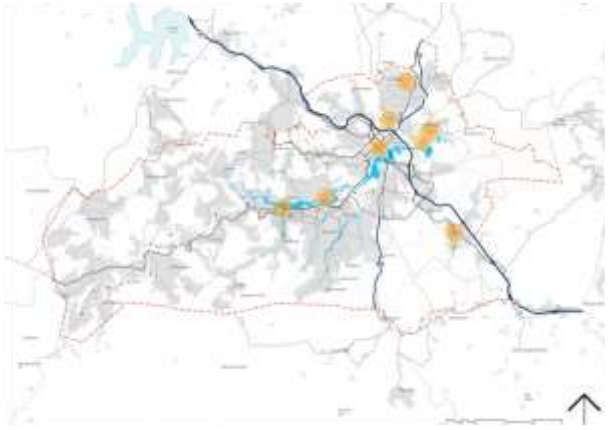


PRIMARY SCHOOLS

The map above reflecting the location of primary schools across the Municipality indicates that the majority of population of Msunduzi Municipality has access to primary education facilities. Nevertheless it is important to acknowledge the fact that the presence of educational institution does not necessarily equal a well educated population as there are other factors such as the quality of education that can affect level of literacy.

SECONDARY SCHOOLS

As with the primary schools, the municipality also reflects a high presence of secondary schools spread across the various areas of the municipality. The map shows the location of the schools with a 5 and 10 minute walking radius around them. It is however important to take note of the high concentration of secondary schools in the CBD and Northern areas despite these areas have lower population densities as compared to the Greater Edendale/ Imbali and Vulindlela areas.



LIBRARIES

In terms of access to libraries, the map above reflects that presence of only 8 libraries serving the overalll number of learners in the municipality. Accessibility to library facilities is considered minimal especially considering the large number of schools within the Vulindlela. While there are many schools in Vulindlela, there are no libraries. This would mean that scholars would have to travel a long distance in order to access any library facilities.

9.3 STATUS QUO ANALYSIS

9.3.2 SOCIAL FACILITY AUDIT

POLICE STATIONS

The map above show the location and access to police stations within the municipal area. Important to note is the reasonably moderate police presence within the CBD, Ashburton, Eastern and Northern areas.

The western portion of the municipality which is predominantly the Vulindlela area, no police presence at all. This would mean that the closest place were Vulindlela residents can access police services is in the Greater Edendale area.

SPORTING FACILITIES

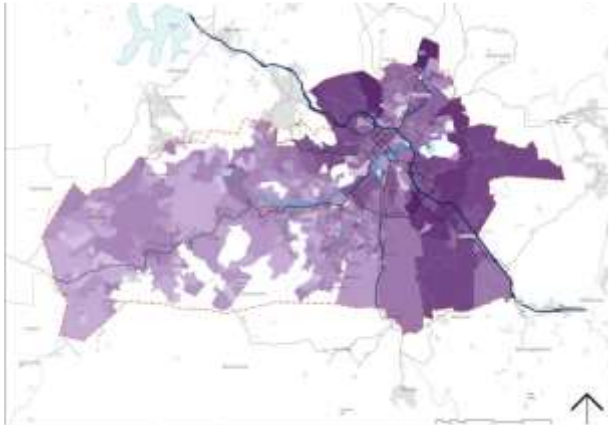
The Department of Sports and Recreation conducted a survey of all Sporting Facilities within KZN and mapped their locale with accompanying attributes pertaining to its condition. Whilst a number of sporting facilities exist throughout the Municipality, a major concern pertains to their conditions. It is important to take note of the way in which the sporting facilities have been located in close proximity to the primary and secondary schools. The reasoning behind this possibly being that in some instances the schools sporting facilities are available for the use by the surrounding community.

MAJOR PARKS

Major Parks identified include the National Botanical Gardens, Wylie Park, Alexandra Park, Ferncliff and Bisley Nature Reserve, Queen Elizabeth Park, Bufferlies for Afirca
The map above reflects that the majority of these scenic and recreational facilities are located in the Central portion of Msunduzi Municipality.
The greater Edendale, Imbali and Vulindlela area have not been serviced any major scenic/ recreational parks.

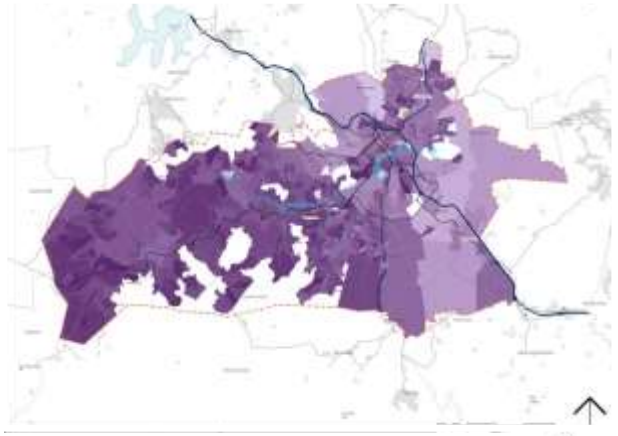
9.2 STATUS QUO ANALYSIS

9.2.3 GEOGRAPHY OF POVERTY



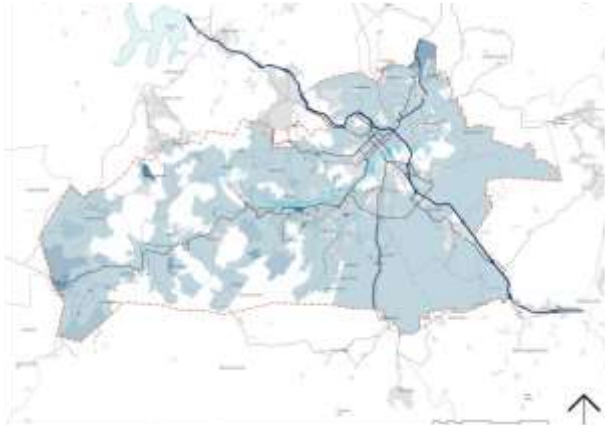
EMPLOYED POPULATION

The map above reflects the employed population within the municipality. The areas in which colour is more reflect areas were the majority of the population is employed. As such the map the reflects that majority of residents residing in the Northern, CBD, Ashburton and Eastern areas is employed.



UNEMPLOYED POPULATION

In terms of unemployment, the map above reflects that the Greater Edendale, Imbali and Vulindlela areas possess the highest levels of unemployment in the municipality. The demographic data from the 2011 census supports thus as it reflects that majority of the population within these areas is either above the age of 60 years or between 0- 20 years of age. The working age population is generally considered to be made of people aged between15 and 64. As such the results of the analysis can be attributed to the fact that the majority of the working age population does not reside within the Informal and rural areas.



LIMITED SCHOOLING POPULATION

The map above show the percentage of Msunduzi Municipality that is regarded as having limited schooling. In this analysis those considered to be uneducated, included people with out having attending any formal academic training.

The map reflects very few areas in the municipality as having a highly uneducated population. Generally Musunduzi Municipality is considered to be a reasonably well educated population. This is based on the fact that only 4% of the population has no form of schooling.

SOURCE: CENSUS DATA 2011

9.3 SYNTHESIS EVALUATION

Numerous conclusions on the current level of social inclusion within the municipality may be drawn based on the findings obtained in this section. However the overall assessment would reflect that the municipality can be said to have a low level of social inclusivity. This evident in the inequality of provision of facilities across the municipality.

Considering the diversity of settlements map, it is evident that the more informal and traditional settlements within the Greater Edendale, Imbali and Vulindlela areas have been neglected in terms of provision of civic and social facilities. The irony however is that these are the most populated areas within the municipality and as such one would say that the greatest for such facilities is in such areas.

As such it is important to consider the provision more recreational parks, police stations, Hospitals and libraries in these areas.

Nevertheless the dominant presence of educational institutions within the municipality must be commended. Considering that the Vulindlela area has many schools but also high unemployment, various factors must be assessed in order to establish a firm footing for possible intervention measures to be suggested. These issues include, the quality of education and pass rates, the number of employment opportunities within the municipalities as well as the accessibility of areas of employment. These issues will be addressed in detail in the following chapters.

OBJECTIVE	BENCHMARK	SYTHESIS EVLAUATION
Improve quality and efficiency of social facilities within the Municipality	90% of communities have adequate social infrastructure within a 30 minute walk or ride	This benchmark is currently not being addressed, however it has been adopted by the project team and will be incorporated within the future planning phases.
	100% of business centres are supported with appropriate community recreational and meeting facilities inclusing health and educational facilities	This benchmark is currently not being addressed, however it has been adopted by the project team and will be incorporated within the future planning phases.
Create opportunities to extend the existing workforce for skilled as well as the informal sector	Work force employment increases from 36% to 50%	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	Informal sector employment increases from 11% to 20%	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	Skilled workforce increases from 13% to 20%	Benchmarks to be adopted, incorporated and quantified within future phases of the project.

10
SUSTAINABLE SERVICES

10 SUSTAINABLE SERVICES

10.1 INTRODUCTION

Understanding that the planet's resources are finite and limited is a primary starting point for sustainable urbanism. Sustainable services are based on the use of appropriate forms or energy, minimising waste and adaptive use and harvesting of by-products.

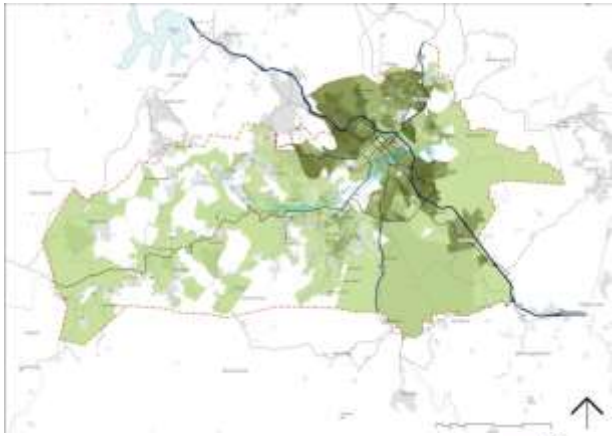
There are various aspects to enhancing sustainable services such as reducing carbon emissions through energy efficiency and the introduction of new technologies such as solar panels, wind turbines etc.

Other dimensions include reducing the consumption of water and including the harvesting of rainwater. Reducing waste and promoting a culture of recycling is an important aspect of sustainable urbanism.

Developing more compact and dense environments as part of sustainable urbanism also assists by maximising the use of services. As part of good urbanism, the incorporation of green architecture in reducing the energy requirements through passive design is also an important aspect of sustainability.

OBJECTIVE	BENCHMARK
Provide basic services (electricity, water and flushing toilets) to all households within the Municipality	100% of all households have municipal water connections to the yard level
	70% of all households have water-borne sanitation
	30% of all households have basic minimum of VIPs
	100% of households have basic electricity supply
	100% of municipal households are fitted with solar water heating geysers
	100% of households and businesses are rendered a waste collection and disposal service once a week
	50% recovery rate of recyclable materials through source separation at households and public sector offices and treatment of organic waste
	50% of new commercial or industrial development incorporates some form of renewable energy technology usage in its design and construction
	100% of building plans approved have due consideration for energy efficiency

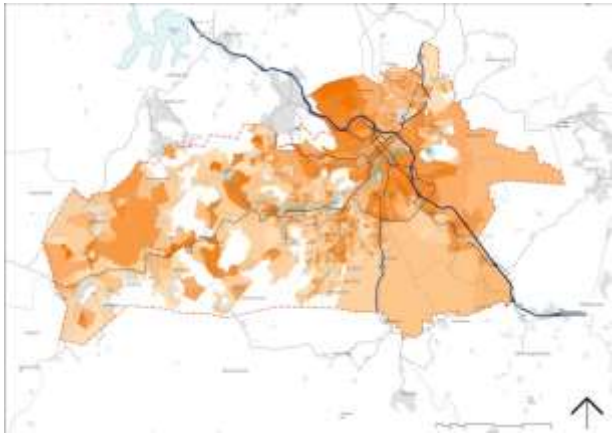
10.2 STATUS QUO ANALYSIS



ACCESS TO A LANDLINE

The map above reflects the level of access to landline telecommunication. The more intense the color the more people in the areas have access to telecommunication via a landline.

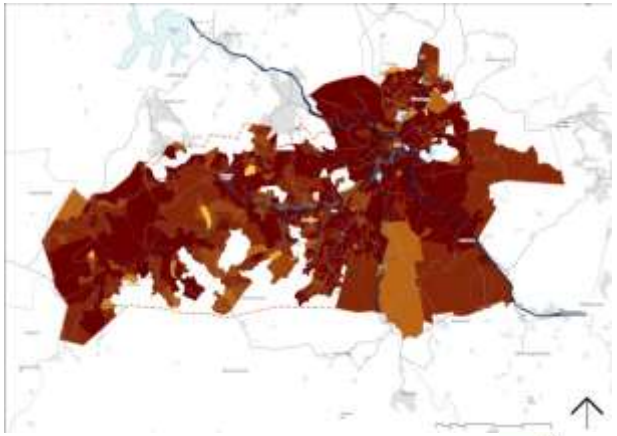
There is generally a low level of access to landline telecommunication within the municipality. The main areas with access to landlines are the Northern areas and the Hayfields, Mkondeni and Ashburton areas.



ACCESS TO INTERNET

Access to internet is based on people be able to connect on to the internet from their homes, cellphones, work or any other sources.

As such the map reflects that in most areas of the municipality people are able to connect on to the internet. However the high concentration in areas such as, the CBD, Northern areas, Hayfields, Ashburton and portions of Edendale and Vulindlela reflects areas in the municipality with highest level of access to the internet.



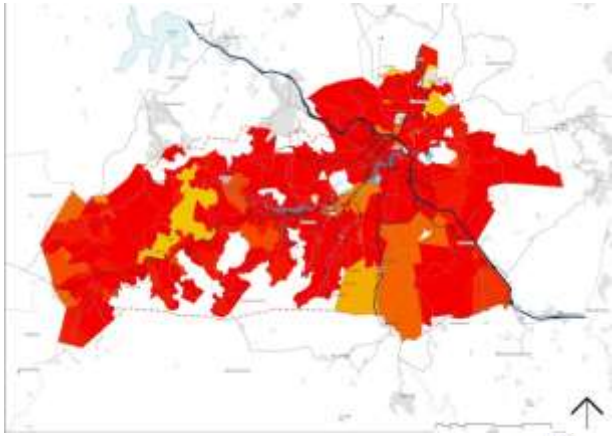
ACCESS TO CELLPHONES

The map above reflects the level of access to cell phones in the municipality. Unlike from the onset one is able to establish that the municipal population is more connected via cell phone communication as compared to landline connectivity.

Very few areas such as Foxhill and Thornville to mention a few areas within the municipality reflect low levels of cell phone connectivity. This explains the high level internet connectivity within various areas of the municipality as people may possible be connecting to the internet via their cell phones.

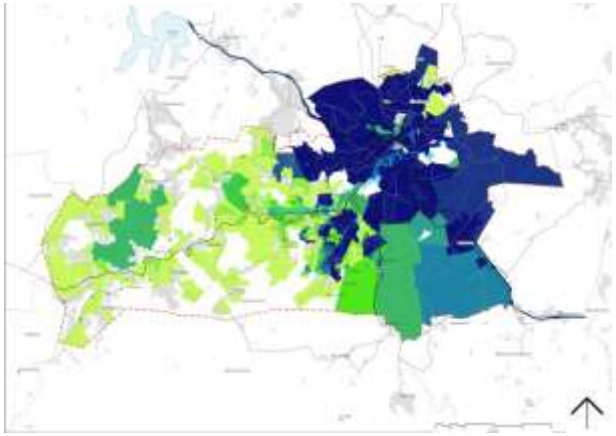
SOURCE: CENSUS DATA 2011

10.2 STATUS QUO ANALYSIS



ACCESS TO ELECTRICITY

Electricity is solely provided by Eskom while the municipality is responsible for the individual connections. The unprecedented economic growth of the city and housing developments has put an added strain on the city's electricity networks which does not seem to have adequate capacity. Furthermore, infrastructure is aging and vandalism, illegal connections, and cable theft are also putting additional pressure on the system. The project team established that adequate access to electricity would be considered as being homes that were able to use electricity for lighting in their homes. As such the map reflects that the majority of areas in the municipality have access to electricity. The central portion of Vulindlela, Copesville in the north and Ambletone, Shenstone and Willowfontein in the southern portion of Edendale reflected low levels of access to electricity. This could be attributed to the low population levels in the areas . 100% access is only observed in densely populated areas closer to the CBD.

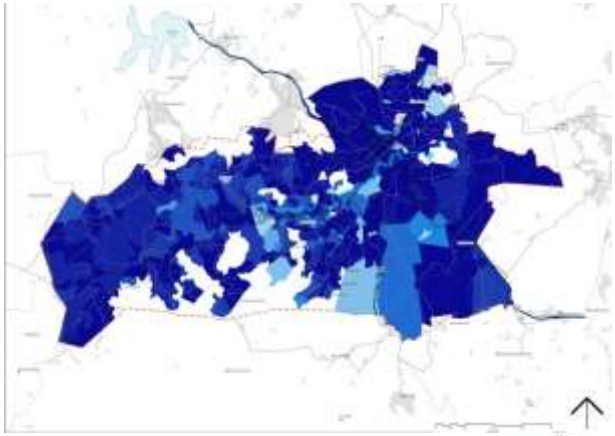


ACCESS TO ACCEPTABLE SANITATION

Umgeni Water supplies the city with bulk potable water from Midmar Dam and the city is responsible for the reticulation to individual users. The municipality inherited different levels of services for water and sanitation when it incorporated Greater Edendale and Vulindlela in 1996 and 2000 respectively.

Access to sanitation was measured as an ultimate goal where households are serviced by flush toilets draining into the main sewer system or a septic tank.

As reflected in the map, the majority of households west of the CBD have poor access to acceptable sanitation. On the other-hand, households east of the CBD are well serviced with good access to the acceptable sanitation.



ACCESS TO ACCEPTABLE WATER PROVISION

Acceptable water provision has been classified as being were a household is able to access water within the boundary of their individual plot. As such the findings of the analysis reflect that the central portion of the municipality (Dambuza, George and immediate surroundings) as well portions of other ABM areas including Foxhil, Copesville record very low levels of acceptable water provision. Northern areas and the larger portion of the Ashburton area reflect 100% access to acceptable water provision.

SOURCE: CENSUS DATA 2011

10.3 SYNTHESIS EVALUATION

As provided in the beginning of the section, the main objective of sustainable services is to ensure the provision basic services (electricity, water and flushing toilets) to all households within the Municipality. Understanding that the planet's resources are finite and limited it is thus important to ensure that the provision of these services is done in a sustainable manner that ensures both the provision of the service but at the also the preservation or protection of the natural environment.

In the case of Msunduzi Municipality, the status quo analysis has revealed that services are not evenly distributed/ supplied across the municipality.

The more formal and urban areas (Northern region, CBD, Ashburton & Eastern region) of the municipality are better serviced generally more connected than the more informal, rural and peri-urban areas (Greater Edendale, Imbali and Vulindlela).

It must however be acknowledged that some services are better provided than other. This is evident in the way in which the majority of the municipality appears to have access to electricity. However, in terms of access to sanitation and water, there is once again an obvious disjuncture as the Greater Edendale, Imbali and Vulindlela areas have less access than the Northern areas, CBD, Ashburton and Eastern Areas. The diversity of housing map assists in the analysis of the access to telecommunication as it helps reflect that the areas identified as having poor access to a landline are predominantly Traditional village or informal areas. As such the lack access to this specific service may be attributed to an issue of inability of resident to afford the service.

It may thus be concluded that the Municipality needs to urgently address the issue of adequate sanitation and water for its residents. The lack of adequate access to sanitation may lead to tragic health and financial implications for those inadequately serviced communities.

OBJECTIVE	BENCHMARK	SYNTHESIS EVALUATION
Provide basic services (electricity, water and flushing toilets) to all households within the Municipality	100% of all households have municipal water connections to the yard level	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	70% of all households have water-borne sanitation	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	30% of all households have basic minimum of VIPs	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	100% of households have basic electricity supply	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	100% of municipal households are fitted with solar water heating geysers	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	100% of households and businesses are rendered a waste collection and disposal service once a week	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	50% recovery rate of recyclable materials through source separation at households and public sector offices and treatment of organic waste	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	50% of new commercial or industrial development incorporates some form of renewable energy technology usage in its design and construction	Benchmarks to be adopted, incorporated and quantified within future phases of the project.
	100% of building plans approved have due consideration for energy efficiency	Benchmarks to be adopted, incorporated and quantified within future phases of the project.

11
SYNTHESIS OF ISSUES

11 SYNTHESIS OF ISSUES

11.1 EXISTING DEVELOPMENT PERSPECTIVE

The following section outlines the facts per sustainable urbanism pillar identified above. The status quo facts are then synthesised into issues or opportunities, which can either be targeted for building on or the eradication in the following phases of the project.

The table will be used as a base for the development of SDF through the application of possible growth models, strategies, identification of 'moves', projects as well as the alignment of specific goals and strategies which are linked and that may have a great impact. The below table will become the framework on which the SDF will be bound.

11.1 EXISTING DEVELOPMENT PERSPECTIVE

SUSTAINABILITY PILLARS	STATUS QUO FACTS	SYNTHESIS KEY ISSUES/ OPPORTUNITIES
GLOBAL CONNECTIVITY		
	Existing N3 linkage to Durban and Johannesburg	Potential gateways to the Global Markets
	Existing Airport Providing link to Busiest Airport in Africa	
	Rail Link between Durban and Johannesburg running through Msunduzi	
	Existing Key regional road linkages include R56, R33, M70, M80,	Access between municipalities and potential for interegional trade/ investment partnerships, Msunduzi acting as a gateway into other areas within the District
	Existing regional rail linkage	
	High Concentration of Landline Users in CBD and Northern Areas	
	Growing number of Cellphone and Internet Users	
	Increasing Broadband Infrastructure Provision	
	19 out of 15 in terms of Broadband Coverage	
PRODUCTIVE SYSTEMS		
	Located along national corridor	
	Significanct role of city within the Province.	
	Significant contributor to the GVA of District	
	Linkages to various key provincial & inter-provincial tranportation routes	
	Industrial, Tourism and Agriculture key investment areas in the Province and district context	
	Workforce 18% unemployed and 46% Discouraged workers	
	36 % of Workforce is employed	
	68% of those employed are employed in the formal sector	
	Contributed 71% of District GVA	
	Msunduzi Manufacturing, Finance& Real Estate and Government sectors make substantial contribution to District GVA (Reflecting Competitive advantage)	
	Lowest Agricultural contributer	
	Uneven Distribution of Economic Activities	
	Dominant economic activity is industrial	
	High investment and development pressure in the SBD Ashburton andEastern Areas	
	Minimal Investment and economic activity in Vulindlela	

11.1 EXISTING DEVELOPMENT PERSPECTIVE

SUSTAINABILITY PILLARS	STATUS QUO FACTS	SYNTHESIS KEY ISSUES/ OPPORTUNITIES
GREEN STRUCTURE		
	Development challenges in Vulindlela due to Topography (slopes greater 1:3)	
	Existing EMF reflects highlights protected areas that MUST BE taken into cognisance when planning	
	Numerous rivers and wetlands that are protected and must remain that way	
	Existing sensitive vegetation that needs to be preserved	
	Not all Green spaces are in walking distance of settlements	
QUALITY URBANISM		
	Existing settlement is fragmented due to the form and structure and inadequate connectivity within the Municipality (Topography, EMF & Roads)	Limited integration of settlements. Fragmented settlement present possible safety concerns, increased infrastrcure cost.
	Dominance of residential land use	Limited mix of land use. Current settlement pattern promotes separated land use pattern which limites quality urbanism
	Commercial CBD core	
	Decentralised industrial clusters	
	Concentration of economic opportunities around the CBD and immediate surrounding areas. Limited economic opportunities exist outside of these areas.	
	Formal areas are well serviced with a diverse range of facilities. The less formal areas have limited social facilities.	Limited opportunities and choice of facilities
	High densities are located in the Northdale and Edendale areas	Major pull areas
	Seven settlement typologies are identified within the Municipality	Diverse character of the Municipality
	Concentration of acivity clusters located in the CBD, Northdale and Edendale	Unequal opportunities and access to facilities/ investment areas
	Poor access to sanitation to the west of the Municipality	Unequal provision of services in the Municipality.
	Water provision is limited in Georgetown, Ambleton, Shenstone and Copesville.	
	Electricity is limited in Copesville, Ambleton and Shenstone areas.	
	High concentration of ICT uses in the CBD and immediate surrounding areas.	

11.1 EXISTING DEVELOPMENT PERSPECTIVE

SUSTAINABILITY PILLARS	STATUS QUO FACTS	SYNTHESIS KEY ISSUES/ OPPORTUNITIES
SOCIAL INCLUSIVITY		
	Highly populated areas are Greater Edendale/ Mbali and Vulindlela Area	
	Higher Female Population	
	Majority of population between 0-20 age group	
	38% of workforce educated up to secondary school level	
	Highest concentration of Tertiary Educated People is in CBD, Ashburton, Eastern areas and Northern Areas	
	36% of workforce is employed, 18% unemployed, 46% other	
	78% of workforce is formerly employed	
	60% of workforce earns between R0-R1600 per month	
	18% of Households reside in inadequate formsof housing (Informal dwellings backyard, informal settlements, or other backyard accomodation and other)	
	CBD, Ashburton, Eastern Areas have highest concentration of Inadequate housing	
	Uneven provision of health, Community Hall and Library facilities and Police stations between Vulindlela and other ABMs	
	Major Active Parks concentrated in CBD Northern Areas	
	Majority of population posseses some level of education	
	High Concentration of Landline Users in CBD and Northern Areas	
	Growing number of Cellphone and Internet Users	
	Increasing Provision of	
SUSTAINABLE TRANSPORT		
	Highest transportation travel attraction is the CBD and immediate surroundings	
	Main travel production areas are Greater Edendale/ Mbali, Vulindlela and Willowton	
	37% of Public Transport trips are destined for the CBD	
	57% Public Transport trips are for work, 23% for Education	
	Majority of population dependant on public transport is for the Vulindlela, Greater Edendale/ Imbali areas	
	Majority of private car users are from the Northern, CBD and Eastern areas	
	Limited Usage of existing NMT paths	

11.1 EXISTING DEVELOPMENT PERSPECTIVE

SUSTAINABILITY PILLARS	STATUS QUO FACTS	SYNTHESIS KEY ISSUES/ OPPORTUNITIES
SUSTAINABLE SERVICES		
	Majority of Settlements in the western and southern ends of the municipality have limited access to telecommunication/ ICT	
	Majority of settlements have access to electricity	
	Vulindlela and Greater Edendale/ Imbali areas have poor access to sanitation	
	Greater Edendale/ Imbali and pockets of Vulindlela and Northern Areas have poor access to water	
	Majority of Residents within the city have limited access to services	

11.2 CURRENT PROJECTS AND PLANS

The following list of projects and plans are currently underway within the Msunduzi Municipality. The projects and plans identified are across all sector disciplines and will be taken into consideration during the vision, concept and development of the 'Reviewed SDF'.

Sector	Project name	Clients	Brief Scope of Works	Timeframe
Global Connectivity	Fibre Optic Cable Network		This is a short to medium-term project that will see the development of a leading-edge technology fibre optic telecommunications network leading to increased connectivity and usage, decreased costs, and stimulating growth and development.	
	Freeway Node Development		This is a medium-term project that involves the upgrade of key freeway interchanges within the Municipality so as to ensure more efficient movement of traffic, as well as unlocking strategically located adjacent land for the development of commercial, residential, and associated activities.	
Sustainable Transport	Pietermaritzburg Airport Upgrade		This is a short- term project that will see the extension of the existing runway, together with the terminal buildings. This will allow for larger aeroplanes to make use of the airport, thereby attracting additional operators and increasing the amount of feet through the airport.	2013..
	IRPTN (Integrated Rapid Public TransportNetwork)		This project is a short to medium-term project which will see the roll-out of reliable and efficient public transport between key points in the city, thereby reducing resident's commuting times.	2013-2018
	Road rehabilitation - PMS			2013/2016
	Corridor development			2013/2014
	Caravan Park: Cleland Road – Mkondeni Link		Continuation of Market Road across the N3 into Cleland Road, providing improved access to the N3 from the Hayfields, Lincoln Meade and Bellevue areas.	
	Burger Street Extension		Burger Street currently ends in a sharp right turn (approaching from the east) into Chapel Street. This scheme would extend Burger Street East to join Burger Street West with a new signalized intersection at Chapel Street and a stop street at the Leighton Street intersection. Also the intersection with West Street would be upgraded to a signalized intersection.	2013-2015
	East end Road System / new England Road Interchange Upgrade		This scheme provides capacity improvements at both the New England Road and Church Street Interchanges. At Church Street, a partially signalized roundabout is provided with the construction of a new bridge over the N3 and an entry and exit providing direct access to Berg Street and Pietermaritz Street. At New England Road the existing overpass is widened to provide a 5 lane cross section allowing three lanes inbound (two straight ahead lanes and one right turn lane) and two lanes outbound (one straight and one right turn lane). Both intersections are signalized with some localized widening on the off ramps and on the New England approaches.	
	Route 7B – Slangspruit ext.		This road presently exists through to Slangspruit from the Slangspruit Road/ Newport Drive intersection. The route, however, is not direct and is of poor quality. The scheme is designed to provide a paved, direct route through to Slangspruit.	
	Upgrade Design of Gravel Roads –Vulindlela, Willowton & Edendale			2013-2016

11.2 CURRENT PROJECTS AND PLANS

Sector	Project name	Clients	Brief Scope of Works	Timeframe
Quality Urbanism	Development of Informal Settlements Management & Control Strategy	Msunduzi Municipality	Document and profile existing informal settlements Identify existing potential land sites that are susceptible to invasion, and devise pre-emptive interventions to ensure they are not invaded. Devise strategies to upgrade and integrate existing informal settlements into current and future housing delivery programmes and projects	Mid 2014
	Housing Sector Strategy Review	Msunduzi Municipality	Review the goals, objectives and targets of the 2011 Housing Sector Plan, and establish delivery gaps	Mid 2014
Green Structure	EMF Refinement of the Environmental Services Plan (ESP)	N/A – to be completed in house	Systematically review the ESP at a finer scale – checking land ownership, ecological condition etc.	2012 onwards
	EMF Revision	Msunduzi Municipality	A robust revision and, where possible, improvement on the Msunduzi EMF approved in 2010	2015 - 2020
	Baynespruit Rehabilitation	N/A – to be completed in house with assistance from key external partners	Fulfil the terms and conditions of the Memorandum of Understanding to facilitate the successful implementation of the uMngeni Ecological Infrastructure Partnership (UEIP) Strategy	2014 onwards
	SIP 19 (mentioned above) (Note: SIP 2, also mentioned above in the report, is more infrastructure related than environment-related)	PICC & National Government	Support economic development and address service delivery backlogs in key areas; promote ecological infrastructure for water security	2014 onwards
	Continuous Development Proposals	Private Developers and Public Enterprises	Environmental Impact Assessment to identify fatal flaws and any opportunities for the environment at the landscape level	Ongoing

11.2 CURRENT PROJECTS AND PLANS

Sector	Project name	Clients	Brief Scope of Works	Timeframe
Sustainable Services	Electrical Infrastructure Upgrade		This is a short to medium-term project that will see the rehabilitation and upgrading of the Municipality's electrical infrastructure.	
	Non-Revenue Water Reduction Project		This is a medium to long-term project that will simultaneously increase revenue and reduce water losses. The reduction of water losses will ultimately reduce the demand on our source (dams), which will have a catalytic benefit to the catchment.	2013-2016
	Copesville reservoir			2013-2016
	Edendale proper new mains & reticulation			2013/2014
	Sanitation Infrastructure Feasibility			2013-2016
	Shepstone Ambleton Sanitation System			2013-2016
	Rehabilitation of Sanitation Infrastructure			2013-2016
	Elimination of Conservancy Tanks			2013-2016
	Darvill WWTW Upgrade	Umgeni Water	Upgrade of the existing Darvill Waste Water Treatment Works (WWTW) from its current capacity to 100 MLD taking cognisance of a future upgrade to 120 MLD which is forecast to occur in 2024	2014-2016
	Sewer pipes – Unit H and Azalea			
	Landfill upgrade			2013-2016
Social Inclusivity				
Productive Systems	Central and CBD Extension Area LAP	Msunduzi Municipality	Prepare a Local Area Plans which provide a defined planning, development and implementation framework for the management of development and land use within the defined area.	Conceptual Planning
	South Eastern Districts LAP	Msunduzi Municipality	Prepare a Local Area Plans which provide a defined planning, development and implementation framework for the management of development and land use within the defined area.	Conceptual Planning
	Extension of the Pietermaritzburg Town Planning Scheme to include Greater Edendale and Sobantu	Msunduzi Municipality	Msunduzi initiated a process to extend Pietermaritzburg Town Planning Scheme to include Greater Edendale and Sobantu Township. Both Sobantu Township & Greater Edendale fall outside of the current Pietermaritzburg Town Planning Scheme. Edendale area has not received formal town planning.	