

MSUNDUZI SPATIAL DEVELOPMENT FRAMEWORK REVIEW – EXECUTIVE SUMMARY



AUGUST 2009

EXECUTIVE SUMMARY

PREFACE

There can be few tasks as challenging as planning for the future of the Msunduzi Municipality which is the Legislature and Capital of the Province and which forms the core of an emergent future Metropolitan Region inland of the EtheKwini/Durban Metro being the most developed part of KwaZulu-Natal.

Over the last 15 years since 1994, a process of transformation and restructuring has commenced with respect to the management and planning of municipalities throughout the Republic. An extensive process was undertaken by all municipalities in South Africa to comply with the provisions of the Municipal Systems Act and in particular the preparation of Integrated Development Plans and its sector plans including that which is represented geographically through the Spatial Development Framework (SDF).

The Msunduzi IDP and SDF will take cognizance of the foresight of those past and presently involved in building the city as well as the challenges faced with integrating the activities of the population cores of the greater municipality within a sustainable social, economic, and bio-physical context.

The IDP and SDF are intended to provide a general framework for growth and change, not a detailed blueprint. Once prepared, many of the details will need to be worked out in further deliberations with local communities. Any changes to the framework will need to be reflected in future revisions which should occur on a regular basis towards achieving the Municipality's 2025 Vision.

The IDP and SDF is the Municipality's response to planning for future growth and change. It is intended to enable the Council, communities, development industry, service providers, and government agencies to plan, budget and develop with confidence to meet the expectations of the Municipality's development.

1.0 INTRODUCTION

The Spatial Development Framework (SDF) is an integral part of a Municipality's IDP. It represents the spatial expression of the Council's development vision, and should therefore be reviewed regularly to take into account changing circumstances.

Council's existing SDF was adopted during 2002, and is now being reviewed to accommodate the 2025 Development Vision, which is "to be the dynamic, caring Capital City of Choice in Kwa-Zulu Natal."

In fulfilling this Vision, the Municipality is guided by its mission for facilitating service delivery which includes dealing with:

- Community participation
- Social and Economic Development and Growth
- Safety, Security and HIV/AIDS
- Sustainable Service Delivery
- Sound finance
- Sound Governance
- Sustainable Environmental Management

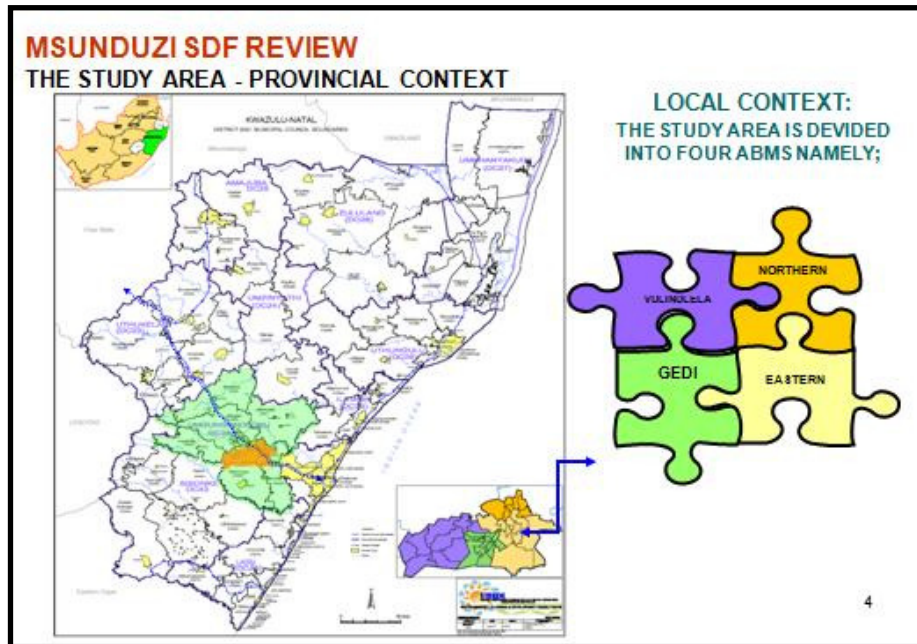
This report is a consolidation of SDF's prepared for four Area Based Management Areas (AMB's).

An SDF, being part of the IDP, is a **schematic** plan and indicates the broad spatial intentions of the municipality. Being schematic, it does not indicate precise cadastral alignments of roads or areas. The precise details of the SDF are developed in subsequent more detailed Land Use Framework Plans (called Local area Plans) and ultimately in Planning Schemes.

1.1 Background

- i) The approach adopted by the Municipality for the SDF review is the formulation of Spatial Development Frameworks for four spatial areas or Area Based Management Sectors (ABMS). From these plans, an overall SDF for the entire Municipality is distilled at an appropriate level of abstraction. The four ABMS are:
- Northern Area.
 - CBD, Ashburton, Eastern Areas.
 - Vulindlela.
 - Greater Edendale.

Figure 1: Study Area; Provincial and Local Context



1.3 The Current Spatial Framework Development Plan

- 1.3.1 The Municipality completed its comprehensive Integrated Development Plan in May 2002, which included the preparation of a Spatial Development Framework. Since then a number of developments have occurred in the municipality which has resulted in the current SDF being outdated and requires updating.
- 1.3.2 The primary purpose of this SDF was described as “the plan to advance the development of the city as a cohesive system made up of functionally interrelated elements and to consequently redress and focus on, amongst others, the following
- (i) the integration of social, economic, institutional and physical aspects of land development.
 - (ii) the historically distorted and fragmented spatial patterns of the city and its settlement.
 - (iii) the development of a more compact city and the improvement of linkages to support an efficient and effective city.
 - (iv) accessibility to social and economic opportunities.
 - (v) the management of development by identifying areas for investment or upgrading to create unique places.
 - (vi) a framework promoting diverse combination of land uses, supporting the growth and investment potential within the urban system.
 - (vii) improving the distribution of services and facilities, especially to areas which are under provided, “

1.3.3 The Main Guiding Principles

The current SDF identifies its six (6) main principles, which include;

- (i) Compaction,
- (ii) Integration,
- (iii) Densification,
- (iv) Restructuring the city,
- (v) Meeting the land use needs, and
- (vi) Identification of areas of Economic Development Potential

1.3.4 The Spatial Goals

The SDF went further to identify its spatial goals, which include;

- (i) Stitching together all parts of the city.
- (ii) Creating an area with diverse economic activities.
- (iii) Optimizing the land uses to meet the demand for housing, services, facilities and economic opportunities.
- (iv) Developing a movement system which links areas and ensures accessibility to facilities and enables community interaction.
- (v) Developing sustainable environments.

1.3.5 The applicability of the Principles and Goals

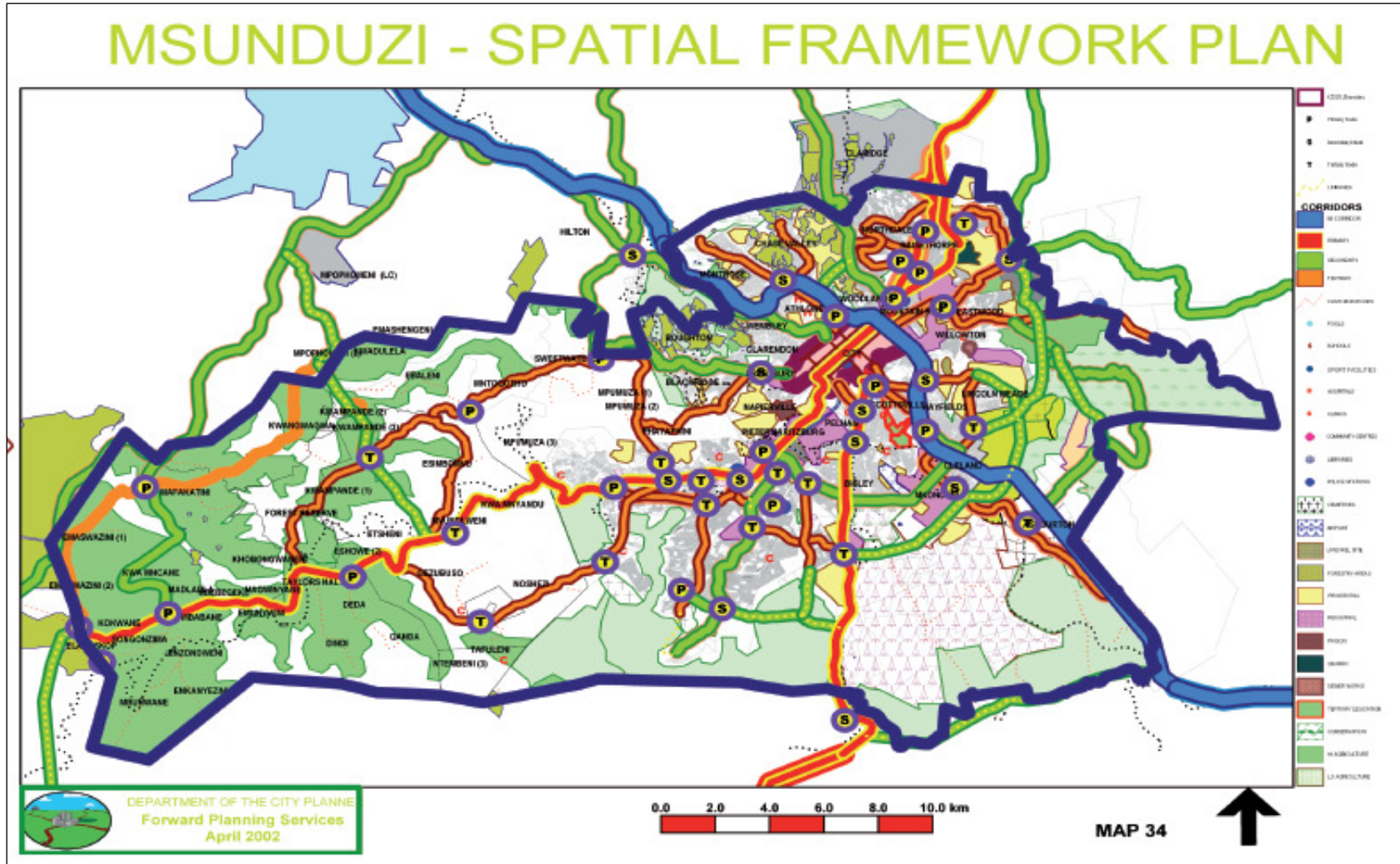
A major shortfall of the current SDF is that it does not provide any details of how the proposed concept is applied in order to adhere to the guiding principles, as well as how the spatial goals will be achieved. It simply acknowledges some of the SDF structuring elements and immediately proceeds to identify existing and potential nodes.

Table 1: List of Nodes and Nodes Hierarchy

NODE HEIRARCHY	NODE NAME
Primary Nodes	<ul style="list-style-type: none"> • Zinqamu (in Vulindlela) • Emafakatini (in Vulindlela) • Taylors Halt (in Vulindlela) • Mtoqotho (in Vulindlela) • Sweetwaters (in Vulindlela) • Unit S Azalea • Georgetown • Imabli Central • Masons Mill (in Edendale Road) • Hayfields (in Cleland Road) • Scottzville Central (in Durban Road) • CBD Extension (Liberty Mindlands Mall Precinct) • Eastwood (in Bishopstowe Road) • Northway (in Ottos Bluff) • Manchester Road (in Willowton) • Debi Place (in Nothdale) • Greytown Road (in Raisethorpe)
Secondary Nodes	<ul style="list-style-type: none"> • Elandskop (in Vulindlela) • Santi (in Vulindlela) • Willowfountain (in Willowfountain Road) • Caluza • Qokololo (in Edendale Road-Route 13) • Southgate (in Bisley) • Polly Shorts (in Mkhondeni) • Alexandra Park • New England Road (in Scottzville) • Mayors Walk (in Prestbury) • Cascades (in Chase Valley)

	<ul style="list-style-type: none">• Bishopstowe
Tertiary Nodes	<ul style="list-style-type: none">• KwaMpande (in Vulindlela)• Gezubuso (in Vulindlela)• Ngubeni (in Vulindlela)• Sinathing Road• Caluza Harenwood• Machibisa-Mabulala (in Machibisa Road)• Dambuza-Eringini (in Dambuza/Machibisa Road)• Quarry (in Willowfountain-Route 9 Road)• Imabli Office (in FJ Sithole Road)• Slanspruit (in Newport Drive)• Foxhill (in Ambleton)• Ashburton• Jesmondene (in Marray Road – Hayfields)• Copesville

Figure 2: Current Spatial Development Framework (2002)



Source: Msunduzi Municipality IDP Review 2007/08

1.3.6 2006/07 IDP Review Recommendations for the SDF Review

The 2006/07 IDP Review provided recommendations to be considered during the SDF Review process. It identified several issues that have to be dealt with, these include;

- (a) The revision of the SDF needs to be a reflection of the revised 2006/07 IDP.
- (b) The revised needs to refine the extent of the “corridors” and the refinement of the number of nodes suggested in the existing SDF in order that only the realistically achievable nodal developments are reflected.
- (c) The need to have a sound public participation plan in order to ensure that the SDF process reaches out to all areas of the city.
- (d) The need to seek assistance of the Department of Agriculture and Environmental Affairs to prepare the Strategic Environmental Assessment for the city to as an informants of the SDF review.
- (e) The need for the SDF to coordinate and interact with planning and other spatially associated land uses and activities like transportation, open space system, stormwater management, ad local economic development.
- (f) The SDF will need to provide guidelines for the preparation of a single Land Use Management System for the city.

2.0 National and Provincial Legislation and Policies

2.1 The SDF is guided by, amongst others, the following pieces of Legislation and Policies at a National and Provincial Level:

- South African Constitution and Principles of Sustainable Development
- The Municipal System Act (MSA)
- The Development Facilitation Act (DFA)
- Environmental Conservation Act (ECA)
- The National Environment Management Act (NEMA)
- Social Housing Act (SHA)
- Accelerated and Shared Growth Initiative for South Africa (ASGISA)
- National Spatial Development Perspective (NSDP)
- The Provincial Growth and Development Strategy (PGDS)
- Provincial Spatial Economic Development Strategy (PSEDS)
- White Paper on Spatial Planning and Land Use Management

3.0 SITUATIONAL ANALYSIS: Informants

3.1 Physical Environment

3.1.1 LAND: Topography

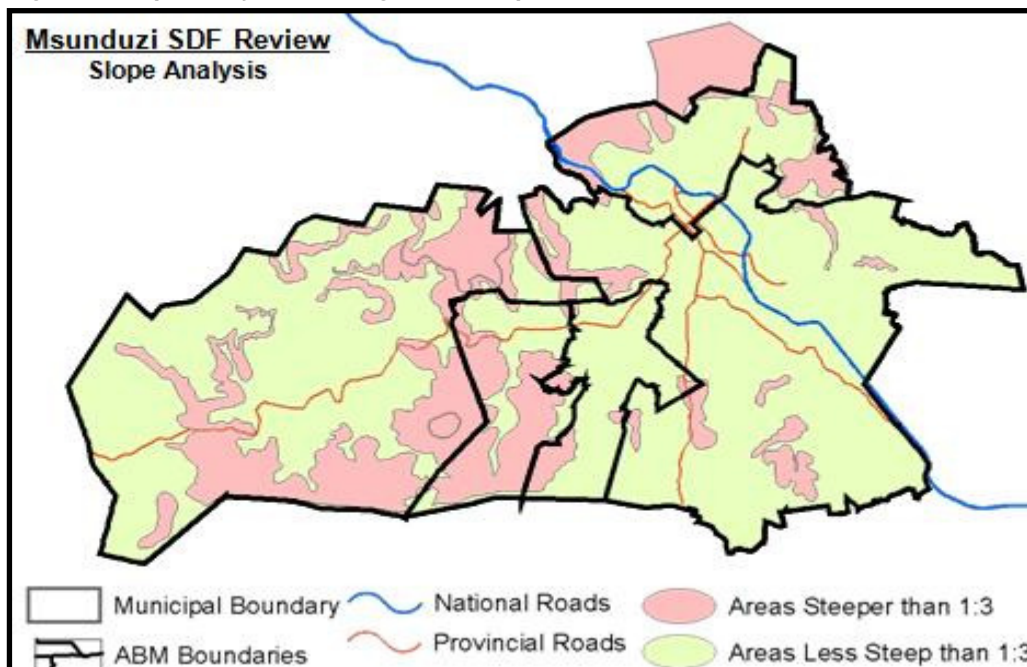
(1) Relief

The Pietermaritzburg Metropolitan Region is characterized by a diversity of landscapes. The region transects four of Natal’s 49 classified physiographic regions. These are the “Natal Midlands” and the “Howick Benchland”, which forms part of the “Uplands” regional grouping, and have an altitude of between 1000 – 1400m above sea level, the “Greytown – Pietermaritzburg – Richmond Benchland” and the “Valley of a Thousand Hills” which form part of the “Intermediate” and “low lying” regional groupings respectively and have an altitude of between 400 – 1000m above sea level.

(2) Slope

Approximately 30% of the municipal area consists of topography having a gradient steeper than 1 metre in 3 metres (1:3). More than half of this steep topography is located in the western quadrant of the municipal area particularly within the boundaries of the Greater Edendale-Imbali ABM and the Vulindlela ABM.

Figure 3: Slope Analysis showing areas steeper and flatter than 1:3



(3) **Geology**

The underlying geology of the region consists of a sequence of clastic or fragmented sedimentary rock strata, consisting of sandy and clayey sales, sandstones and tillites, overlaying a bedrock composed of granite and gneiss. Significant areas of intruded dolerite are found throughout the region.

(4) **Soils**

The soils found in most parts of the metropolitan region have a high clay content and are considered to be generally active in that they expand and contract in relation to changes in their moisture content. The degree to which these soils expand and contract is dependent upon the thickness and depth of the clay layer and the climatic conditions and drainage characteristics of the area.

3.1.2 Climate

Two main sources of information that have been used in compiling this review of climate include:

- the climatic data given for each of the Bioresource Units identified by the Department of Agriculture (a total of 13 units).
- the map showing mean annual precipitation as determined by Dent MC, Lynch, SD and Schulze RE (1988)(WRC Report No 109/190)

The agricultural significance of this grouping is as follows: Firstly, regarding rainfall, the above brackets are important for the following reasons:

- the 1 000mm threshold corresponds, approximately, with the water balance requirement for perennial crops like sugar cane or plantation crops, as will be explained later.
- the 800-1 000mm range corresponds with the water balance requirements of most summer crops e.g. maize.

- the 700-800mm range is sub-optimal for most summer crops so that yield reductions must be expected in most years but total crop failures will be rare.
- below 700mm, and under higher temperatures, conditions for cropping are unfavourable and cash cropping is not recommended.

There may be a case for sub-dividing the warm sub-humid unit where rainfall ranges from 700-800mm into two sub-units:

- a moist one where mean annual rainfall is in the 750-800mm range
- a drier one where mean annual rainfall is in the 700-750mm range.

3.1.3 Vegetation and Natural Areas

Average grazing capacities for these veld types are as follows:

Moist Midlands Mistbelt	2,1ha per AU
Moist Coast Hinterland Ngongoni Veld	2,4ha per AU
Dry Boast Hinterland Ngongoni Veld	2,7-3,4ha per AU
Coast Hinterland Thornveld	3,1ha per AU
Valley Bushveld	5,1ha per AU

It should, however, be noted that much of the veld in the western areas is suffering from past overstocking and also be noted that large parts of the study area are no longer under natural vegetation due to:

- urban development covering large parts of the central part of the municipal area.
- peri-urban residential areas which cover large parts of Greater Imbali, Greater Edendale and Vulindlela.
- forestry plantations which cover large parts of the northern areas and Vulindlela.
- cultivated land in Vulindlela and parts of Ashburton and the Eastern Area, some of which is planted to sugar cane.

3.2 Agriculture and Agricultural Potential

3.2.1 Review of present agricultural land use

Most of the agricultural land has been developed and most of the remaining areas are steep making it difficult and costly to utilise for agricultural purposes in particular subsistence agriculture, which is an important instrument for food security.

3.2.2 Factors affecting agriculture

The following elements are factors that affect agriculture:

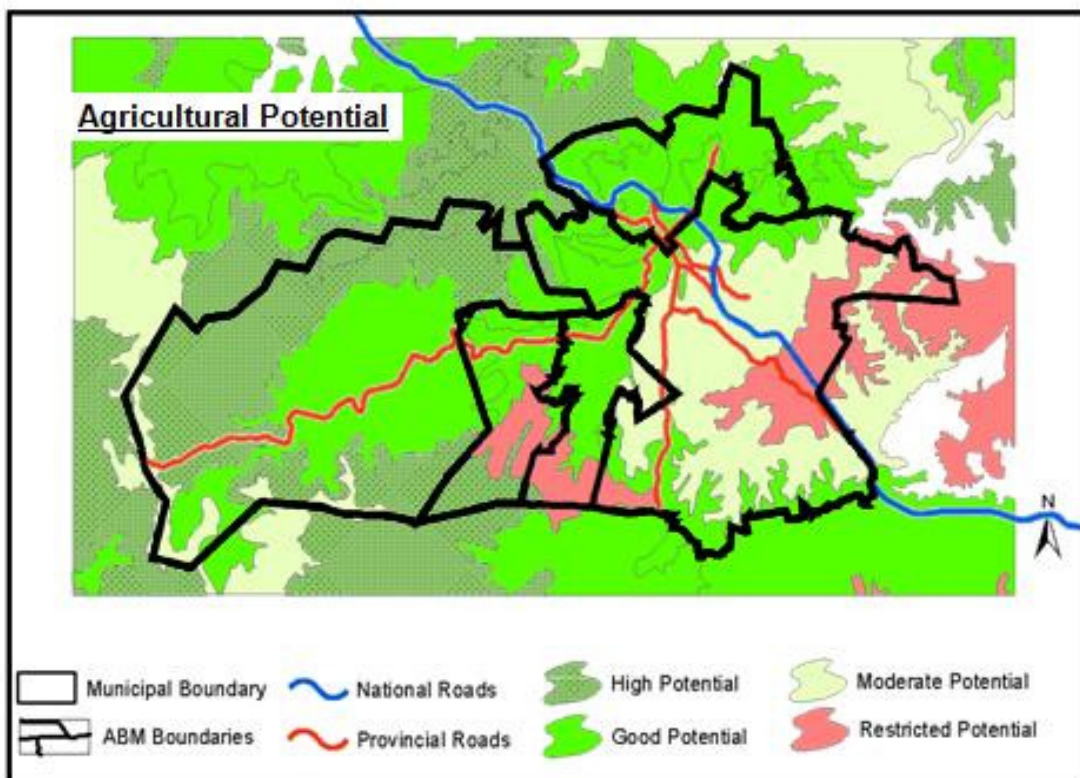
1. Physiography
2. Climate
3. Soils
4. Water supplies

Due to factors affecting agriculture, it is therefore important in these areas to encourage farmers to conform to the following management recommendations:

- Any sub-division of land within this category should be subject to support by the Dept of Agriculture.
- Stop soil erosion by terracing, strip cropping and repairing donga's;
- Add organic matter to soil (with "green manure" cover crops, compost, manures, crop residues, organic fertilizers);
- Plant wind breaks in the form of indigenous trees to prevent wind erosion;

- ❑ Rotate crops to ensure that nutrients in the soil are not depleted by monoculture;
- ❑ Grow crops appropriate to the soil type and climate;
- ❑ Test soil and apply manures only when necessary;
- ❑ Compost organic waste;
- ❑ Introduce or enhance existing populations of natural predators, pathogens; insects, and other biological control agents;
- ❑ Maintain healthy soil (prevents soil-based diseases) and encourage the use of ectomycorrhiza to improve nutrient and water uptake in crops;
- ❑ Grow crops and crop varieties well-suited to climate and soil; and
- ❑ Leave habitat (field margins, unmowed strips, pond and stream borders, etc.,) for wildlife therefore providing wildlife corridors.

Figure 4: Agricultural Land Potential



3.3 Environmental Conservation

1. Indigenous forested areas

These areas are not mapped however, all areas of thornveld are. All areas under indigenous forest and properties with indigenous trees should be subject to the following guidelines: it should not be altered without the authorization from DWAF

2. Areas of High Biodiversity Value

These areas are identified as areas of high irreplaceability and areas in the minset data set designated as non-negotiable reserves should be categorized in this category. These areas are somewhat limited by land transformation in the municipality and include only small portions of the northern areas and south western of the study area.

- ❑ This zone represents areas of natural vegetation and therefore any transformation of this area greater than 3 Ha should be subject to impact assessment. Further any development greater than 1 Ha would be

subject to Basic Assessment and any development greater than 20 Ha would be subject to Full Environmental Impact Assessment.

- No construction of a listed activity under the NEMA EIA regulations may begin without authorization from DAEA, the Municipality in its development control capacity should not, under any circumstances, authorize any listed activity until such time as DAEA has given authorization for the activity to go ahead.

3. Nature Reserves

These areas are mapped on both the Cplan and Minset Maps.

- This is with a view to preventing damage to conservation areas. The fencing used should be appropriate and should allow for the movement of small animals that may be found in this area, for eg Duiker, weasel.
- In the conserved areas, only nature-related recreation and education shall be permitted, such as bird-watching, walking and canoeing.
- The introduction of any exotic plants to conservation areas must be prevented and any existing alien invasive vegetation should be removed.

4. Wetlands, dams, and drainage corridors

The wetlands, dams, and drainage corridors are shown on Map 4 however; it must be stressed that wetlands identified over and above these maps should be subject to the same guidelines:

- Infilling, drainage and hardened surfaces (including buildings and asphalt) should not be located in any of the wetland zones (i.e. permanent, seasonal and temporary) such activities generally result in significant impacts on a wetland's hydrology, hydraulics and biota and on the goods and services wetlands provide.
- Hardened surfaces and erven should be located at least 15 m outside of the outer boundary of the seasonal/permanent zone.
- Where the wetland has a particularly high biodiversity value, further buffering may be required, the width of which would depend on the specific requirements of the biota. This should be determined in consultation with Ezemvelo KZN Wildlife. The value of a wetland for biodiversity derives not only from features of the wetland but also from the quality of natural, non-wetland areas adjacent to the wetland, as many wetland dependent species such as the giant bullfrog (*Pyxicephalus adspersus*) require both wetland and non-wetland habitat.

3.3.3 Basic Land Use

The percentages are an approximation to indicate land use trends to inform overall spatial planning at SDF level. A more detailed land use would be required at the Land Use Management System (LUMS) level which will follow the preparation of the SDF.

The Grasslands takes about (31.7%) which is most of the land in the municipality, followed by land used for settlement purposes at 29.1% which includes; formal settlements (14.8%), traditional settlements (14.1%), and informal settlements (0.5%). It is important to distinguish between the different types of settlements as these would give an idea of the level of services available and those that are required.

CBD, Ashburton and Eastern Areas ABM: Whilst the dominating land use is thornveld and grasslands, this area is predominantly used for residential purposes. The area is also home to some of the major employers in the city namely; government sector in the central area and industries in Mkhondeni, Willowton, and Pelham. This area is therefore, the largest rates contributor of the city. It is important to mention that this area plays a significant role in terms of transport infrastructure available in the city. This area accommodates the larger part of the N3 a primary movement corridor (also part of the Provincial Development Corridors) dissecting the city and the Edendale – Northdale development corridor; it is also home to the city's only airport and railway station. A concentration of education facilities is found in this area and the largest of

them being the University of KwaZulu-Natal. The north eastern part (Bellvue/New England) and south eastern part (Ukulinga/Ashburton) has pockets of cultivated land.

Northern Areas ABM: This area is mostly used for residential purposes and the natures of the settlements are both formal and informal, especially in the areas of Claridge and Copesville. Forestry/Plantations are also the dominant land uses especially to the west of the area with natural bush in between. The majority of commercial activities in the city are within this area with pockets of industrial uses in places. There are also pockets of Active/Passive Open Spaces (the largest being Queen Elizabeth Park), and Cultivated Land (Copesville/Claridge). It is important to note that the largest health institutions in the city namely; Grey's Hospital and Townhill Mental Institution are within this area. The area is also part of the Edendale – Northdale development corridor and the N3.

Greater Edendale Area ABM: A large part of this area is used for residential purposes even though it is largely under serviced. The natures of the settlements are formal, informal, and traditional even though there is no tribal authority in this area. Even though there are industrial activities in the area, the majority of people are unemployed and are relatively poor. This area has been identified as one city's areas of priority spending with initiatives already underway to support this namely; the Greater Edendale Development Initiative (GEDI) and the Edendale – Northdale Development Corridor.

Whilst the focus in the past has been on the Edendale Corridor (this has been where previous plans and investment has, in the past, been concentrated), this study has revealed that the majority of the people within the Edendale ABM live to the south of and away from the corridor. There exists an opportunity to downplay the number of hierarchical arrangement of nodes along the corridor and find alternate nodes within the formal sections of the Edendale ABM. Most of the formal shops exist off secondary /tertiary routes, such that newer larger formal nodes would not be to the detriment to these shops.

Topography and river corridors play a major part in structuring growth and development within the ABM. The area has major valleys and steep topography particularly those areas closer to the Vulindlela ABM. These serve as structuring elements and constrain development into a series of development interfluves and an avoidance of steep land that would be difficult to service.

The ABM as a whole is characterized by a mix of both informal and formal residential development. The formal areas are concentrated in the middle of the ABM, while informal development occurs adjacent to Edendale Road and in the southern periphery of the ABM. An opportunity exists to upgrade /infill the residential component within the ABM.

The Edendale ABM is generally well served by services i.e. sewer, electricity, water, etc. However certain portions within the ABM such as Dambuza, Slangspruit, Sinathingi and Emantharen, appears to be poorly serviced.

Slangspruit, Shenstone, Unit EE, Willowfontein, Noshezi, and the Singathing Rural areas are not serviced by facilities. In some instances no development occurs in the area due to the difficult topography. In the case of Slangspruit no formal facilities are indicated in the plans made available to the planning team – this needs to be investigated.

Apart from the spatial implications, the Edendale ABM is characterized, economically, by more than 70% of households which earn less than R1 600 per month. These high levels of poverty exist in all areas within PMB; however it is more concentrated in the Edendale area. There need to be a focus on developing the economic sectors within the ABM and thus offering more opportunities for people. Skills training and capacity building must occur with institutions set in place to drive the implementation.

Vulindlela ABM: This area is under traditional authorities and is predominantly rural with settlements largely traditional however; there are pockets of informal settlements. This area is the largest of the ABMs and houses the majority of the city's population yet it is highly underdeveloped and serviced. The majority of people are unemployed, dependant on government grants, and some live off the land through subsistence farming. There are also pockets of Active/Passive Open Spaces, Forestry/Plantation,

Grasslands, and Natural Bush. The education facilities are scattered all over the area and the lack of health facilities is obvious.

3.4 Social Facilities

The demand for social development is expressed in the municipality's IDP. The increase of the city's population has demanded an increase of social facilities and services. Despite the limited resources, the municipality has responded to some of these issues including; the upgrading of the Central Library, the upgrading of Freedom Square, a number of community development projects in Vulindlela, Greater Edendale/Imbali, and Northern areas have been implemented, and the formulation of a Public Transport Plan and the Water Services Development Plan.

The challenges of social security (housing, poverty, unemployment, HIV/AIDS etc.) are still prevalent in the city. Whilst the city has attempted to effectively deal with these issues, much more still needs to be done.

The level of social infrastructure varies throughout the municipality, and reflects the imbalances created by the Apartheid system.

3.5 Housing

The declaration of the city as the provincial capital saw an exodus of government officials from Ulundi to Pietermaritzburg, and subsequently the demand for residential accommodation. Before the declaration, the city was sitting with a surplus of residential accommodation and at present the city is not coping with the current demand, even though more people are expected.

It is in light of the above and the recent spending patterns that the sales of residential properties increased substantially in the past 3 years, and started slowing down in the first quarter of 2008.

This trend also has a lot to do with the country's growing black middle income group, which started its participation in the property market, and was later held back by the effects of the global economic meltdown.

The market had risen to the occasion with most recent residential developments catering for middle to high income groups. The areas where these developments have been most noticeable include; Imbali, Bisley, Pelham, Boughton, Cascades, Cleland, and Chase Valley.

The number of boarding houses particularly in the central area and Scottsville has also increased mainly because of the influx of students, the proximity to education facilities and the areas' places of employment. An Inner City Residential Strategy was prepared by the city in 2004, from the research done; it became clear that there is a high demand for rental housing stock. This was also reiterated in the 2006/07 IDP that the increasing demand for rental housing would require Council to facilitate the construction of at least 500 middle income houses per annum. It needs to be pointed out though, that the demand for rental housing also includes the low income groups who can be accommodated through the social rental housing stock.

The IDP Review of 2006/07 indicated that the Municipality is experiencing an average 2% household growth per annum therefore, an estimated 2500 houses need to be constructed annually to meet the demand.

3.6 Infrastructure

The city's physical infrastructure includes; water and sanitation, roads and storm water, electricity, and waste removal. The provision and maintenance of these services amounts to more than 50% of the city's capital budget.

"Since the amalgamation of different Transitional Local Councils (TLCs) the combined structure saw a rise in the needs of the people who needed services provision.

3.6.1 Water and Sanitation: The city is supplied with bulk potable water by Umgeni 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. The IDP, 2006 reports that Vulindlela area is the most desperate for the service. In the meantime, Umgeni Water is negotiating with the municipality to purchase the Vulindlela Water Scheme.

3.6.2 Roads and stormwater: The levels of roads varies throughout the city, the so called "Old City" is well provided with all weather access roads, whilst the newly incorporated areas have tarred roads, gravel roads, and lack of community access roads and adequate stormwater drainage. The Vulindlela area is still highly inaccessible.

The existing road system in the central area is under enormous strain from increased traffic volumes due to a number of reasons which include; the city's status as the Capital and subsequent relocation of government offices to the city, the unprecedented economic growth of the city, the growing black middle class which means there are more people who can afford to buy cars, and the poor transport system and dependence on private vehicle usage.

"This has caused severe congestion on the streets and there is a need to explore opportunities for expanding the roads or improving signaling to increase flow of traffic", (IDP, 2006).

3.6.3 Electricity: Eskom is the sole bulk of supplier to the municipality which is responsible for the individual connections therefore, it only provides grid electricity. The provision of electricity is demand driven and without an adequate SDF it is difficult to plan for future demands.

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, with regular black-outs being reported. Reliable electricity supply is paramount in restoring investor confidence in the city.

3.6.4 Waste Removal: This service is only provided in the "Old City" with a total of 11 landfill sites, with the main Municipal Dump site located in New England Road. This situation is obviously undesirable and shows cracks caused by past imbalances. This is also the cause of illegal dumping that is evident in the under serviced areas, whilst it is worth mentioning that illegal dumping is a problem throughout the city. Industrial waste is also problematic, and is affecting the city's water resources where toxic chemicals are dumped into the rivers

3.7 Social Environment

3.7.1 Demographics

The IDP, 2006 summary of the implications and challenges of the December 2000 demarcation and amalgamation process is as follows:

Table 2: Growth Patterns for Msunduzi Municipality from 1994-2000.

Period	Name	Area	Population
Up to 1994	Pietermaritzburg	150km ²	176 590
1995 to 2000	Pietermaritzburg – Msunduzi Municipality TLC	251km ²	373 910
Since 2000	Msunduzi Municipality	649km ²	523 0

(Source; IDP 2006-2010, Review 2006-2007, pg.:19)

3.7.1.1 The Msunduzi Municipality projected population growth for 2026

Table 3: Msunduzi Municipality projected population growth for 2026

Population	Msunduzi Municipality							
	1991	1996	2001	2006	2011	2016	2021	2026
Total	277521	571495	645042	676192	707758	739009	770814	801493

SOURCE: Johan Carlitz from DBSA (stats from 1991 to 2006)

3.8 Economic Environment

3.8.1 Economic Profile.

Msunduzi is only 80km inland from Durban on the major road route (N3) between the coastal harbor and the high-end cities of Johannesburg and Pretoria. This has helped the city establish a strong industrial base with clothing and footwear manufacturing as well as food and aluminum production as some of the biggest industries in the city.

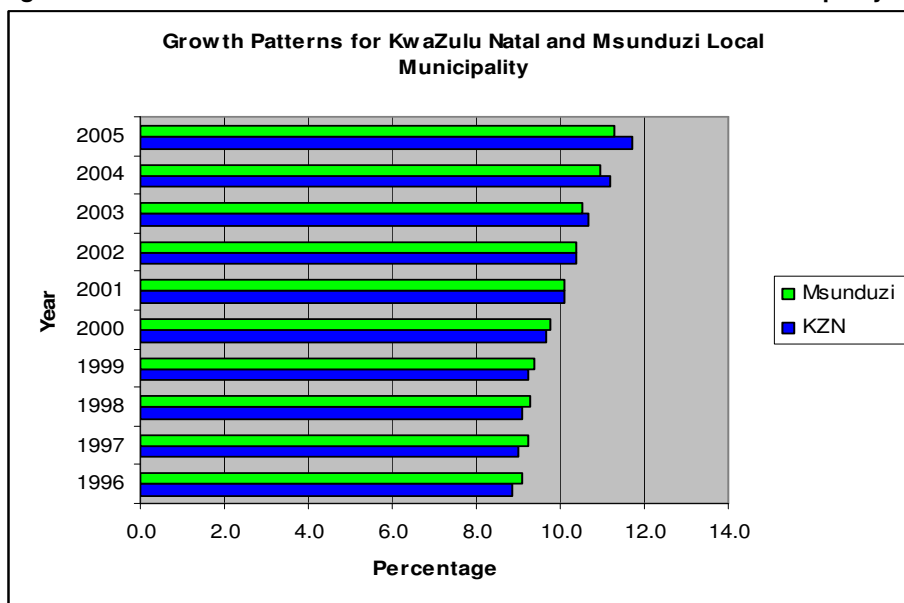
Msunduzi Local Municipality has the second largest urban centre within the province of KwaZulu-Natal and the main economic hub within uMgungdlovu District Municipality. Its proximity to port, rail, and road infrastructure has a strong influence on regional channels of investment, movement and structuring of the provincial spatial framework for growth and development. In the past five years the City has enjoyed being a destination of choice for many local and foreign investors, some of whom have moved their operations to the city not only due to its business initiatives, but also because they appreciate the mixture of business and the overall quality of life throughout the city (IDP 2006-2010, Review 2006-2007, pg.:73)

The economic growth patterns indicate that there has been an increase nationally and throughout the province of KwaZulu-Natal. The eThekweni Metro has indicated the highest percentage of growth of time with 3.75% and Msunduzi Municipality has also indicated a positive increase at 2.44%.

Table 4: Comparison of Economic Growth Patterns of major towns of KwaZulu-Natal.

MUNICIPALITIES	1996	2005	RATE
eThekweni Metropolitan	R 73,238,467,296.24	R 101,998,775,626.49	3.75
Msunduzi Municipality	R 9,842,584,036.00	R 12,222,434,927.00	2.44
Newcastle Municipality	R 4,163,487,227.59	R 4,664,059,905.54	1.27
uMhlathuze Municipality	R 6,771,755,237.67	R 9,024,311,362.20	3.24
Other	R 31,584,636,753.00	R 38,232,700,867.00	13.85
Kwazulu-Natal	R 125,600,930,551.00	R 166,142,282,688.00	3.16

The figure below indicates the growth patterns of Msunduzi Local Municipality in comparison to KwaZulu-Natal. The province has been growing steadily and so has the local municipality. Msunduzi has been growing moderately between 1996 and 2002 however between 2003 and 2005 there has been a substantial increase. In 2001 the province and the local municipality has grown at the same rate. The figure below indicates the growth pattern from 1996-2005.

Figure 5: Growth Patterns for KwaZulu Natal and Msunduzi Local Municipality

The structure of the Msunduzi Local Municipality comprises of various economic activities however, the sector that is the largest contributor to the economy in terms of employment is general government services which contribute some 21%, finance and business services contribute 20% and wholesale and retail and manufacturing contribute 16% to the local economy. However when compared to the provinces' employment sectors it indicates a decline in general government services as compared to Msunduzi. The higher figure can be attributed to the fact that Msunduzi is the capital of KwaZulu Natal, hence the larger number of government structures that exist. KwaZulu Natal does contribute a larger percentage in terms of manufacturing (18%) as compared to Msunduzi.

Table 5: Economic sectors of Msunduzi Local Municipality

ECONOMIC SECTOR	MSUNDUZI %	KZN %
Agriculture, forestry and fishing	2	8
Mining	1	1
Manufacturing	16	18
Electricity & water	1	1
Construction	4	4
Wholesale & retail trade	16	16
Transport & communication	3	4
Finance and business services	20	16
Community, social and other personal services	17	15
General government services	21	17
TOTALS	100	100

Source: Census 2001

3.8.2 Conclusion

The economy of Msunduzi Local Municipality has showed some signs of growth over the period from 1995 to 2005. Economic activity has increased by 8% during the first two quarters of 2006 (Coetzee. C [2006] p48). The local economy continues to expand and grow at a rapid pace and therefore this is a notable behavioral change within the local municipality. However the rapid expansion cannot be forecast as a future trend as there are other factors that determine the economic growth or decline such as increase in inflation, price of energy and potential of further interest rates. The local economy is dependent on consumers and these factors can greatly inhibit spending. However, the local economy as of now is increasing and in the future may very well increase proportionally.

The Provincial Department of Economic Development has identified economic sectors which will drive the growth of the province and address unemployment and poverty.

4.0 APPROACHES TO FORMULATING THE SDF

4.1 Format of the SDF

A Spatial Development Framework is a plan that seeks to guide the overall spatial distribution of current and future desirable land uses in order to give effect to the Vision, Goals and Objectives of the Municipal IDP.

It is a plan that outlines the Developmental Principles and policies that are applicable in the area in relation to physical space.

Conceptually, the treatment is that of identifying the different “planning interventions”.

4.2 Guiding Principles

- i) In addition to the legislative provisions referred to in paragraph 2, the Principles for the Review have been modified and elaborated as seen in the Table below:

Table 6: SDF Review Guiding Principles

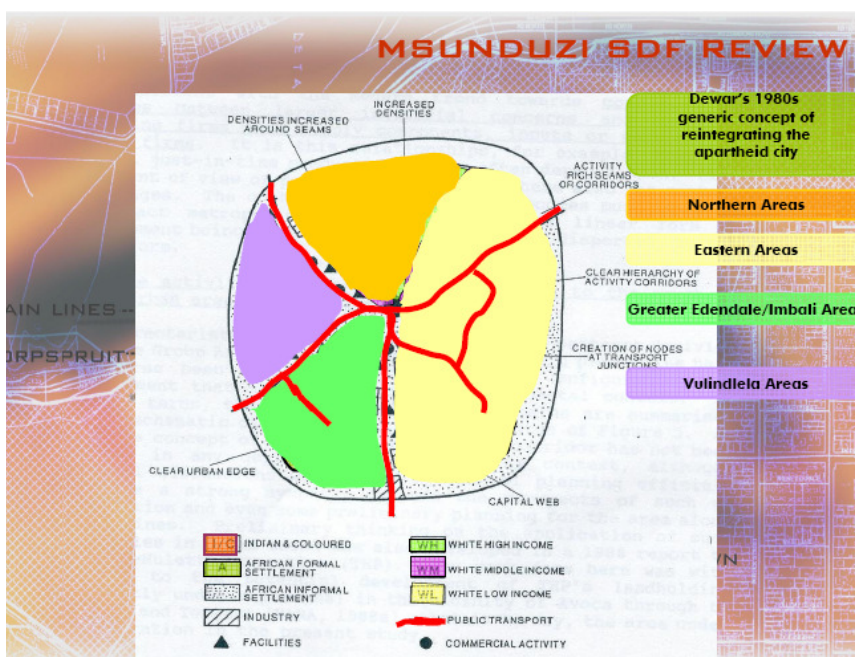
CURRENT SDF: Guiding Principles	REVIEWED SDF: Guiding Principle
<ul style="list-style-type: none"> - Compaction - Integration - Densification - Restructuring of the City - Meeting Land Use Needs - Identification of areas of economic development potentials 	<ul style="list-style-type: none"> • Compaction • Integration • Urban Densification • Restructuring of the City: <ul style="list-style-type: none"> - Creating a Polycentric City - Redressing imbalances - Integrating the city • Meeting Land Use Needs • Identification of areas of economic development potentials • Sustainability • Creating a quality urban environment

- ii) The review was also informed by the SDF for the Umgungundlovu District Municipality, which identifies Msunduzi as the Primary Node in the District, and *inter alia* recommends the upgrading of certain tourist routes and the establishment of bypass routes to ease congestion in and around the primary node. Alignment with the SDF's of adjoining Municipalities will be required before the reviewed SDF is finalised.

4.3 Concept for Integrating the City

Dewar's generic concept as illustrated in the following diagram is utilised to achieve the planning principles.

Figure 6: David Dewar’s generic concept of integrating the Apartheid city, illustrated in the context of Msunduzi Municipality



5.0 SUMMARY OF THE DRAFT SDF REVIEW

5.1 The Intentions of the Guiding Principles of the SDF

In general terms, the Guiding Principles and Concepts which underpin the current SDF remain applicable, especially those that conform to the legislative guidelines as set out in paragraph 2 above.

Table7: Summary of SDF Principles and Applications

Guiding Principles	Application
Compaction	<ul style="list-style-type: none"> New and Infill development focused to create coherent system, mainly in SE quadrant
Integration	<ul style="list-style-type: none"> Shenstone and Ashburton as areas to integrate Low Income residential areas into city New economic opportunities in growth area and adjacent to major roads New E-W and N-S roads links to major parts of city
Urban Densification	<ul style="list-style-type: none"> In periphery of CBD Adjacent to major nodes
Restructuring of the City:	<ul style="list-style-type: none"> Creating a Polycentric City with new nodes and new economic opportunity areas Limited mixed-use activity spines between focus points Redressing imbalances with improved infrastructure and new economic opportunities Creating a road system matrix
Meeting Land Use Needs and Identification of areas of economic development potentials	<ul style="list-style-type: none"> New Residential areas New economic opportunity areas, especially those areas which were previously excluded from the main stream economy such as GEDI and Vulindlela. New nodal points

	<ul style="list-style-type: none"> • Restructure CBD
Sustainability	<ul style="list-style-type: none"> • Protecting environmentally sensitive areas • Coherent and reinforcing infrastructure • Protecting agriculture potential areas • Upgrade residential areas with appropriate infrastructure • In situ upgrading of Informal settlements
Creating a quality urban environment	<ul style="list-style-type: none"> • Create a polycentric city • Create a mix of housing types in different areas • Reinforce public transport system

6. THE CONCEPTUAL FRAMEWORK OF THE SDF

6.1 Introduction

The formulation of the Conceptual Framework was an attempt to conceptualize responses to the findings of the Contextual Framework and the key development issues identified therein. These key issues include; the ***Spatial Structuring Elements*** which will be used as a basis for managing and guiding future developments into a certain direction and pattern, ultimately in order to fulfil the Council's IDP Vision.

The *Spatial Structuring Elements* of the City include:

- Nodes (Concentration of activity)
- Corridors (Main roads / Arterials)
- Settlement Patterns (Formal / Informal / Traditional);
- Restrictive Conditions (Environmental / Topographical / Geotechnical);
- Environment / Open Spaces (Active / Passive)
- Urban Edge;
- Mixed-Use Developments Aesthetic Environment (Visual Form / Heritage Special Features)

6.2 Application of the Concept to Msunduzi

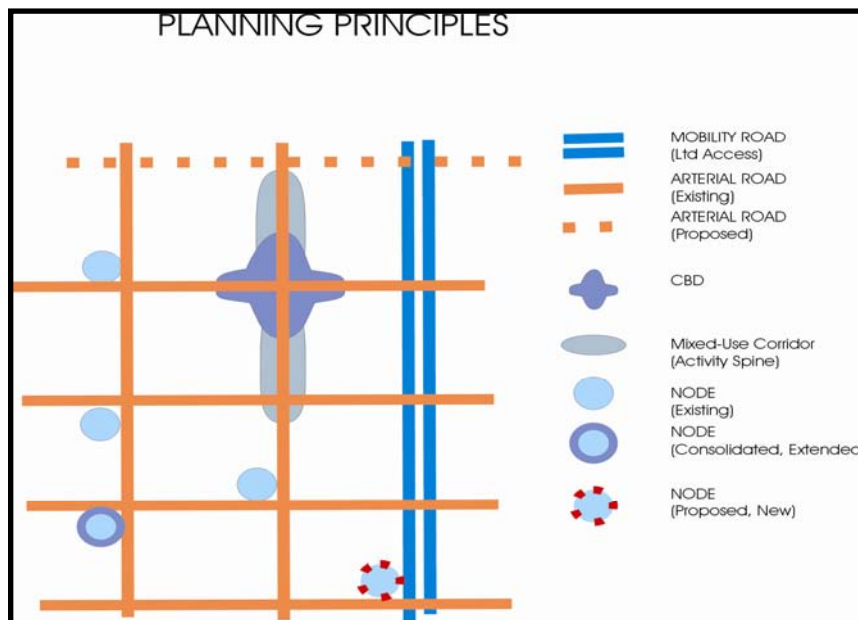
i) Basic Terms

In order to avoid misunderstandings, the application of these concepts will use the terminology as set out below, and the arrangement of the various elements that comprise these concepts are illustrated in the following Concept diagram.

- Mobility Roads will be called just that, and not be termed "corridors". As Limited Access Roads, these routes will only be able to have Nodes or any other form of development located at or near appropriate major intersections.
- Arterial Roads will also have Nodes appropriately located at or near major intersections. It will however be possible to locate other major facilities located along these "spines" such as major playing fields, stadia, hospitals, high schools etc, without necessarily being part of the Nodes. Future arterial/link roads aimed at improved accessibility and the reduction of congestion are indicated on the SDF Map.
- Nodes will be distinguished in terms of the retail hierarchy when commercially orientated; or when developed as specific administration or related types of uses. These nodes will be located in terms of their requisite thresholds of support, so that not every intersection is a Node. On the same basis, nodes are identified in Vulindlela, the tribal component of the Municipality.

- "Activity Spines" will only occur in particular circumstances, ie where arterial roads extend from the CBD or between two or more closely related nodes.

Figure 7: Illustration of Planning Principles



7. THE SDF MAP AND ITS DESIGNATIONS

In order to improve legibility while maintaining basic orientation, the cadastral layer has been removed from the base map. The main categories of existing land use are shown as a faint backdrop, with lower order uses such as corner shops, minor educational facilities and clinics being absorbed into the dominant surrounding land uses. Exceptions are made in cases where such existing facilities are at a higher order or serve as major landmarks, e.g. Edendale and Greys Hospital, UKZN and Maritzburg College.

A range of standard designations are employed, and to improve legibility of the map, the main categories of existing land use are shown as a backdrop.

The SDF Review map distinguishes the various components as follows:

7.1 Nodes

A hierarchical system of nodes is proposed, based on existing levels and patterns of development, and the distribution of future development and transport linkages, to ensure optimum accessibility to goods and services through equitable distribution. The various nodes are distinguished in terms of whether they are:

- Existing and to be maintained at that level
- Existing at a lower level and to be extended and consolidated into a higher level node
- New nodes to be introduced and phased in over time and as thresholds occur, but shown at the level which is ultimately intended.

a) The CBD Node

This is the heart of the City, and consists of the core and the frame surrounding it. The core contains the full range of uses associated with a CBD, while the frame accommodates transitional uses at a lesser density. The so-called CBD extension node, which includes the recently developed

- Motor World, the Bird Sanctuary Site, the Midlands Mall and the RAS is incorporated into the CBD Node.
- b) Regional Multi-Use Nodes
This level of node includes a retail component between 75 000 m² and 120 000 m², and serves a regional function. In addition to retail, it can include a wide range of compatible uses. There is one existing Regional Multi-Use Node (Liberty Mall and the surrounding area). There is a new proposed Multi-Use Node that will be introduced at Shenstone, in the Edendale area.
- c) Community Multi-Use Nodes
These serve a community function, and would have a retail component ranging from 25 000 m² - 40 000 m². These nodes also accommodate a wide range of compatible uses, and the SDF distinguishes between existing community nodes to be maintained at existing levels, those with the potential for expansion and future nodes. Essentially a new Multi-Use Community Node will be developed on the Edendale Road.
- d) Neighbourhood Multi-Use Nodes
These operate at a neighbourhood level, and have retail components of between 5 000 m² and 12 000 m². These types of nodes occur in two forms, viz as mono use nodes that are pure retailing, and those that are multi-use. Again, the SDF identifies existing nodes to be maintained or expanded, and future nodes.
- e) Focussed Multi-Use Nodes
This node includes light industrial, warehousing and “big-box” retailing and other uses not normally found in the other nodes, and is located at Camps Drift.
- f) Administration Node
This node is on the edge of the CBD Node and includes Greys Hospital, Carter High School and the Town Hill Hospital Grounds, to which the Provincial Parliament is likely to relocate.
- g) Rural Service Centers:
Rural Service Centers (RSC's) are identified focal points from which a conglomeration of services would occur to serve the generally poor rural communities. These are main distribution centres or higher order points (nodes) where services are concentrated.
The RSC's are based on the Rural Service System model which seeks to spatially distribute economic activities (includes effective service delivery) at an identified concentration point (node) along movement networks.
The concentration of economic activities is based on mutual benefit i.e. shared infrastructure, shared market, and one activity producing an input for another activity. The range of services at a concentration point is determined by the threshold which it serves and therefore, the larger the threshold, the greater the range of activities. Most of these nodal points are located in the Vulindela area.
- h) Large scale Mixed-use Nodes (Corridor Opportunity Areas)
Large scale Mixed-use Nodes are identified along the N3. These offer opportunities for integrated and coordinated mixed use developments that include activities such as industry, offices and commercial land uses.

In terms of Provincial policy, development is to be encouraged along the Provincial Priority Corridor (N3) at appropriate locations. In the case of Msunduzi, this would be around the intersections where development potential still exists i.e. the Lynfield Park/Lion Park and Richmond/Umlaas Road intersections. Local Area Development Plans would be required.

7.2 Road System

- a) Provincial Priority Corridor/Limited Access Mobility Road
This is the N3 which has been identified as a priority development corridor by the Provincial Cabinet.
Its prime function is to serve as a long-distance movement corridor, and although the agglomeration benefits of the corridor should be optimised, this

should not interfere with its primary function. Consequently, development will be located at or near some intersections.

b) Activity Spines

Generally referred to as development corridors, these occur along major arterials leading into or from the CBD Node. A mix of complementary land uses including retail, office, entertainment and residential; about half a street block in width fronting onto the arterials are to be encouraged, but only in specific areas.

c) Arterial Roads and Bypasses

These existing; improved; and proposed roads are aimed at improving accessibility, alleviating congestion in and around the core, and opening up areas previously excluded from the local economy.

In the case of future roads, the alignment shown is merely diagrammatic.

The proposed road “matrix” comprises both major and minor arterial connections.

A number of such roads is proposed in the Edendale, Imbali, Ashburton area in order to improve connectivity to all parts of the city, especially new employment areas.

7.3 Residential Areas

The various Residential areas are as follows:

existing residential areas (formal, informal and rural)

- where improvement and/or upgrading is required, and
- future formal residential areas.
- rural areas

The SDF does not specify the type or density of housing development in the future residential areas. These aspects are to be addressed in the Municipality’s Housing Plan and the Land Use Management System (LUMS). Density is however; addressed at a “Policy” level and will be found in Section 10 of this report.

a) **Existing Formal Residential areas**

The majority of the existing urban residential areas of Msunduzi fall into category of Existing Formal Residential areas, with maintenance as the planning intervention.

b) **Formal Residential Improvement Areas**

Essentially many of the areas provided with poor levels of infrastructure in areas such as Edendale, are designated as Formal Residential Areas for Improvement, primarily with upgraded and appropriate levels of infrastructure.

c) **Informal Residential Improvement Areas**

All informal residential areas are identified as Informal Residential Improvement Areas; where such improvement includes all levels of in situ upgrading of infrastructure and the formalising of cadastral areas. The majority of these areas are found in the Edendale area.

d) **Future Residential Areas**

Two different forms of new housing areas are identified; viz. large scale areas identified for future residential development of all economic levels, and “infill” development in small pockets available throughout the city area.

e) **Rural Residential Areas**

Rural Residential Areas are identified within the Urban Growth Boundary, especially in the Vulindela and Ashdown areas.

e) **Restricted Use Areas**

These areas are those which, because of the topography, and other physical factors or environmental considerations, are generally unsuitable for development. They consist mainly of slopes steeper than 1:3, watercourses and other areas of environmental importance. The future management of these areas is to be addressed in more detail in the Municipality’s Environmental Management Framework, which is currently being formulated

f) **Long Term Development Areas**

Expansions of other areas are constrained by the topography and to the north-east and eastern side of the Municipality a Longer Term Development Area

designation is proposed. These areas are presently either undeveloped or used for agricultural purposes and, on the basis of present projections and in pursuance of the general planning objectives of the SDF will not be required for urban expansion purposes in the short to medium term. The main intention is to maintain and enhance the existing rural character with agriculture remaining as the primary land use, supported by compatible land uses such as small scale tourism activities. Large scale land use changes should not be encouraged, and where proposed development is in conflict with these broad principles, detailed motivation will be required addressing issues such as need and desirability, conformity with the general objectives of the IDP and the SDF, the provision of services, access, and sustainability and so on.

7.4 Economic Opportunity Areas and Economic Opportunity Nodes

Areas for employment are indicated in several ways, viz.

- Existing economic opportunity areas
 - Future economic opportunity areas.
 - Future Economic Opportunity Nodes
- a) Existing Economic Opportunity Areas
These are existing areas of major economic opportunities that provide employment to the City's residents. These areas are mainly industrial in nature but in some areas they do include retail and office outlets.
 - b) Future Economic Opportunities Areas
The areas will occur mainly as extensions to existing economic opportunity areas, in locations such as Mkhondeni south of Shorts Retreat Road, Masons Mill, and new areas along the Richmond Road from Shenstone Ambleton to Thornville.
 - c) Future Economic Opportunity Nodes

These areas, along the N3 identify higher level industrial, commercial and office developments and would be located in the existing and proposed nodes, and along activity spines.

7.5 Open Space Areas

Several forms of Open Space and areas with restrictions on development are identified, viz

- a) **Conservation and Environmental Management Areas**
These areas comprise an open space system related to the river systems and safeguard areas prone to flooding from development.
- b) **Forests**
These are areas that are concentrated in the Northern Areas and Vulindlela ABM. The majority of the forested areas in the Northern ABM belong to the City Council and are currently leased out to private forestry companies.
- c) **Major Public Open Space**
These are the large Active and Passive open space areas such as the Alexandra Park/Camps Drift Precinct, Queen Elizabeth Park, Bisley Nature Reserve, Botanical Gardens and the Scottsville Race Course precincts.
The Alexandra Park and Camps Drift precinct forms a green lung in the city centre that offers residents very accessible open spaces and sporting facilities for recreational purposes.
 - (i) **Alexandra Park**
The Alexander Park portion of this precinct should remain a green-lung for the city. Efforts should be made to improve the upkeep of the gardens in the rockeries and security in this area should be improved to encourage residents to fully utilise the facilities available.
With the city poised to develop itself into a cycling destination, opportunities exist to develop on the existing cycling infrastructure which includes the "duck pond", and for the development of other cycling

facilities to include BMX's, mountain bikes, and additional road riding facilities.

The following actions are required to improve the current state of the park:

- The clearing of weeds and grass in the rockeries to eliminate hideouts for vagrants and robbers;
- The installation of better lighting including high mast lighting;
- The installation of CCTV cameras to monitor crime in the park; and
- The development of a facilities development plan for the park with a particular focus on the development of cycling facilities.

(ii) Camp Drift Park

Camps Drift is an underutilized asset within the city. The canal portion of the drift has developed into a canoeing Mecca but there are still large portions of under utilised land stretching from French road through to the weir.

Opportunities for the establishment of a Waterfront development in this area have been debated for several years and could form the catalyst for the future development of this area.

The following actions are required to improve the current state of the park:

- Land should be released to developers to build a mixed use waterfront node which includes the waterfront and adjoining medium density residential units.
- Flood mitigation measures will also be required to prevent potential damage and loss of property.

d) River Systems

Rivers and streams fulfil important functions within the city and should be rehabilitated and protected. Functions provided include:

- Reservoirs of natural fauna and flora;
- Corridors for the movement of wildlife between ecosystems;
- Storm water removal and attenuation;
- Air, noise and heat absorption; and
- Recreational areas for residents and their pets.

The principal rivers draining the uMgungundlovu District are the Umgeni and its major tributary, the Msunduzi. The drainage pattern is fine textured dendritic, and made up of a large number of perennial and non-perennial rivers, streams and watercourses. The drainage pattern is indicative of the high surface run-off rates caused by the impervious nature of the underlying bedrock and the low permeable soils found in many parts of the Metropolitan region.

The Msunduzi River drains approximately two thirds of the Metropolitan region. Its source is the elevated portions of Vulindlela situated along the south western boundary of the municipality.

Three major dams have been constructed within the boundaries of the DM although none of these fall within the municipal boundaries. The two dams on the Umgeni River, Midmar and Albert Falls are important essential amenities as well as being the main sources of potable water supply for the Durban – Pietermaritzburg region. The third dam, Henley Dam is situated on the Msunduzi River and is the source of water supply for a portion of the Pietermaritzburg Metropolitan region.

(i) The Msunduzi River

The Msunduzi River is the major river draining the municipality and it flows in a west-east direction through the municipality. Parts of its passage through the city have been canalised in order to improve drainage capacity as well as to reduce flooding. As a result, much of the natural amenity of the river has been lost.

(ii) Flooding in the Msunduzi River Catchment

In 1995 severe flooding took place in the Msunduzi catchment which saw a loss of life of around 160 people, 586 families lost their homes, and infrastructural damage amounted to approximately R20 million. The disaster was caused by a combination of a number of factors, including:

- Intense localised rainfall;
- Housing development within the floodplains;
- A lack of information on the risks associated with settlement on the floodplain;
- A degraded catchment resulting in high run-offs;
- An inadequate disaster management system.

As a result of this, the Institute of Natural Resources (INR) was commissioned to prepare a Short Term Response to Flooding in the Msunduzi River Catchment. The result was the preparation of an Integrated Catchment Management (ICM) strategy with the following components:

- The establishment of a conceptual basis for the ICM within the context of the Msunduzi catchment;
- The establishment of a ICM 'Leadership Group' to direct activities;
- The compilation of an inventory of catchment stakeholders;
- Vision formulation exercises amongst catchment institutions and communities;
- The development of information management and education strategies in support of ICM.

Some of the specific recommendations of the study with spatial implications have been highlighted below:

- Areas of flood risk to be physically defined and educational programmes highlighting the risk of settlement in these areas should be developed;
- People living in the high risk areas be resettled and this resettlement be carried out on a ward and flood risk basis.
- After resettlement, house in the flood risk areas be demolished and be replaced with other more suitable land uses; and
- Further housing development in areas of high flood risk be actively prevented and other forms of development be subjected to full EIA's.

(iii) Potential Waterfront Developments

Potential waterfront developments have been identified along two of the rivers in the Central Area, namely:

- The Camps Drift Waterfront; and
- The Dorpspruit Waterway and Waterfront.

The Camps Drift Waterfront has been discussed in (c) above.

The Dorpspruit Waterway and Waterfront forms part of a greater plan to uplift and develop a larger portion of land along the Dorpspruit river. These areas have for some time, been left without any maintenance and most buildings within the area are in a state of disrepair. As such, the returns on property investment in the area are low and the general public's perception of the precinct is poor. A study (Brutal Design, 2003) prepared concept diagrams and analysed the feasibility of such a development.

In order to improve the current state of river systems and their tributaries, the following actions are recommended:

- The demarcation of the 1: 100 floodlines for all water courses within the ABM and in areas of pressure from low income residential development, the placing of warning beacons;
- The establishment of stream reserves and the linking of these areas to the Msunduzi Land Use Management System (LUMS) to control future development within these zones;
- The prohibiting of all future development within these areas subject to Environmental Impact Assessments (EIA's);
- The rehabilitation of these zone including the cleaning of accumulated rubbish, regular bush clearing as well as the planting of indigenous vegetation to ensure slope stability;
- Keeping of river courses in their natural form with the protection of all natural plant species.
- The natural land forms to be maintained wherever possible.

7.6 Agriculture

Agriculture refers to areas of land both within the urban component of the city and on its periphery which have high agricultural production potential and which should be set aside for intense food production purposes.

In addition to local economic and food security objectives, such reservation is also in line with broad conservation objectives.

a) Communal Agriculture:

Communal agriculture refers to areas that are mostly and already used for communal agriculture, and which have potential for agriculture development at a subsistence level, thus promoting the concept of food security. These are areas which could be used for community gardens and/or communal grazing camps.

7.7 Urban Growth Boundary

To discourage urban sprawl, an Urban Growth Boundary is suggested along the southern and south-western sides of the Municipality. No development will be entertained in areas outside of the UGB.

7.8 The SDF Structure

The application of the Guiding Principles and the Planning Principles to Msunduzi results in a new structure for the city.

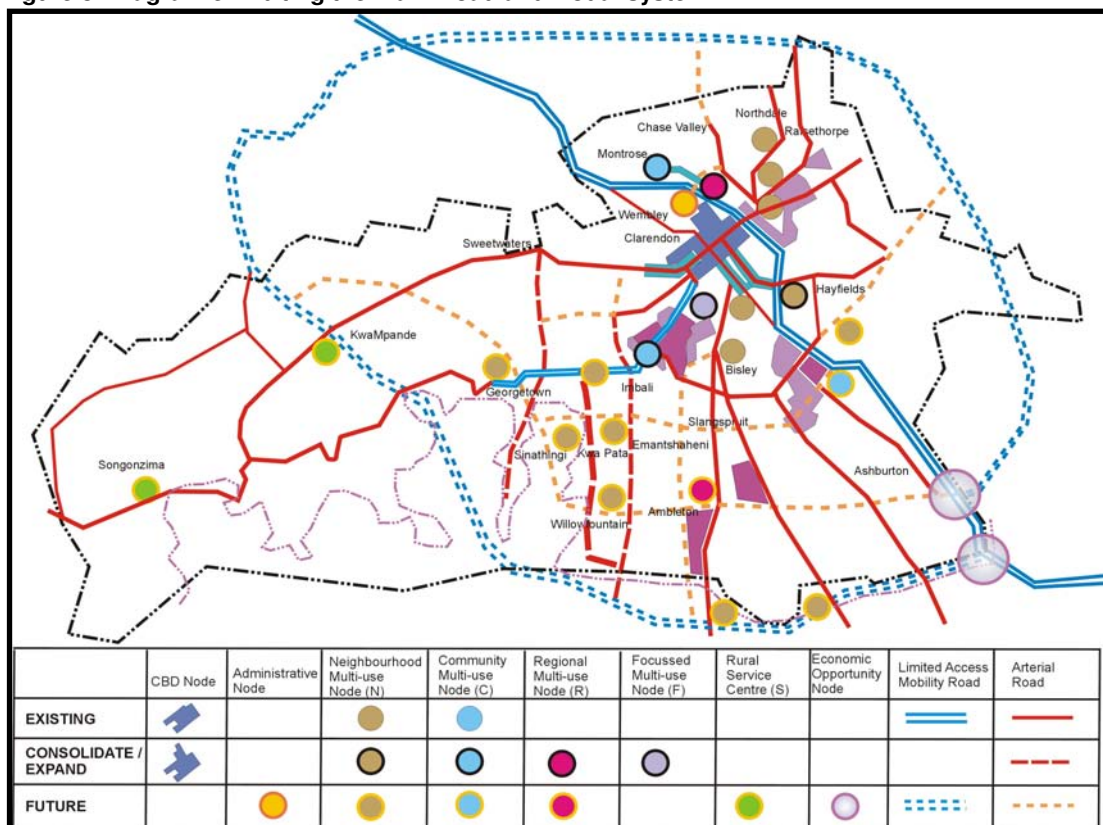
This structure is that of creating a polycentric city - a city with several foci. These foci are connected with a road lattice that facilitates clear, convenient, easy to use, and alternate routes so that everyone can gain access to employment, shopping and recreation areas. These new foci include:

- A range of existing and new industrial areas;
- A series of existing, upgraded and new multi-use based shopping, office, and other use nodes are created so that all residents are within 2 kilometres of some major Node. In particular, two large multi-use Regional level Nodes are identified, viz. the Midlands Mall, and a new focus at Shenstone which will serve to integrate the city's previous apartheid level separation.
- Two, large-scale, Mixed-Use Economic Opportunity Nodes are identified for development at significant intersections on the N3 that serve to support and reinforce the Provincial Corridors initiatives.

The structure creates an integrated and compact city system, whereby the road/public transport /land-Use arrangement is mutually reinforcing.

Essentially a major road lattice is created that creates alternatives routes to dissipate traffic, as well as creating clear routes to existing and proposed employment areas. This road system, by means of new and realigned major arterials links and integrates the city as a whole; especially in the Edendale and Ashburton areas. New and realigned link roads improve the situation in the north-east of the city.

Figure 8: Diagram exhibiting the main Road and Nodal system.



8. AREAS REQUIRING MORE DETAILED PLANNING

8.1 Context / Background

The SDF identifies

- o Existing areas, (of all types) that will be maintained as they are with no further planning interventions,
- o Existing areas requiring differential levels of improvement, and
- o Areas for new development

The SDF is a broad scale indicative plan to guide broad planning decisions, and does not address the details of the intended planning interventions. In areas subject to both major pressures for change and areas for immediate planning interventions it becomes necessary to formulate more detailed and more appropriate plans. These large scale and more detailed plans are called Land Use Framework Plans or Local Area Plans. Emerging from the analysis of the existing situation and from the intent of the SDF, certain areas have been identified for the formulation of such plans

8.2 Large scale Land Use framework Plans (Local Area Plans):

8.2.1 Ashburton

The Ashburton area has been identified as

- o an area for an open space system,
- o an area for Restricted Use
- o an area for long term development

Most of the area, in the short term, will continue to be used for low density development.

However given the need for increased certainty, it is necessary to ensure that more detailed guidance is created to guide development in both the short, medium, and long-term. Consequently, it is recommended that such a Plan be commissioned.

8.2.2 Four GEDI Wards

Work has already proceeded to formulate Physical Development Framework Plans for four (4) central wards in the Edendale area, viz, Plessislaer, Caluza, Dambuza and Georgetown. A previous study has also addressed development for the central portion of the Edendale Corridor.

When completed, the PDFP will essentially be the equivalent of a Local Area Plan with sufficient detail to guide a series of further planning interventions.

8.2.3 Vulindela

It is recommended that the areas identified for rural upgrading be investigated further to determine the nature and extent of the required upgrading. This can be achieved by preparing and Local Area Plan for Vulindlela.

There is also a need to provide economic opportunities in these areas as a matter of priority as these are communities that are furthest from existing opportunities.

8.2.4 Northern Areas

It is recommended that the issues relating to traffic congestion in these areas be addressed as matter of priority. The informal settlements in these areas need to be investigated and their upgrading be prioritized in the Council's Housing Sector Plan.

8.2.5 Small Scale Land Use Framework Plans:

There are substantial pressures for development at two intersections on the N3. The N3 has also been identified as a major corridor for development at the Provincial level.

In addition, the proposed Shenstone Multi-Use regional level Node has been identified as having the potential to be catalyst for development that will achieve the objective to integrate the city.

It becomes necessary to formulate appropriately detailed (ie; Small scale Local Area) Plans for the two major Mixed-use Opportunity Nodes on the N3 and the Shenstone Node

8.2.6 The Shenstone Multi-use Node

This major Node will comprise shops, offices, institutional and administrative and community uses; as well as higher density housing. The Node also abuts a proposed industrial area and adjacent residential area. It will connect to a major arterial and to a proposed rail station. In order to avoid ad hoc decisions being made an appropriate guiding framework must be produced.

8.2.7 Large Scale Mixed Use Nodes on the N3

There is a need to conduct Local Area Plans for the nodes along the N3 or Provincial Priority Corridor. The nature and extent of development will be determined by the findings of such plans.

9. LAND USE YIELDS

The exact boundaries and magnitude of future development can only be determined through more detailed assessments, and are subject to obtaining the prescribed statutory approvals. At a general level, *Table 1* indicates the likely yield in terms of number of housing units that could be generated from these proposed areas.

Table 8: Potential Development Areas: Extent and Possible Yield

ABMS	Total ABMS (hectares)	Extent (hectares)	Dwelling Units/Lots per ha	No. of Dwelling Units/Lots
Future Formal Residential				
Northern	6,551.28	1,300.90	10/ha	13,000
CBD/Eastern/Ashburton	22,639.15	4,041.77	10/ha	40,000
Imbali/Edendale	8,971.18	819.28	15/ha	12,200
Vulindlela	25,209.68	0.00	0.00	0
	63,371.29	6,161.95		65,200
Future Economic Opportunities				
Northern	"	0.00	0.00	0
CBD/Eastern/Ashburton	"	508.73	8/ha	4,000
Imbali/Edendale	"	148.37	8/ha	1,000
Vulindlela	"	224.01	8/ha	28
				5,100

10. SUMMARY / CONCLUSION: What Does the Plan Do?

The planning responses and interventions to the various natural and economic informants not only address a number of specific concerns, but also serve to often meet end reinforce other aspects.

The planning Concepts and Guiding Principles also serve to mutually reinforce each other. Consequently, the points made below will tend to be repeated as they simultaneously serve several different objectives.

10.1 Restructuring the City

The SDF redresses the imbalances inherited from the apartheid legacy with improved infrastructure and new economic opportunities. This is done by:

Integrating the components of the City

Shenstone and Ashburton areas are developed and will link the Low Income areas of Edendale and Imbali into the city, together with additional employment opportunity areas.

Creating a Polycentric City

A series of improved, upgraded and new nodes, together with new economic opportunity areas creates new opportunities and alternatives throughout the city. This also helps to spread the traffic flow

An Integrated Road matrix

A series of major and minor arterial routes provides alternative routes to a series of additional employment areas and focus points.

Activity Spines

A number of Limited Mixed-use Activity Spines are created along some roads extending development along corridors emerging from the CBD

Provincial Corridors

Emphasis is given to reinforcing the Provincial Corridor system by consolidating and extending opportunities along the southern part of the N3 Corridor

10.2 Creating a Sustainable City and improving it's viability.**10.2.1 Sustainability**

- * Protecting environmentally sensitive areas.
- * Creating a coherent system and reinforcing infrastructure
- * Protecting agricultural potential areas
- * Upgrade residential areas with appropriate infrastructure
- * In situ upgrading of Informal settlements

10.2.2 Compaction

New and Infill development focused to create a coherent system, mainly in SE quadrant

10.2.3 Integration

New economic opportunities in growth areas and adjacent to major roads that will facilitate public transportation.

10.2.4 Urban Densification

In the periphery of the CBD, and adjacent to major nodes.

10.2.5 Creating a Quality Environment

Create a polycentric city – a city with several focal points:

- Creating a mix of housing types in different areas, and
- Reinforcing the public transport system

10.2.6 Meeting Land Use needs and identifying areas of economic potential with:New Development

- New Residential areas
- New economic opportunity areas and commercial nodes
- New nodal points
- Extending open space system
- New major roads that create a road matrix

Upgrading, Consolidating and Improvement

- Formal Residential Area with improved infrastructure and densification
- Upgrading of Rural areas
- In situ upgrading of Informal residential areas
- Employment and Industrial areas
- Open space system
- Restructuring the CBD

Maintenance of existing areas

- Formal residential areas
- Existing nodes
- Existing Industrial areas
- Existing roads
- Open space system

11. MSUNDUZI SDF ALIGNMENT

11.1 The alignment of the Msunduzi SDF with the SDF's of neighbouring municipalities will be best achieved at a District level.

11.2 At present most municipalities are in the process of preparing or finalizing their SDF's as part of the IDP Review process. However; it is important to point out that there are

- elements of these SDF's that will be common such as the identification of the N3 as a corridor of National and Provincial significance linking the towns of Mooi-River, Howick/Hilton, City of Pietermaritzburg, and Camperdown all within the boundaries of uMgungundlovu DM. Also of significance is that all the towns linked by the N3 are identified in the local SDF's of all four municipalities as nodes of economical, administrative, and social significance or Primary Nodes. At a district level, the City of Pietermaritzburg is the most significant as it is the Provincial Capital, as well as the economic powerhouse of the midlands.
- 11.3 The NSDP and PSEDS has also identified the need to identify strategically located pieces of land along the N3 for the development of economic nodes. In the Msunduzi SDF these strategic locations are identified on the Richmond/Umlaas Road Interchange and the Lynfield Park Road Interchange. Mkhambathini Municipality will also align itself to the NSDP and PSEDS, and where there are differences in interpretation, these will be addressed at a district level.
- 11.4 The Msunduzi SDF and uMngeni SDF are well aligned with no conflicting land use designations. The proposed land use designations are either similar or complementary in nature and mainly consist of agriculture and residential.
- 11.5 The proposals to the on the southern periphery and just beyond the boundaries of the municipality on the northern periphery of Richmond Municipality include; future residential, economic opportunities, development nodes, and long term development areas. These proposals are based on the understanding that the City of Pietermaritzburg is a growing metro therefore; planning processes should not live those areas that will be affected by such growth. Where differences of interpretation between municipalities occur, these will be addressed at a district level of alignment. The majority of areas on the south-western parts of Msunduzi are identified for agricultural purposes, which is in line with the current land uses in the Richmond municipality.
- 11.6 The Msunduzi SDF identifies a few areas of residential development north-east of the municipality, which will have an impact on the proposals of uMshwathi municipality. The rest of the proposed land uses are either longer term development areas or restricted based on bio-physical sensitivities of these areas.
- 11.7 The areas far west of the municipality in Vulindlela and adjoining with Impendle Municipality are not identified for any major new developments. The SDF acknowledges that there are existing rural settlement which lack services, and that these areas will require upgrading. Where areas of high agricultural potential were identified, these areas have been left for such purposes to ensure that there is continuation of farming practices at a subsistence level to ensure that food security is achieved whereby poor families are able to feed themselves by making use of the resource at their disposal.

12. DENSITY POLICY

There are several approaches to "densification". These include:

- Densifying existing detached housing area, particularly on large sites by permitting ancillary or 2nd dwellings.
- Permitting and encouraging medium density housing in appropriate pockets and locations in areas with amenity attributes to make up for the relatively higher densities. These would be in appropriate areas adjacent to the open space system and area with good views.
- Encouraging higher density development in the form of both "Walk-up" medium-rise flats and areas suitable for high-rise flats.

In policy terms the areas to be encouraged are in the following situations:

- In the periphery of the CBD
- Along the Activity Spines extending from the CBD
- Around all existing Neighbourhood and Community level shopping nodes
- Around the proposed Regional level node at Shenstone

13. MSUNDUZI IDP REVIEW FOR 2009/10 - CAPITAL INVESTMENT PROGRAM

13.1 As part its IDP Review process for 2009/10, the Msunduzi Municipality revised its Budget and effectively its Capital Investment Program. The Capital Investment Program for 2009/10 is tabled below;

Table 9: Msunduzi Capital Investment Program for 2009/10

MSUNDUZI CAPITAL BUDGET FOR 2009/2010		
No.	PROJECT DESCRIPTION	AMOUNT
1	Municipal Manger	
1.1	Replacement of cameras	1 300 000
1.2	Edendale development	5 000 000
1.3	City Hall, Renovations, Etc	8 700 000
		15 000 000
2	Development services	
2.1	Public House	900 000
2.2	Airpot	3 600 000
2.3	Market	1 700 000
2.4	Planning Survey	4 200 000
2.5	Housing	212 000 000
2.5.1	Glenwood 2: Nort East Sector	
2.5.2	Peace Vlley 2	
2.5.3	Signal Hill/Peace Valley 2 (Developer Driven -IHS)	
2.5.4	Edendale J2 and Quarry	
2.5.5	Bulwer	
2.5.6	Edendale Private Land	
2.5.7	Kwa 30	
2.5.8	Khalanyonini	
2.5.9	Ambleton 3	
2.5.10	Harewood	
2.5.11	Ximba	
2.5.12	Nxamalala	
2.5.13	Inanda	
2.5.14	Sweetwaters	
2.5.15	Paton Street	
2.5.16	Boom Street	
2.5.17	Bervestock Street	
2.5.18	Yellowwood Place,Woodlands	
2.5.19	Westgate	
2.5.20	Lincoln Meade	
2.5.21	CRU	
2.5.22	Masukwana Street and Fitzimmons Road	
2.5.23	Westgate	
2.5.24	Edendale	
2.5.25	Affordable Housing	
2.5.26	Lincoln Meade	
		222 400 000
3	Corporate Services	
3.1	Systems	5 400 000
3.2	HRD	2 700 000
3.3	ICT	3 300 000
		11 400 000
4	Community	

4.1	GEDI	4 800 000
4.2	Health And Welfare	100 000
4.3	Clinics	2 800 000
4.4	Landfills Site	5 000 000
4.5	Fire	5 700 000
4.6	Traffic Control	800 000
4.7	Security	100 000
4.8	Occupational Health	1 300 000
4.9	Garden Site	1 700 000
4.1	Development of Hollingwood Cemetry	3 000 000
4.11	Community Hall Mantainance	18 349
4.12	Crematoria Mantainance	130 640
4.13	Public Parks Mantainance	1 150 300
4.14	Sporte Ground -Mantainance Of Equipment	1 580 000
4.15	Swimming Pools Mantainance	945 950
4.16	Libraey Mantaince	394 000
		29 519 239
5	Infrastructure	
6	Roads	
6.1	Roads Upgrading -Almond Banks	2 200 000
6.2	Roads Upgrading-Vulindlela D1140	11 000 000
6.3	Roads Upgrading-Rtciie Road	1 000 000
6.4	Roads Upgrading -Willowfontain	1 000 000
6.5	Surfacing	11 000 000
6.6	Foot Bridge	2 800 000
6.7	Church Streeet	20 000 000
6.8	Public Transport (interchange)	7 700 000
7	Sanitation	
7.1	Sewarage Pipes-Azalea	4 000 000
7.2	Sewerage Pipes-Unit H	4 000 000
7.3	Sanitation Infrastructure Asset Renewal	6 000 000
7.4	Shenstone/Ambleton Toilets	2 000 000
7.5	Expansion of Sewarage Treatmetn Works	2 000 000
7.6	Grix Road Sewer and Pipe Bridge	1 000 000
7.7	VIP Installation-Vulindlela	39 000 000
7.8	Elimination of Conservancy Tanks	5 300 000
7.9	Sanitation Infrastructure CCTV Feasibility Study	5 000 000
8	Water	
8.1	Edendale Proper New Mains and Reticulations	2 000 000
8.2	Service Midblock Eradication in Sobantu,Imbali and Ashdown	2 000 000
8.3	Elimination of stand pipes	1 000 000
8.4	Rehabilitation of Water infrastructure	1 000 000
8.5	Copesville Reservoir	1 000 000
8.6	Replace Consumer Meter	1 000 000
9	Electricity	
9.1	Network Replacement/Reforcement	15 000 000
9.2	Network Refurbishment	5 700 000
9.3	Network Expansion	2 000 000
9.4	Electrification-Copesville Swapo	6 573 000
9.5	Street lighting Vulindlela & Edendale	3 652 227
9.6	Street lighting Network Replacement	2 000 000
9.7	Refurbishment of 33kv Transmission Lines	2 000 000

9.8	Sub-station Security(Cameras & fencing)	1 000 000
9.9	Pine Street Refurbishment	1 000 000
9.1	Replacement of Cage Transformers	1 000 000
9.11	Street lighting	7 000 000
		199 925 227

14. MSUNDUZI SDF – LAND USE MANAGEMENT GUIDELINES

14.1 Both the Consolidated SDF and the individual ABM SDF's are essentially "schematic" plans and are non-cadastral. There is no direct interpretation of the SDF into a Land Use Scheme. In order to formulate a Land Use Scheme it is necessary to develop the SDF into either a composite Physical Development Framework (sometimes also called a Land Use Framework) or a series of Physical Development Framework Plans. It is such a plan, because it had a more detailed cadastral base, that provides the basis for the formulation of a Land Use Scheme.

14.1.1 There are several steps necessary to produce a Land Use Scheme, viz;

- The Translation of the existing TPS(s) zones into LUMS terminology
- The introduction of appropriate new zones facilitated by the LUMS system (eg; a series of mixed use and interface/buffer zones)
- The translation of the land use areas implicit in the General Plans of areas currently not in a TPS into LUMS terms.
- The extension of the LUMS system into areas without any other form of control using the existing zones available or introducing new/additional zones (eg; Traditional settlement areas, agriculture, etc)

The exercise of developing a Land Use Scheme also offers an opportunity to undertake a form of TPS Review and to modify the existing zones that are subject to change, ie;

- Expanding zones of the CBD, shopping areas, introducing relatively higher densities in specific areas and so on.

The intensions of the SDF therefore can be used to modify/amend the formulation of a Land Use Scheme. In this sense it provides some basic "guidelines" for the formulation of a Land Use Scheme

14.1.2 In this sense the intentions of the SDF can be used as follows:

- Existing formal zones that are not identified for change (Residential, commercial, industrial, etc) can be simply translated into appropriate LUMS zones.
- Existing formal developments in areas with General Plans can have their areas matched with any appropriate zone in the existing TPS or with any new LUMS available zone to be introduced.
- Existing informal residential areas will however require the preparation of either Physical Development Framework Plans or upgrading layouts in order to identify which appropriate residential zones to apply.
- Areas in transition or subject to change (such as the formulation of corridors extending from the CBD, and the area of change around the CBD and major shopping facilities, hospitals, etc) can have new interface and/or mixed uses zones applied. The SDF identifies these areas in an indicative manner.
- The policy for densification enunciated in the SDF, ie around, major nodes, can inform the approach to evaluate and detail such areas

15. MSUNDUZI SDF REVIEW – SUSTAINABILITY APPRAISAL

15.1 What is a Sustainability Appraisal?

The Department of Agriculture, Environmental Affairs, and Rural Development (DAEARD) has provided a Sustainability Appraisal tool which it defines as follows (the entire Section is sourced and quoted from DAEARD, 2009):

- 15.1.1 Sustainability Appraisal [SA] provides a critical evaluation of the performance of a Plan against predetermined social, economic and environmental criteria so that the potential impacts of the Plan can be evaluated and its performance can be improved. SA seeks to help inform decision-making by providing information on the potential environmental implications of policies, plans or projects.
- 15.1.2 SA's help to ensure that plans, strategies and proposals take into account the principles of sustainable development. The process permits a qualitative assessment of a plan, strategy, or proposal against independent sustainable development objectives.
- 15.1.3 Sustainability Appraisal can be an effective technique for integrating sustainability considerations into plan making and evaluation, and has the advantage of being quicker than standard Strategic Environmental Assessments, producing a less rigorous, though still valuable, broad analysis, usually in the form of a checklist with accompanying explanation. This allows fairly rapid assumptions to be made about the sustainability impact of individual policies and plans and, indicates where policy adjustments need to be made.
- 15.1.3 The SA checklist comprises a list of statements related to economic, social and environmental issues and concerns that are based on the Municipality's Environmental Policy, the National Environmental Management Act Principles and the Development Facilitation Act Principles. Adjacent to the statements column is a column that relates to the qualitative assessment i.e. whether the proposed plan, policy or proposal has a **Very positive, Positive, Neutral, Negative or Highly Negative** impact or effect against each statement.
- 15.1.4 An example of a positive impact might be the provision of work opportunities in close proximity to residential areas thereby reducing travel costs and impacts. A negative impact might be destruction of habitat through urban expansion. If due to the nature of the activity, a statement has no bearing on the activity concerned, then a Neutral or No Impact statement can be used.
- 15.1.5 A description of the potential impacts and effects on the sustainability criteria should be provided in the commentary column to justify the scoring of the potential effect or impact.
- 15.1.6 Sustainability Appraisal is not a rigid system but a practical approach to ensure that significant direct and indirect impacts of a programme are considered. It is important not to labour over it. The level of resources involved in each appraisal should be directly proportionate to the policy or programme.
- 15.1.7 Individual Appraisal's should be done for the plan as a whole and for the 5 major development changes or options proposed within the plan e.g. expansion of housing into the Mkhondeni catchment; Proposed node at Foxhill etc.

15.2 Determination of significance of impact or effect:

The results of the appraisal for each criteria should be recorded using the following measures:

- (i) **Scale of effect:** Will any effect be marginal or significant?
- (ii) **Timing of effect:** Will the effect manifest itself in the short term or the long term?
- (iii) **Geographic scale:** Will there be any trans-boundary effects (for example impacts on adjoining Municipalities, Provincially or Nationally)?
- (iv) **Rural / urban:** Will there be differential impacts for rural and urban environments?
- (v) **Cumulative effects:** Will there be any cumulative, secondary or indirect effects arising from the interactions of policies and proposals.

15.3 Evaluation of the SDF process:

- 15.3.1 The development of the SDF should be considered against the generally accepted principles and processes of strategic assessment. A justification and description of how the process considered these key principles should be provided. Limitations and gaps in information should be highlighted to inform future planning and revisions of the SDF.