

MSUNDUZI SPATIAL DEVELOPMENT FRAMEWORK REVIEW: CONSOLIDATED REPORT



JULY 2009

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GLOSSARY

ABM	Area Based Management
ASGISA	Accelerated Shared Growth Initiative for Southern Africa
BID	Business Improvement Districts
BNG	Breaking New Ground
CBD	Central Business District
CCTV	Closed Circuit Television
CID	City Improvement Districts
DAEA	Department of Agriculture and Environmental Affairs
DAEARD	Department of Agriculture, Environmental Affairs and Rural Development
DFA	Development Facilitation Act
DM	District Municipality
DLA	Department of Land Affairs
DLGTA	Department of Local Government and Traditional Affairs
DTI	Department of Trade and Industry
DWAF	Department of Water Affairs and Forestry
EIA	Environmental Impact Assessment
EKZNW	Ezemvelo KZN Wildlife
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EXCO	Executive Committee
GDP	Gross Domestic Product
GEDI	Greater Edendale Development Initiative
GVA	Gross Value Added
ICM	Integrated Catchment Management
IDP	Integrated Development Plan
INR	Institute of Natural Resources
IWMP	Integrated Waste Management Plan
IRC	Iyer-Rothaug Collaborative
KZN	KwaZulu-Natal
KZNDot	KwaZulu-Natal Department of Transport
LDP	Local Development Plan
LED	Local Economic Development
LM	Local Municipality
LUMS	Land Use Management Systems
LUS	Land Use Scheme
MLL	Minimum Living Levels
MOSS	Metropolitan Open Space System
NEMA	National Environmental Management Plan
NSDP	National Spatial Development Perspective
NSHP	National Social Housing Policy
PC2	Provincial Corridor 2
PDFP	Provincial Development Framework Plan
PGDS	Provincial Spatial Development Strategy
PMA	Pietermaritzburg Metropolitan Area
PMB	Pietermaritzburg
PPDC	Provincial Planning and Development Commission
PPP	Public-Private Partnership
PSDS	Provincial Spatial Economic Development Strategy
PTP	Public Transport Plan
ROD	Record of Decision
SDF	Spatial Development Framework
SDI	Spatial Development Initiative
STATSSA	Statistics South Africa
SMME	Small Micro-Medium Enterprises
TLC	Transitional Local Council
TOR	Terms of Reference
TPS	Town Planning Scheme
TRPC	Town and Regional Planning Commission
UCT	University of Cape Town
UDM	uMgungundlovu District Municipality

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

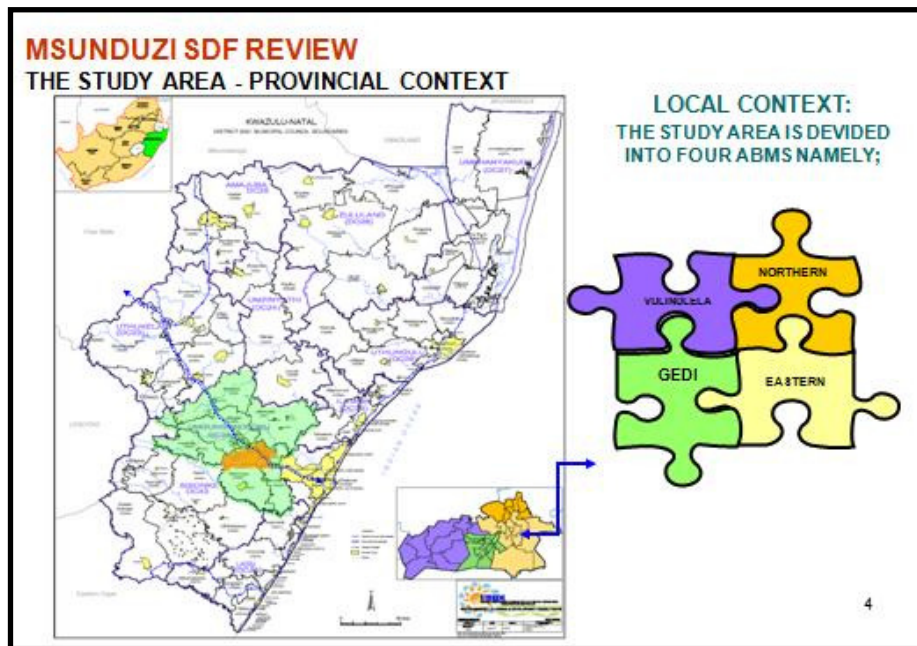
This report is a consolidation of SDF's prepared for four Area Based Management Areas (AMB's).

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

MSUNDUZI - SPATIAL FRAMEWORK PLAN

DEPARTMENT OF THE CITY PLANNER
Forward Planning Services
April 2002

0.0 2.0 4.0 6.0 8.0 10.0 km

MAP 34

Msunduzi Consolidated SDF Review

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

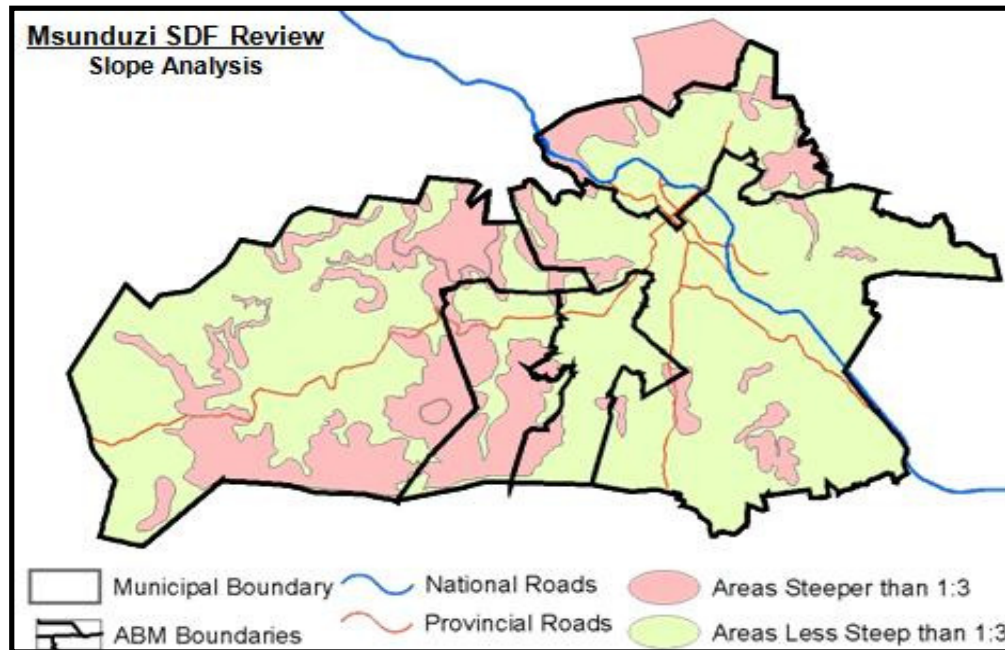
(1) Relief

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:

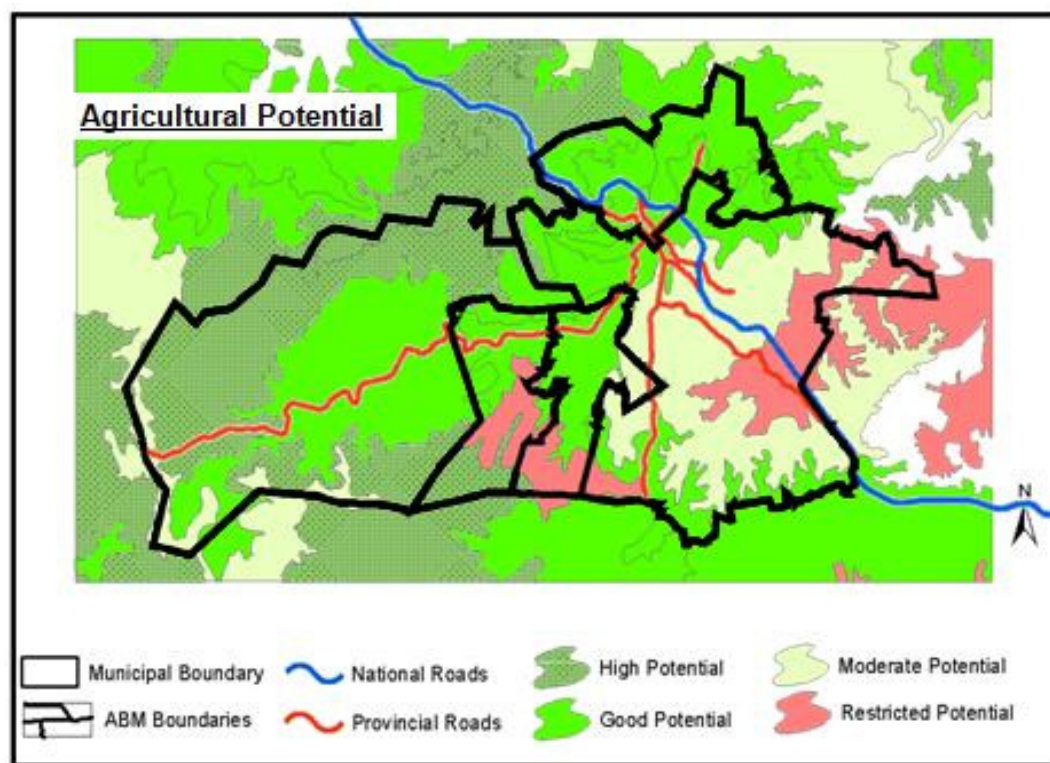
1. Physiography
2. Climate
3. Soils
4. Water supplies

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 interfluvies 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, Sinathingini and Emantharen, appears to be poorly serviced.

Slangspruit, Shenstone, Unit EE, Willowfontein, Noshezi, and the Singathingini 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.

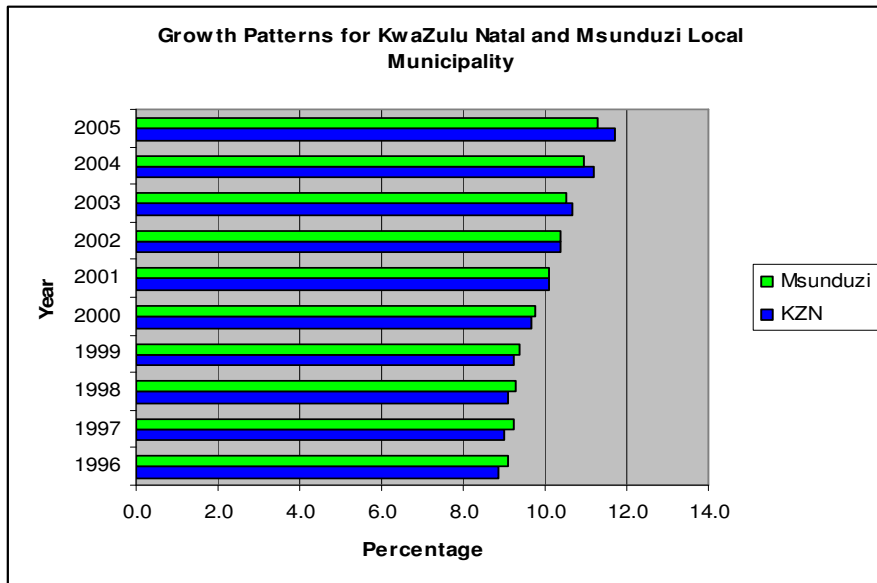
Msunduzi Local Municipality has the second largest urban centre within the province of KwaZulu-Natal and the main economic hub within uMgungdlovu District Municipality. Its proximity to port, rail, and road infrastructure has a strong influence on regional channels of investment, movement and structuring 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

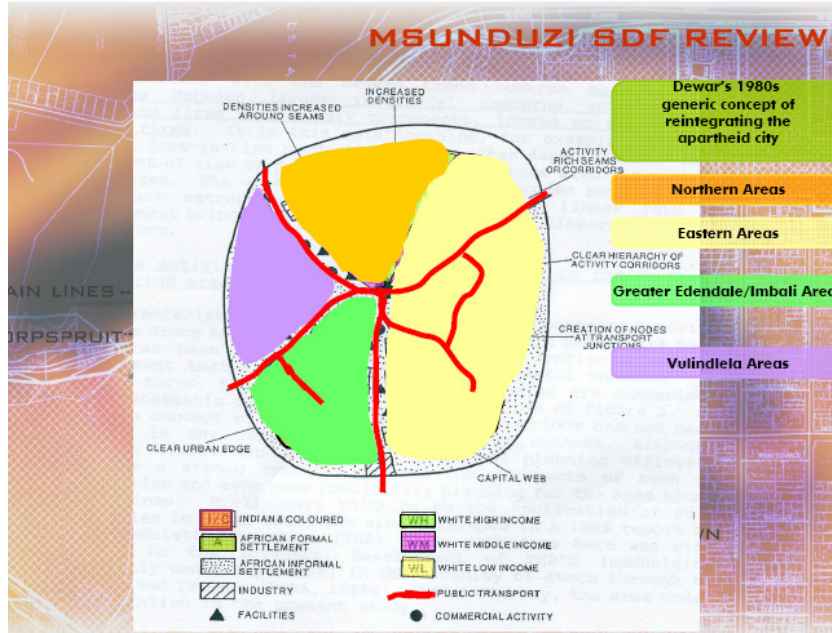
<u>CURRENT SDF:</u> <u>Guiding Principles</u>	<u>REVIEWED SDF:</u> <u>Guiding Principle</u>
<ul style="list-style-type: none"> - Compaction - Integration - Densification - Restructuring of the City - Meeting Land Use Needs - Identification of areas of economic development potentials 	<ul style="list-style-type: 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	<ul style="list-style-type: none"> New Residential areas

Identification of areas of economic development potentials	<ul style="list-style-type: none"> • New economic opportunity areas, especially those areas which were previously excluded from the main stream economy such as GEDI and Vulindlela. • New nodal points • 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

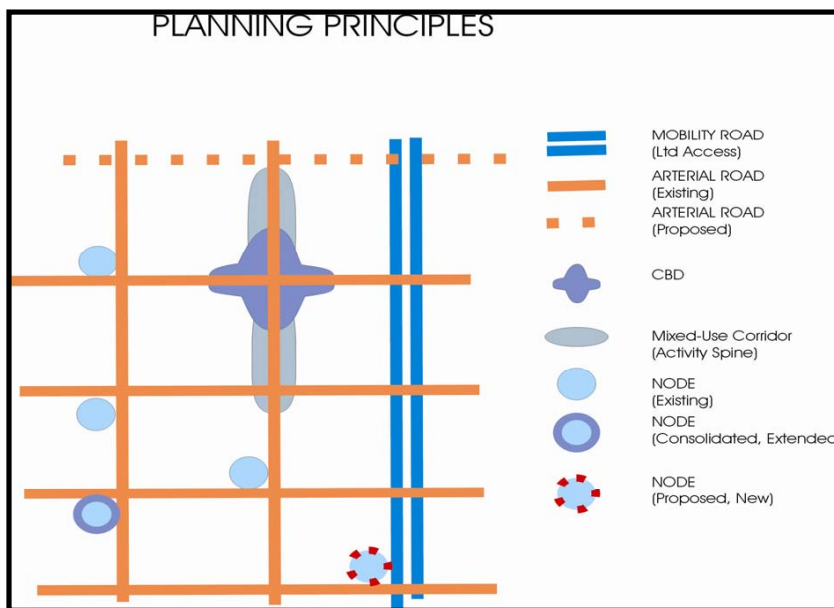
In order to avoid misunderstandings, the application of these concepts will use the terminology as set out below, and the arrangement of the various elements that comprise these concepts are illustrated in the following Concept diagram.

- 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 Section10 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 en 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**

Camp 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.

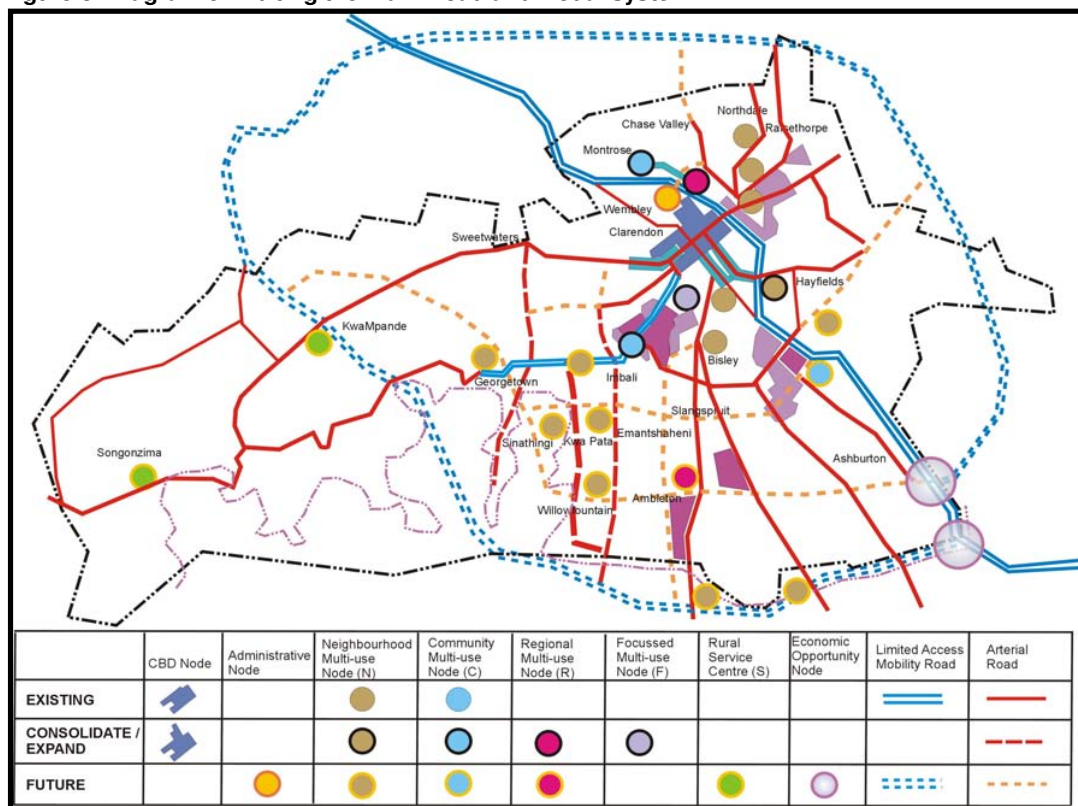
This structure is that of creating a polycentric city - a city with several foci. These foci are connected with a road lattice that facilitates clear, convenient, easy to use, and alternate routes so that everyone can gain access to employment, shopping and recreation areas. These new foci include:

- 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

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

- an area for an open space system,
- an area for Restricted Use
- 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 Vulindlela

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 and 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 its 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
- Insitu 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-Rtcie 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.

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

The purpose of this report is to assist the Municipality in its assessment of the Draft SDF, and must be read together with the Draft SDF map.

This report is a consolidation of SDF's for Four Area Based Management Areas (AMB's). The Report summarises the detailed information that can be found in the reports of individual SDF's for the ABM's.

A 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.

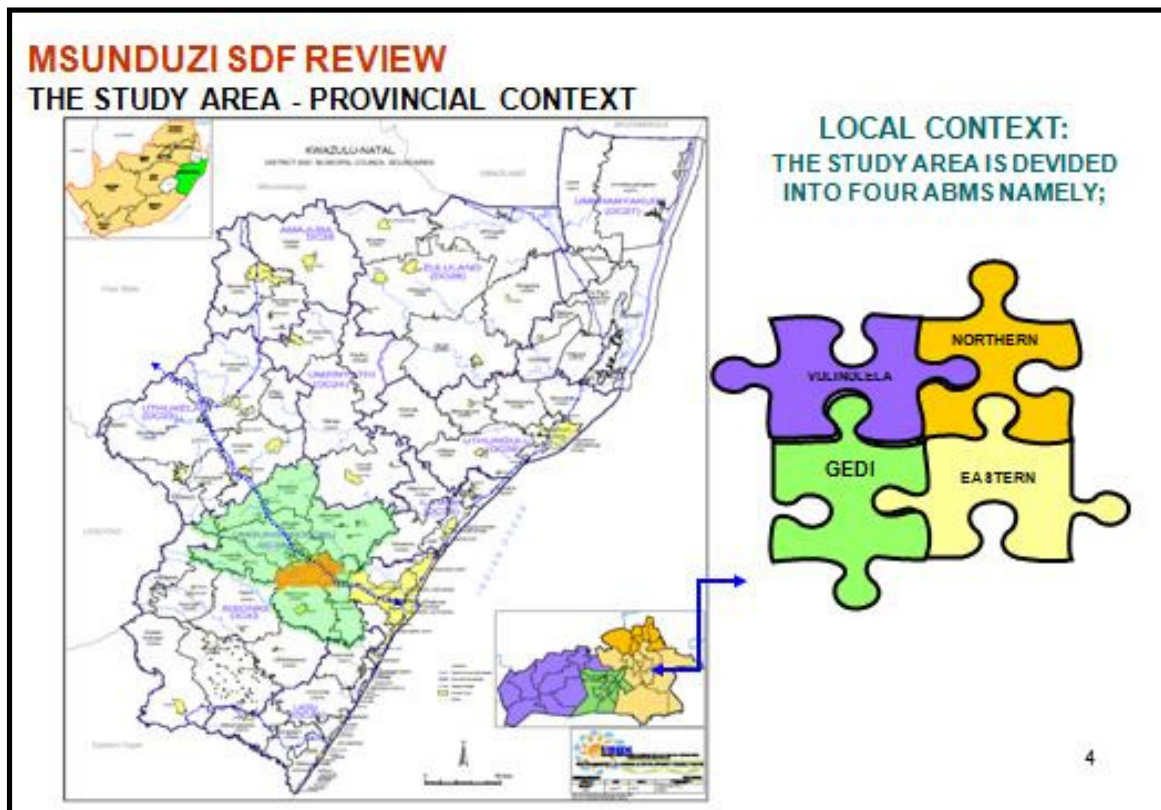
1.1 Background

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 (**see figure 1**):

- Northern Areas;
- CBD, Ashburton, Eastern Areas;
- Vulindlela; and
- Greater Edendale.

ii) In the process of integrating the four ABMS into a consolidated SDF, a certain level of integration and rationalisation is necessary to ensure consistency and legibility.

Figure 1: Study Area; Provincial and Local Context (See Map 1)



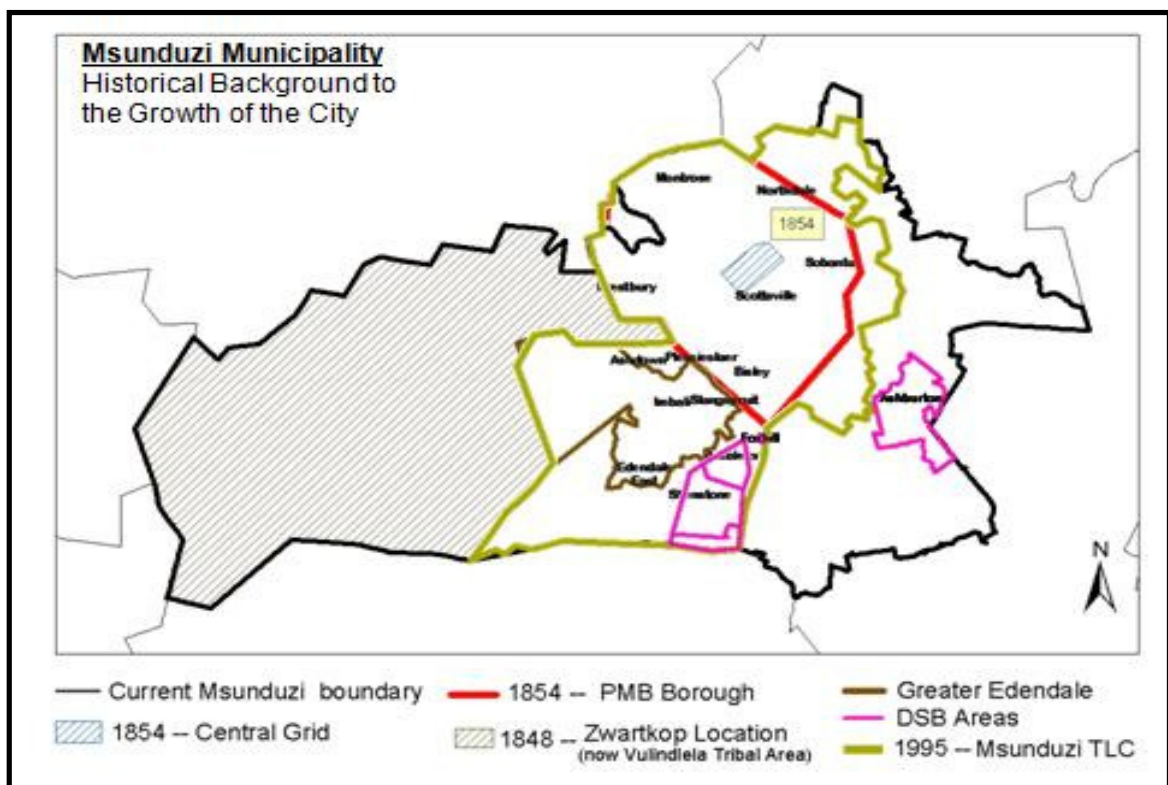
1.2 Historical Context

- i) In order to understand the challenges associated with the current form of the city and the planning and development interventions that will be required to address these challenges, we must remind ourselves how the current municipal boundaries came about. As illustrated in **figure 2**, the Msunduzi Municipality Area consists of three district areas, each of which is home to approximately 200'000 people i.e.
 - The former borough of Pietermaritzburg
 - Greater Edendale
 - The Vulindlela Tribal area
- ii) During the 1850's, development was concentrated mainly in the central grid which by and large coincides with the existing CBD. Together with the surrounding townlands it made up the borough of Pietermaritzburg.
- iii) In 1848, the Zwartkop location to the west of the borough was declared. The boundaries of this area remained unchanged, and subsequently became the Vulindlela Tribal Area.
- iv) During the 1970's, the Edendale area was established as a separate administrative entity as part of the Government's apartheid policy. At the same time, in an effort to force people out of townships which formed enclaves in so-called white areas,

investment was curtailed into infrastructure and maintenance in areas like Sobantu, leading to a deterioration of residential amenities.

- v) At this stage the city as we know it was administered by four different authorities i.e. the Pietermaritzburg Municipality, the KwaZulu Government (Vulindlela), the Department of Co-Operation and Development (Greater Edendale) and the Development and Services Board (Ashburton and Fox Hill). As astonishing as it might seem, these areas were planned and developed in isolation of each other, despite their obvious functional and economic interdependence.
- vi) In 1995, the Pietermaritzburg TLC was established with the Greater Edendale area and other areas to the east being incorporated into the city. This was followed in 2000 by the creation of the present municipal area, which brought Vulindlela and additional areas to the east and southeast into the city.
- vii) Although these interdependent areas now form one administrative entity, the outlying area generally still function as dormitory areas to Pietermaritzburg where most of the economic activity is concentrated. One of the primary objectives of the SDF is therefore to reduce the racial separation, spatial segregation and development inequality produced by colonial and apartheid planning.

Figure 2: Historical Background to the growth of the City



2.0 LEGISLATION AND POLICY

2.1 National and Provincial Legislation and Policies

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

2.1.1 South African Constitution and Principles of Sustainable Development

Chapter 7 of the Constitution deals with *local government* and section 152 deals with the *objectives of local government*. It indicates that these objectives are:

- To provide democratic and accountable government for local communities;
- To ensure the provision of services to communities in a sustainable manner;
- To promote social and economic development;
- To promote a safe and healthy environment; and
- To encourage the involvement of communities and community organizations in the matters of local government.

SOUTH AFRICAN CONSTITUTION IMPLICATIONS FOR THE SDF

- The IDP and SDF seek to actualise the objectives of the Constitution.

2.1.2 Municipal Systems Act

Section 23 (1) of the act indicates that a municipality must undertake developmentally- orientated planning and Section 24 (1) indicates that planning undertaken by the municipality must be aligned with and compliment plans of other municipalities and organs of state.

Section 26 of the Act indicates that a core component of an IDP is a SDF which must include the provision of basic guidelines for a land use management system for the municipality.

Section 35 of the Act also indicates that a SDF contained in an IDP prevails over a plan as identified in Section 1 of the Physical Planning Act (No. 125 of 1991).

Regulation promulgated in terms of the act outline the following requirements for a SDF:

“A spatial development framework reflected in a municipality’s integrated development plan must:

- a) give effect to the principles contained in Chapter 1 of the Development Facilitation Act, 1995 (Act 67 of 1995);*
- b) set out objectives that reflect the desired spatial form of the municipality;*
- c) contain strategies and policies regarding the manner in which to achieve the objectives referred to in paragraph (b), which strategies and policies must-*
 - i) indicate desired patterns of land use within the municipality;*
 - ii) address the spatial reconstruction of the municipality; and*
 - iii) provide strategic guidance in respect of the location and nature of development within the municipality.*
- d) Set out basic guidelines for a land use management system in the municipality;*
- e) Set out a capital investment framework for the municipality’s development programmes;*
- f) Contain a strategic assessment of the environmental impact of the spatial development framework;*
- g) Identify programmes and projects for the development of land within the municipality;*
- h) Be aligned with the spatial development frameworks reflected in the integrated development plans of neighbouring municipalities; and*
- i) provide a visual representation of the desired spatial form of the municipality, which representation-*
 - i) must indicate where public and private land development and investment should take place;*
 - ii) must indicate desired or undesired utilisation of space in a particular area;*
 - iii) may delineate the urban edge;*
 - iv) must identify areas where strategic intervention is required; and*
 - v) must indicate areas where priority spending is require.*

These legislative requirements provide a clear framework for the development of the Msunduzi SDF and provide a legislative checklist for its contents.

IMPLICATIONS FOR THE SDF

- The SDF in compliance with Chapter 5, and Section 25 (1) of the MSA (32 of 2000); and
- The SDF in compliance with Sections 26, 34 and 35 of the MSA (32 of 2000).

2.1.3 The Principles contained in the Development Facilitation Act (DFA)

Chapter 1 of the DFA sets out a number of principles which apply to all land development. The following principles would apply to the formulation and content of a Spatial Development Framework.

- a. Policies, administrative practice and laws should:
 - (b) provide for urban and rural land development;

- (iii) facilitate the development of formal and informal, existing and new settlements;
- (iv) discourage the illegal occupation of land, with due recognition of informal land development processes;
- (v) promote speedy land development;
- (vi) promote efficient and integrated land development in that they:
 - promote the integration of the social, economic, institutional and physical aspects of land development;
 - promote integrated land development in rural and urban areas in support of each other;
 - promote the availability of residential and employment opportunities in close proximity to or integrated with each other;
 - optimize the use of existing resources including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities;
 - promote a diverse combination of land uses, also at the level of individual erven or subdivisions of land;
 - discourage the phenomenon of “urban sprawl” in urban areas and contribute to the development of more compact towns and cities;
 - contribute to the correction of the historically distorted spatial patterns of settlement in the Republic and to the optimum use of existing infrastructure in excess of current needs; and
 - encourage environmentally sustainable land development practices and processes.
- b. Members of communities affected by land development should actively participate in the process of land development.
- c. The skills and capacities of disadvantaged persons involved in land development should be developed.
- d. Policy, administrative practice and laws should promote sustainable land development at the required scale in that they should –
 - (i) promote land development which is within the fiscal, institutional and administrative means of the Republic;
 - (ii) promote the establishment of viable communities;
 - (iii) promote sustained protection of the environment;
 - (iv) meet the basic needs of all citizens in an affordable way; and
 - (v) ensure the safe utilization of land by taking into consideration factors such as geological formations and hazardous undermined areas
- e. Each proposed land development area should be judged on its own merits and no particular use of land, such as residential, commercial, conservational, industrial, community facility, mining, agricultural or public use, should in advance or in general be regarded as being less important or desirable than any other use of land.
- f. Land development should result in security of tenure, provide for the widest possible range of tenure alternatives, including individual and

communal tenure, and in cases where land development takes the form of upgrading an existing settlement, not deprive beneficial occupiers of homes or land or, where it is necessary for land or homes occupied by them to be utilized for other purposes, their interests in such land or homes should be reasonably accommodated in some other manner.

- g. A competent authority at national, provincial and local government level should coordinate the interests of the various sectors involved in or affected by land development so as to minimize conflicting demands on scarce resources.
- h. Policy, administrative practice and laws relating to land development should stimulate the effective functioning of a land development market based on open competition between suppliers of goods and services.

DFA IMPLICATIONS FOR THE SDF

- The SDF is in line with the principles of the DFA which include the:
- Promotion of the integration of the social, economic, institutional, and physical aspects of land development;
- Promotion of integrated land development in rural and urban areas in support of each other;
- Promotion of residential and employment opportunities in close proximity to or integrated with each other;
- Optimisation of the use of existing resources including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities;
- Promotion of a diverse combination of land uses, also at the level of individual erven or subdivisions of land;
- Discouraging of the phenomenon of “urban sprawl” in urban areas and contribute to the development of more compact towns and cities;
- Contribution to the correction of the historically distorted spatial patterns of settlement in the Republic and to the optimum use of existing infrastructure in excess of current needs; and
- Encouragement of environmentally sustainable land development practices and processes.

2.1.4 Environmental Conservation Act

The Environmental Conservation Act (No. 73 of 1989) is intended to provide for the effective protection and controlled utilisation of the environment. Part five of the Act refers to the control of activities that may have a detrimental effect on the environment. Section 21 of the Act refers to the Minister being permitted to identify those activities, which in his opinion have substantially detrimental effects on the environment, whether in general or in respect of certain areas. Any change in land use from agriculture, or undetermined use, to any other land use, and any use for nature conservation or zoned open space to any other land use, is subject to a mandatory EIA (Environmental Impact Assessment).

Act No 73, 1989, Part VIII, Section 31, makes provision that:

If in the opinion of the Minister (of Environmental Affairs and Tourism) the competent authority, local authority or the government institution concerned, any person performs an activity, or fails to perform any activity as a result of which the environment is, or may be, seriously damaged, endangered or detrimentally affected, the minister, competent authority, local authority or government institution, as the case may be, may be in writing direct such person to cease such activity; or to take steps that the Minister, competent authority, local authority or the government institution may deem fit within a period specified in the directive, with the view to eliminating, reducing or preventing damage, danger or detrimental effect.

IMPLICATIONS FOR THE SDF

- NEMA supersedes the Environmental Conservation Act

2.1.5 National Environmental Management Act

The National Environmental Management Act (No. 27 of 1998) was drawn up to provide for co-operative, environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.

Section 28 of the Act that falls within Chapter 7 – Compliance, Enforcement and Protection can be related to future developments. Part 1 of the Chapter focuses on environmental hazards and Section 28 relates to the duty care and redemption of environmental damage. Section 28 provides that every person who causes, has caused, or may cause, significant pollution or degradation of the environment, must take reasonable measures to prevent such pollution or degradation from occurring, continuing or reoccurring or, insofar as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

IMPLICATIONS FOR THE SDF

- Any EIA needs to look at existing planning tools (like the SDF) to motivate for the impact. The SDF is focused on sustainability and the protection of the natural environment therefore development not in line with the SDF, and the protection of the natural environment, will not be allowed.

2.1.6 Social Housing Act

The Social Housing Act of 2008 was drawn up to establish and promote a sustainable social housing environment; to define the functions of national, provincial and local governments in respect of social housing; to provide for the establishment of the Social Housing Regulatory Authority in order to regulate all social housing institutions obtaining or having obtained public funds; to allow for undertaking of approved projects by other delivery agents with the benefit of public money; to give statutory recognition to social housing institutions; and to provide for matters connected therewith.

The General principles applicable to social housing include;

In giving priority to the needs of low and medium income households in respect of social housing development, the national, provincial and local spheres of government and social housing institutions must-

- Ensure their respective housing programmes are responsive to local housing demands, and special priority must be given to the needs of woman, children, child-headed households, person with disabilities and the elderly;
- Support the economic development of low to medium income communities by providing housing close to jobs, markets and transport and by stimulating job opportunities to emerging entrepreneurs in the housing services and construction industries;
- Afford residents the necessary dignity and privacy by providing the residents with a clean, safety and healthy environment;
- Not discriminate against residents on any of the grounds set out in section 9 of the constitution, including individuals affected by HIV and AIDS;

- e) Consult with interested individuals, communities and financial institutions in all phases of social housing development;
- f) Ensure the sustainable and viable growth of affordable social housing as an objective of housing policy;
- g) Facilitate the involvement of residents and key stakeholders through consultation, information sharing, education, training and skills transfer, thereby empowering residents;
- h) Ensure secure tenure for residents in social housing institutions, on the basis of the general provisions governing the relationship between tenants and landlords as set out in the rental housing act, 1999 (Act No. 50 of 1999), and between primary housing co-operatives and its members as set out in the co-operatives Act. 2005 (Act No.14 of 2005);
- i) Promote:
 - i. an environment which is conducive to the realisation of the roles, responsibilities and obligations by all role-players entering the social housing market;
 - ii. training opportunities for stakeholders and interested parties who wish to enter the social the social housing market;
 - iii. the establishment, development and maintenance of socially and economically viable communities to ensure the elimination and prevention of slums and slums conditions;
 - iv. social, physical and economic integration of housing development into existing urban and inner city areas through the creation of quality living environments
 - v. medium to higher density in respect of social housing development to ensure the economical utilisation of land and services;
 - vi. the provision of social, community and recreational facilities close to social housing development ;
 - vii. the expression of cultural identity and diversity in social housing development;
 - viii. the suitable location of social housing stock in respect of employment opportunities;
 - ix. the conversion of upgrading of suitable residential and non-residential buildings for social housing use;
 - x. incentives to social housing institutions and other delivery agents to enter the social housing market;
 - xi. an understanding and awareness of social housing processes;
 - xii. transparency, accountability and efficiency in the administration and management of social housing stock;
 - xiii. best practices and minimum norms and standards in relation to the delivery and management of social housing stock;
 - xiv. the provision of institutional capacity to support social housing initiatives;
 - xv. the creation of sustainable, viable and independent housing institutions responsible for providing, developing, holding or managing social housing stock and;
 - xvi. the use of public funds in a manner that stimulates or facilitates private sector investment and participation in the social housing sector.

IMPLICATIONS FOR THE SDF

- The SDF needs to identify appropriately located land for social housing developments close to employment opportunities.
- The SDF must be consultative to ensure that its proposals address the real needs of communities.
- Identify slum areas that need to be upgraded and eradicated.
- The SDF needs to ensure that the spatial, economical, and social integration is

achieved.

- The SDF needs to identify and promote areas of high density to reduce costs of providing services.

2.1.7 The KwaZulu-Natal Heritage Act (1997)

Apart from provisions in the act that allow for the proclamation and listing of individual buildings, the act also allows for the protection of groups of buildings forming a conservation area and it provides for the general protection of buildings that are over sixty years in age.

Section 34 (1) of the act states that “No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority”.

Under Section 26 (1) the Act deals with demolitions, additions and alterations. Section 19 deals with Heritage Landmarks, Section 20 with Provincial Landmarks. Section 22 deals with the opening of a Heritage Register, and Section 23 deals with Heritage Conservancies.

Section 51 of the act allows for a fine and imprisonment for a period not exceeding two years or both such imprisonment and fine of anyone contravening Section 31 (1) of the Act.

IMPLICATIONS FOR THE SDF

- The Act outlines the procedures property owners, the municipality and Amafa need to follow to protect and conserve the vast built environment resources in Pietermaritzburg.

2.1.8 Accelerated and Shared Growth Initiative for South Africa (ASGI-SA)

ASGI-SA is a project driven by the Deputy Presidency which attempts to factor in the Second Economy in development initiatives, particularly the youth, women and people with disabilities. ASGI-SA's focus on a set of concrete economic proposals that include a range of initiatives aimed at removing obstacles to economic growth has provided a platform for reviewing strategies for critical interventions towards sustainable development, and the empowerment of the poor and mainstreaming them into the mainstream economy.

The programme's goal is the creation of small enterprise jobs in the Second Economy with a focus on the creation of 1 million jobs over a period of five years. ASGI-SA sets out the following principles and broad national goals:

- Accelerated growth in the economy to more than 4.5% in the period 2009, and more than 6% from 2010 to 2014.
- Reduce the gap between the first and second economies, and halve poverty and unemployment by 2014.
- Ensure that social security reaches all who are eligible.

The intended outcomes of the programme is the establishment of viable and sustainable economic enterprises/ businesses that have a scope for growing local economies, thereby creating quality jobs and higher income for individual entrepreneurs, workers and their families.

The KZN provincial government committed itself to the policy and objectives of ASGISA. In 2005, it launched the Economic Growth and Development Strategy which is aimed at transforming the structure of the provincial economy. The strategy is built on four fundamental principles. These are:

- Principle 1: Increasing investment in the province
- Principle 2: Skills and capacity building
- Principle 3: Broadening participation in the economy, and
- Principle 4: Increasing competitiveness

The KZN government has further substantiated its support for ASGISA by initiating several programmes and strategic interventions in the provincial economy, these include;

- a. Promotion and attraction of Foreign Direct Investment
- b. Investment in infrastructure:
 - Dube Trade Port
 - Provincial Growth Fund
 - 2010 Soccer World Cup – supporting infrastructure
- c. Sector Development
- d. Corridor Development

IMPLICATIONS FOR THE SDF

- The strategies contained in the SDF and the IDP seek to address the following principles of ASGI-SA:
- Accelerated growth in the economy to more than 4.5% in the period 2009, and more than 6% from 2010 to 2014.
- Reduce the gap between the first and second economies, and halve poverty and unemployment by 2014.
- Ensure that social security reaches all who are eligible.

2.1.9 The Provincial Growth and Development Strategy (PGDS)

This document was adopted in 2004 and has been taken further through the Provincial Spatial Economic Development Strategy which will be highlighted below. This section gives a broad overview of the objectives of this plan.

Government is mandated to restructure the process of service delivery and development in the Province and this is achieved through the alignment of the actions of the three spheres of government, the different government sectors, and the various strategic frameworks. The PGDS is a tool whereby national spheres of government can direct and articulate their strategies, and where local government is able to reflect its human, fiscal and financial support needed to achieve the desired outcomes.

The PGDS facilitates proper coordination between the different spheres of government and it ensures that provincial departments align their activities with those of local government. In essence, it facilitates inter-governmental alignment and guides the activities of various agencies and role players.

Key elements of the strategy include:

- Partnerships: developing a wide range of effective partnerships, working with national and local government, the business community and civil society, and building on their respective strengths;

- Coordination: creating an enabling environment for implementation of coordinated programmes with stakeholders in developing and implementing strategic interventions;
- Sustainable use of natural resources: application of sound environmental principles and responsible environmental management for long-term socio-economic development, as no real growth can occur without natural resource conservation;
- Communication: commitment from role players is only possible through effective communication; and
- Implementation, Monitoring and Evaluation: it is necessary to implement well designed and effective implementation plans which are linked to targets, milestones and timeframes.

Like the SDF, but at a more macro level, the PGDS provides a framework for public and private sector investment by highlighting areas of development opportunity. It also addresses key issues of implementation blockages whilst providing strategic direction.

IMPLICATIONS FOR THE SDF

- The SDF aligns with the following provincial priorities:
- Strengthening governance and service delivery;
- Sustainable economic development and job creation;
- Integrating investment in community infrastructure; and
- Fighting poverty and protecting vulnerable groups in society.

2.1.10 National Spatial Development Perspective

The NSDP is a national level tool for policy co-ordination, particularly with regards to the spatial implications of infrastructure programmes within the national, provincial and local spheres of government. In essence, the NSDP provides:

- A set of principles and mechanisms to guide infrastructure investment and development decisions;
- A description of the spatial nature and form of the main social, economic and environmental trends that should form the basis for a shared understanding of the national spatial economy; and
- An interpretation of the spatial realities and the implications for government intervention.

There are five normative principles identified in the NSDP which are summarised as follows:

- Rapid economic growth that is inclusive and sustained is a pre-requisite for the achievement of other policy objectives, of which poverty alleviation is fundamental;
- There is a constitutional objective for government to provide basic services to all citizens wherever they currently are located;
- Beyond the constitutional requirements outlined above, government spending should be focussed on localities of economic growth or economic potential in order to leverage private sector investment. This will stimulate sustainable economic activities as well as creating long-term employment opportunities;
- Efforts to address past and current social inequalities should focus on people, and not on places; and

- To overcome the spatial imbalances of Apartheid, future settlement and economic development opportunities should be channelled into activity corridors and nodes that are adjacent to or that link to the main growth centres.

The NSDP is underpinned by the following assumptions:

- Location is critical for the poor to fully exploit growth opportunities;
- The poor that are concentrated around economic centres have a far greater opportunity to gain from economic growth;
- Areas that demonstrate economic potential yield greater livelihoods as well as income protection due to the diversity of income sources;
- Poverty is best overcome in areas that demonstrate economic potential;
- The poor are able to make rational choices regarding relocation to areas with greater economic opportunities and potential; and
- It is the role of government to ensure that policies and programmes are in place so that the poor can benefit fully from development and growth opportunities in such areas.

The NSDP classifies the space economy into the following four typologies, namely:

- Highly diversified economic concentrations;
- Diversified service economy concentrations;
- Public and other service economy areas; and
- Mass-produced and specialised economy concentrations.

The NSDP identifies the Msunduzi Municipality as part of the Durban-Pietermaritzburg area and as a “*Highly diversified economic concentration*”. It identifies the following characteristics for the municipality:

- A diverse economy accounting for a large percentage of the GVA in all categories excluding agriculture, and with an extremely high GVA in services and retail.
- A large population with a high percentage living below the MLL.

The NSDP identifies the following typical challenges that face highly diversified economic concentrations:

- Resource efficiency;
- Severe environmental degradation and sprawl;
- Collaboration with other spheres of government;
- Ageing infrastructure;
- Persisting and even growing high concentrations of severe poverty;
- Inefficient public transport systems;
- Rapid in-migration and household formation, over-burdening infrastructure and swelling housing backlogs;
- Growing the economy beyond 6% p. a.
- Upgrading huge former townships into suburbs of the city which they are an integral part;
- Ensuring participatory governance; and
- Compelling demands between the need to sustain the economy in the former white areas and investment in former township areas.

IMPLICATIONS FOR THE SDF

- The SDF is aligned with the following principles of the NSDP:
- The provision of basic services to all citizens wherever they currently are located;

- Government spending should be focussed on localities of economic growth or economic potential in order to leverage private sector investment;
- Efforts to address past and current social inequalities are focussed on people, and not on places; and
- To overcome the spatial imbalances of Apartheid, future settlement and economic development opportunities are channelled into activity corridors and nodes that are adjacent to or that link to the main growth centres.

2.1.11 Provincial Spatial Economic Development Strategy

The KZN provincial government prepared a provincial as well as District profiles as a basis for understanding the province. Issues considered included:

- An analysis of the levels of social service provision in each district;
- Population dynamics;
- The Gross Value Added (GVA) per district and local municipality; and
- Levels of water and sanitation provision.

The PSEDS is a response to these profiles and it sets out to:

- Focus where government directs its investment and development initiatives;
- Capitalising on complementarities and facilitating consistent and focussed decision making; and
- Bringing about strategic coordination, interaction and spatial alignment.

The PSEDS identifies priority sectors in the KZN economy which include:

- The agricultural sector (including agri-processing) and land reform;
- The industrial sector;
- The tourism sector; and
- The service sector (including government services)

The implications of this for the Msunduzi municipality are as follows:

- In terms of the agricultural sector, very little of the Msunduzi area is identified spatially as falling within this category.
- The Msunduzi area is, however, identified as a *provincial tourism priority areas* as part of the greater Durban and Pietermaritzburg area.
- In terms of industrial development, the corridor linking the two nodes of Pietermaritzburg and Durban, and extending to Howick, form a primary zone of industrial potential.
- In terms of the tertiary/ service sector, the Msunduzi municipality is identified as a second order node. It is also noted that such nodes are vital to supporting development in poor rural areas.

In terms of corridors, the PSEDS identifies the Msunduzi municipality as falling on Provincial Priority Corridor 2 (PC2) which stretches from eThekweni to the Msunduzi Municipality and through to the uMgeni Municipality. There are two secondary corridors impacting on the municipality, namely the Kokstad- uMzimkulu- Msunduzi and Msunduzi- Nkandla- Ulundi corridors.

IMPLICATIONS FOR THE SDF

- The Msunduzi area is identified as a *provincial tourism priority areas* as part of the greater Durban and Pietermaritzburg area. The SDF seeks to develop this further.
- In terms of industrial development, the corridor linking the two nodes of Pietermaritzburg and Durban, and extending to Howick, form a primary zone of

- industrial potential. The SDF seeks to develop this further.
- In terms of the tertiary/ service sector, the Msunduzi municipality is identified as a second order node. It is also noted that such nodes are vital to supporting development in poor rural areas. The SDF builds on this.

2.1.12 White Paper on Spatial Planning and Land Use Management

The Minister of Land Affairs, as the Minister responsible for land, proposes to introduce new legislation to parliament that provides a uniform, effective and efficient framework for spatial planning and land use management in both urban and rural contexts. This legislation will clear up the extraordinary legislative mess inherited from apartheid in this area of governance. The most dramatic effect of the White Paper is that it will rationalise the existing plethora of planning laws into one national system that will be applicable in each province, in order to achieve the national objective of wise land use.

The main elements of the new system proposed in the White Paper are as follows:

Principles. The basis of the system will be principles and norms aimed at achieving efficiency, equality, sustainability, fairness and good governance in spatial planning and land use management.

Land use regulators. The White Paper proposes a category of authorities able to take the different types of decision falling into the realm of spatial planning and land use management: land use regulators.

IDP-based local spatial planning. This element is of most use to this study. The White Paper spells out the minimum elements that must be included in a spatial development framework. It also proposes that the spatial development framework operate as an indicative plan, whereas the detailed administration of land development and land use changes is dealt with by a land use management scheme, which will actually record the land use and development permissions accruing to a piece of land. The inclusion of the spatial development framework, with a direct legal link to the land use management scheme, is an essential step towards integrated and coordinated planning for sustainable and equitable growth and development.

A uniform set of procedures for land development approvals. Where a proposed development is not permissible in terms of the prevailing land use management scheme, then permission is required from the appropriate land use regulator.

National spatial planning frameworks. In order to achieve more integrated and coordinated spending of public funds it is proposed that the Minister, in consultation, with cabinet, is able to prescribe national spatial planning frameworks around particular programmes or regions.

- IMPLICATIONS FOR THE SDF**
- This document is still a white paper and has no legislative status. Once adopted, the SDF has been aligned with its overall objectives and principles and will thus be in compliance.

2.1.13 Social Housing Policy

The primary objectives of the Social Housing Programme include;

- Contributing to the national priority of restructuring South African society in order to address structural, economical, social and spatial dysfunctionalities and imbalances to achieve Government's vision of an economically empowered, non-racial, and integrated society living in sustainable human settlements.
- Improving and contributing to the overall functioning of the housing sector and in particular the rental sub-component, as far as social housing is able to contribute to widening the range of housing options available to the poor.

The most important elements of urban restructuring include;

(i) Spatial Restructuring

Spatial restructuring is necessary to address the needs of the urban poor (most black), who are located far away or completely excluded from the economic opportunities. The majority of these people also have limited or inadequate access to housing. Therefore; it is necessary to restructure the city by means of identifying appropriately located land for the provision of social housing, where places work, live, and play can be created, whilst integrating parts of the city that were disintegrated due to past practises.

(ii) Economic Restructuring

Economic restructuring will occur when social housing is used as a tool for economic revitalization of poorly performing cities or towns. Introduction of social housing in economically underperforming cities has had a positive impact in a number of cities world-wide. The number of fully completed houses will determine the scale and number of sustainable jobs created during construction. The end result will be an empowered population, which is able to use the building skills to make a living whilst creating sustainable human settlements.

(iii) Social Restructuring

Social housing can be used as a tool to create stable social environments that integrated with rest of the city or urban area. This also means the creation of a "sense of place" where residents have a sense of belonging and feel secured.

Social housing can also be used to achieve social integration amongst people of different racial groups and backgrounds.

The Guiding Principles for Social Housing include;

- Promoting urban restructuring through the social, physical, and economic integration of housing development into existing areas.
- Promoting establishment of well-managed, quality rental housing options for the poor.
- Responding to local housing demand.
- Delivering housing for a range of income groups, in such a way as to allow social integration and financial cross subsidisation.
- Supporting the economic development of low income communities in a number of ways.
- Fostering the creation of quality living environments for low-income persons.

- Promoting a safe, harmonious, and socially responsible environment both internal to the project and in the immediate urban environs.
- Promoting the creation of sustainable and viable projects.
- Encouraging the involvement of private sector where possible.
- Facilitating the involvement of residents in the project and/or key stakeholders in the broader environment.
- Ensuring secure tenure for the residents of projects, on the basis of the general provisions for the relationship between residents and landlords as defined in the Housing Act, 1997 and the Rental Act, 50 of 1999.
- Supporting mutual acceptance of roles and responsibilities of tenants and social landlords, on the basis of the general provisions for the relationship between residents and landlords as defined in the Rental Act, 50 of 1999, the Co-operatives Act, 91 of 1981c, as well as the Social Housing Act, 16 of 2008.
- Facilitation, support and driven by all spheres of government.
- Ensuring transparency, accountability and efficiency in the administration and management of social housing stock.
- Promoting the use of public funds in such a manner that stimulates and/or facilitates private sector investment and participation in the social housing sector.
- Operating within the provisions of the Constitution, 1996, the Public Finance Management Act, 1 of 1999, the Preferential Procurement Policy Framework Act, 5 of 2000, and other statutory procurement prescripts.

IMPLICATIONS FOR THE SDF

- The SDF needs to identify appropriately located land for social housing developments close to employment opportunities.
- The SDF must be consultative to ensure that its proposals address the real needs of communities.
- Identify slum areas that need to be upgraded and eradicated.
- The SDF needs to ensure that the spatial, economical, and social integration is achieved.
- The SDF needs to identify and promote areas of high density to reduce costs of providing services.

2.2 Existing Local Policies and Plans

2.2.1 Msunduzi IDP (2006-2011); Revised IDP for 2009/10

The Msunduzi IDP identifies goals for the city, some of which have spatial implications. The goals for the city are summarised below:

- To promote integrated development in a consultative manner through provision of sustainable services and infrastructure and optimal utilisation of resources between sectors, geographical areas and communities in line with the Provincial Growth and Development Strategy.
- To promote sustainable and equitable development in order to perform above the national and economic development indicators.
- To eradicate poverty, through sustainable service delivery and by creating employment opportunities to realise the millennium goals with particular focus on addressing gender imbalances and youth disparities.
- To provide sustainable and developmental finance through sound financial management.

- To promote health and safety and a caring environment guided by Local Agenda 21 Principles and Processes.
- Promote the City Heritage and enhance sustainable tourism.
- To promote sound governance in accordance with the King II and III Report.
- To promote and maintain infrastructure assets.
- To promote and enhance E-Governance.

The guiding principles that underpin all the development activities identified in the IDP include:

- Sustainability;
- Strategic focus;
- Participation;
- Transparency;
- People centred;
- Promotes transformation;
- Customer focussed;
- Integration and alignment;
- Democratic;
- Implementation orientated;
- Accountability; and
- Promotion of cooperative governance.

2.2.2 The Current Spatial Development Framework

2.2.2.1 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.

2.2.2.2 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

- (j) the integration of social, economic, institutional and physical aspects of land development.
- (viii) the historically distorted and fragmented spatial patterns of the city and its settlement.
- (ix) the development of a more compact city and the improvement of linkages to support an efficient and effective city.
- (x) accessibility to social and economic opportunities.
- (xi) the management of development by identifying areas for investment or upgrading to create unique places.
- (xii) a framework promoting diverse combination of land uses, supporting the growth and investment potential within the urban system.
- (xiii) improving the distribution of services and facilities, especially to areas which are under provided, “

2.2.2.3 The Main Guiding Principles

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

- (vii) Compaction,
- (viii) Integration,

- (ix) Densification,
- (x) Restructuring the city,
- (xi) Meeting the land use needs, and
- (xii) Identification of areas of Economic Development Potential

2.2.2.4 The Spatial Goals

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

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

2.2.2.5 The applicability of the Principles and Goals

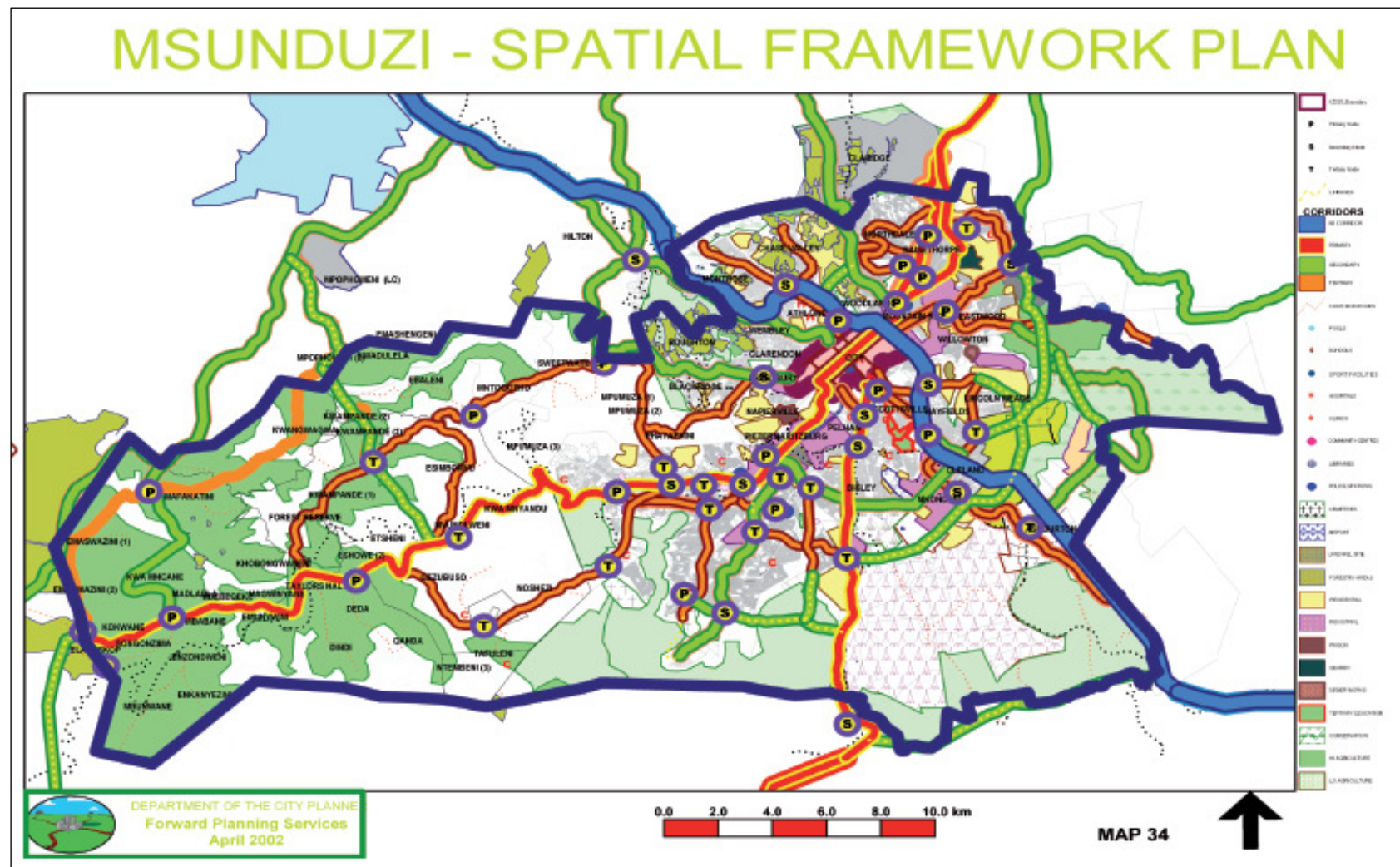
A major shortfall of the current SDF is that it does not provide any details of how the proposed concept is applied in order to adhere to the guiding principles, as well as how the spatial goals will be achieved. It simply acknowledges some of the SDF structuring elements and immediately proceeds to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

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) • Bishopstowe
Tertiary Nodes	<ul style="list-style-type: none"> • KwaMpande (in Vulindlela) • Gezubuso (in Vulindlela)

	<ul style="list-style-type: none">• 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
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Figure 3: Current Spatial Development Framework (2002)



Source: Msunduzi Municipality IDP Review 2007/08

2.2.2.6 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.

2.2.3 District SDF Guidance Framework for Local SDFs

The following section is referenced from the revised UMgungundlovu Spatial Development Framework (SDF) of 2007 which sets out a Guidance Framework for the formulation of local municipality SDFs. The purpose of the framework is to ensure that there is vertical alignment between planning initiatives in the District.

2.2.3.1 Elements of the Framework

The framework consists of seven (7) elements, namely:

- Development Concept;
- Development Nodes;
- Development Corridors;
- Agriculture and Land Reform
- Environmental Considerations and Water Management;
- Land Designations and Linkage to Local LUMS; and
- Bulk Infrastructure

The District SDF provides an indication of how these elements should be interpreted by the local municipalities. An outline of the interpretation of these elements is provided below, as follows:

(i) **Development Concept**

The concept of a hierarchy of nodes connected by a system of corridors is suggested.

(ii) **Development Nodes**

It is suggested that development nodes are a reflection of areas with potential for economic development, where a range of services are provided. The identification of nodes at a local level should form a similar methodology as that of the district however; the hierarchy of the nodes should be

considered in the local context and influenced by local dynamics. Further, at a local level where nodes are identified, these should be clearly demarcated on a cadastral base in order to;

- Optimise the use of existing bulk infrastructure and social facilities;
- Discourage urban sprawl;
- Ensure compact and efficient urban areas;
- Protect agricultural land with high production potential;
- Provide guidance to both public and private sectors investors;
- Promote economic, social and environmental sustainability; and
- Accommodate reasonable future demand for development.

McCarthy (2007) in Uddi (2007, p74) identifies the fact that the DM sees the N3 intersection points as key economic drivers, specifically in terms of the PC2 Corridor from eThekweni- Msunduzi- uMgeni. He also notes that the issues of corridors cannot and should not be limited to the N3 alone. A full report by McCarthy is Annexed to this document as Annexure

The following points are also noted:

- A hierarchy of nodes and corridors is needed, with the N3 National and Provincial priority corridor as the apex of that hierarchy in terms of its ability to generate growth and employment, which is at the same time accessible to people in some of the fastest growing and yet poorest population areas of the DM (ie. Mpofana).
- The Msunduzi municipality is, and will always remain, the primary node, and that almost all DM corridors will inevitably be arranged to either traverse it, or provide cross-linkages between each other on its periphery.
- Agriculture is an important employment bedrock for all the inter-nodal zones, especially to the south and west of the DM, and the viability of tertiary and rural nodes are closely linked to this sector's health and well-being.
- Probably the most important, most economic growth and new jobs (probably 90% of such), will derive in the DM from non-agricultural and non-primary sectors including services, manufacturing, construction and tourism. It is also most likely that these will be located along the provincial priority corridor, or along the DM's primary corridor.

The following settlement hierarchy is identified:

Table 2 :uMgungundlovu Settlement Hierarchy

LEVEL OF NODE	NAME
Primary	Pietermaritzburg
Secondary	Hilton/Howick
Tertiary	Richmond Camperdown New Hanover/ Wartburg Mooi River
Rural	Edendale Impendle Nottingham Road Rosetta Dalton/ Cool Air

(Source; uMgungundlovu SDF, 2007)

(i) **Development Corridors**

The main objectives of development corridors is to achieve integration, improve access and provide investment opportunities whilst correcting imbalances created by the apartheid planning system. It is suggested that through the use of development corridors, previously segregated areas can be connected and opportunities created for economic development in previously disadvantaged communities and the identification of alternative development axis.

(ii) **Agriculture and Land Reform**

The District SDF suggests that local level SDFs should clearly identify areas of agricultural importance and that these areas be properly managed. It also suggests that land reform programmes be accommodated at appropriate locations and that the outcomes of the Area Based Initiatives of Department of Land Affairs be incorporated.

(iii) **Environmental Considerations and Water Management**

At a district level, the C-Plan and Minset data has been used to identify areas of environmental significance however; at a local level these have to be refined through detailed analysis in the Strategic Environmental Assessment, Environmental Management Plan, and Environmental Management processes.

As far as water management is concerned, the district is identified as a significant water producing region therefore; the impact of development on water quality and quantity will be an important consideration. It is suggested that local municipalities prepare Water Resources Management Plans as part of the IDP sector plans.

(iv) **Land Designations and Linkage to Local LUMS**

It is suggested that the SDF be sufficient and specific enough to guide investment and inform future land use decisions by means of land use designations. It should be noted that land designations do not automatically give development rights to the land. The local SDF will be the basis upon which the LUMS will be prepared.

(v) **Bulk Infrastructure**

The SDF should inform the local municipalities Capital Investment Programme as far as bulk infrastructure is concerned.

2.2.3.2 Transport / Movement infrastructure proposals

The following corridors have been identified:

Table 3: uMgungundlovu Road Hierarchy

LEVEL OF CORRIDOR	NAME
National Route/ Provincial Priority	eThekweni- Msunduzi- uMgeni (N3)
Primary	Camperdown- Umbumbulu- South Coast (R603) Eastern Cape- Richmond- Msunduzi – Greytown (R56) Msunduzi- Boston- Underberg (P7- 2) Howick- Boston- Underberg (R617)
Secondary	Mooi River- Greytown (R622) Mooi River- Rosetta- Howick (R103) Mooi River- Curry's Post- Howick Albert Falls- Wartburg- Tongaat (R614)
Transport Bypass/ Ring Road	The proposed ring roads are intended to: <ul style="list-style-type: none"> • Relieve the congestion along the N3 and within the grouped principal and primary nodes. • Address previous imbalances whereby areas such as Edendale are excluded from development. • Provide access to future residential extensions of the primary node. • Accommodate increased traffic in and around the primary node. • Improve linkages from Camperdown to Howick. • Provide the basic grid for mega-blocks to accommodate the expanding suburban centres to the south and south-east of the primary node. • Reserve future transport corridors.
Tourism Link Route Upgrade	The plan identifies several tourism link roads.

2.2.3.3 District SDF Elements applicable to Msunduzi

The District SDF applied the principles of the National Spatial Development Perspective (NSDP) and the Provincial Spatial Economic Development Strategy (PSEDS) to decide on its preferred SDF Development Concept. A comprehensive report titled; Development Corridor Concepts and the uMgungundlovu SDF Review, was prepared by Dr J McCarthy in 2007 and is annexed to this document as Annexure 1.

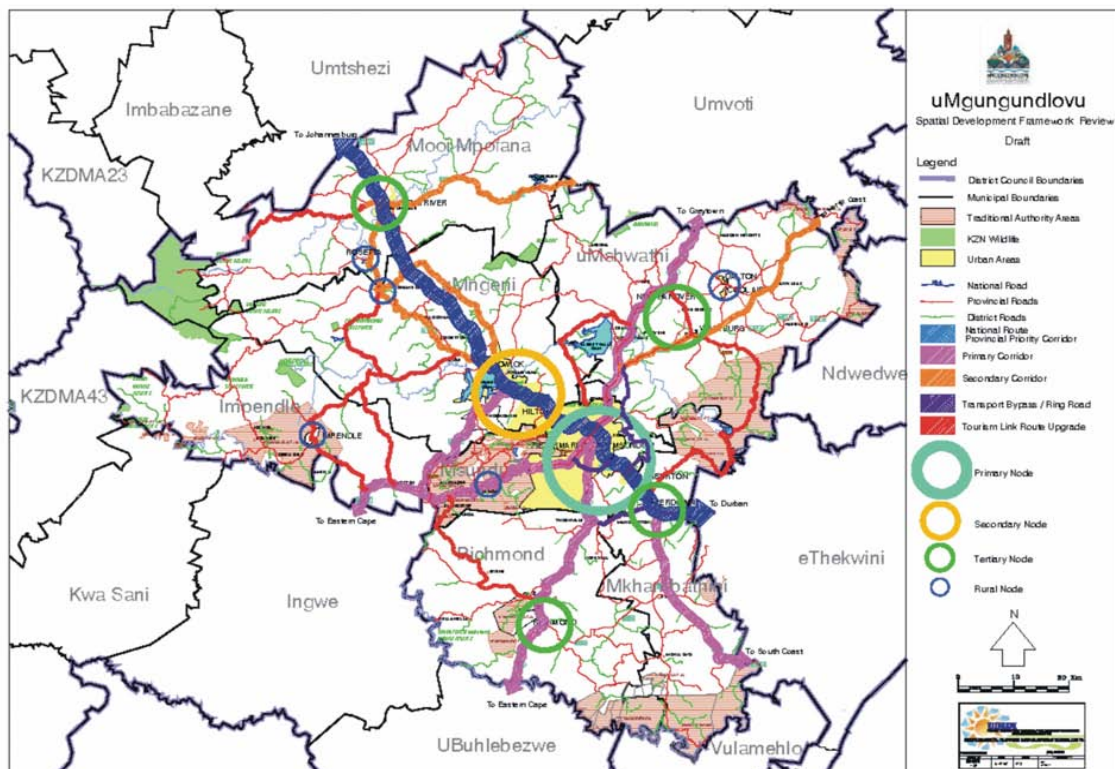
Some of the main elements of the District SDF are applicable to Msunduzi Municipality, these are tabled out below.

Table 4: Elements of uMgungundlovu District SDF

DISTRICT SDF MAIN STRUCTURING ELEMENTS	APPLICABILITY TO MSUNDUZI MUNICIPALITY
Primary Node: This is a centre with high levels of economic development and the potential for growth and expansion, serving the regional economy and beyond.	<u>Pietermaritzburg</u> / <u>Ashburton</u> / <u>Edendale</u>
Rural Nodes: These are centres which fulfil the function of a rural service centre to the surrounding area.	<u>Dalton</u> / <u>Cool Air</u> , <u>Impendle</u> and <u>Vulindlela</u> .
Provincial Priority Corridor (PC2): The PSEDS identifies industrial development and tourism development as key elements to economic growth. It identifies two provincial priority corridors, one of which, (code-named PC2) runs from eThekweni through Msunduzi to uMgeni and is the primary zone of industrial potential.	<u>Camperdown</u> – <u>Pietermaritzburg</u> – <u>Howick</u> (along the N3)

<p>Primary Corridors: The primary function of these corridors is long distance traffic movement, but development should be encouraged at appropriate locations along the corridors.</p>	<p>Eastern Cape – Richmond – Msunduzi – Greytown (R56)</p> <p>Camperdown – Umbumbulu – South Coast (R603)</p> <p>Msunduzi – Boston – Underberg (P7-2)</p> <p>Howick – Boston – Underberg (R617)</p>
<p>Ring Roads: The idea of ring roads refers to proposed Highway scale ring roads around the central city core.</p>	<p>The proposed ring roads are intended to:</p> <ul style="list-style-type: none"> • Relieve congestion along the N3 and within the grouped principal and primary nodes • Address previous imbalances whereby areas such as Edendale were excluded from development • Provide access to future residential extensions of the primary node • Accommodate increased traffic in and around the primary node • Improve linkages from Camperdown to Howick • Provide the basic grid for mega-blocks to accommodate the expanding suburban centres to the south and south east of the primary node. • Reserve future transport corridors.

Figure 4: uMgungundlovu District Municipality Spatial Development Framework



(Source; uMgungundlovu SDF, 2007)

2.2.4 Managing Change in the Pietermaritzburg CBD

In 2002, the Msunduzi Municipal Council commissioned a study into “*Managing Change in the Pietermaritzburg CBD*”. The aim of the project was to assist Council with the preparation of a central business district revitalization strategy - for inclusion into the municipality’s “Local Government Restructuring Grant” application to the National Treasury.

In terms of the project scope, the “Proposal Call” stated that:

“The Msunduzi Municipality wishes to initiate and support quality jobs throughout the municipal area. To cultivate and grow Msunduzi’s quality of life, there is a need for sound infrastructure as the core of the strong business community. A clean vibrant central business district is considered necessary to anchor the city’s reputation of being a great place to do business. Prospective companies looking to move, expand or relocate to the Msunduzi area will need to find resources and materials necessary to ensure success. The Msunduzi Municipality intends reviewing its existing policies and practices to support the revitalization of the central business district”

The “Proposal Call” also stated that study should include the following:

“Analysis of the current situation with emphasis on the following:

- (i) Determination of the current status of business in the CBD.
- (ii) Determination of current needs.
- (iii) Identification of current incentives.
- (iv) Determination of levels hardship.
- (v) Identification of levels of service.
- (vi) Current policies.

The study should also provide a description of future requirements and programs that would provide the following:

- (i) Repair and replace damaged and destroyed commercial space.
- (ii) Upgrade existing commercial space.
- (iii) Create multi-family residential rental and retail development.
- (iv) Provide modern office space for businesses.
- (v) Attract new residents and employers and to encourage environmentally responsible design and construction.
- (vi) New developments

This study identified a number of key issues with strategies in terms of 4A’s (ie; Access, Attractions, Amenity, and Action) some of which have spatial implications, these include;

KEY ISSUES	STRATEGIES
ACCESS	
Enhance national, regional and local physical accessibility, particularly from the N3.	Improve road network by extending existing roads and establishing key linkages.
Improve the existing road network and establish additional linkages to surrounding areas.	Promote road networks that link the city strongly to its corridors and nodes.
	Take advantage of the N3 and establish key linkages giving direct access into the Central Area.
	To promote linkages and accessibility within the CBD.

<p>Improve CBD vehicle traffic flow/circulation and control/enforcement.</p> <p>Upgrade existing public transport services and facilities and provide additional services and facilities.</p>	<p>Promote an efficient traffic movement system. To create taxi holding areas for taxis outside of the main transport movement system to open up parking for business and enhance traffic flow.</p> <p>Establish, upgrade and improve transport transition nodes in the Central Area.</p> <p>Promote mixed land uses at public transport transition nodes to better serve passengers.</p>
<p>Develop/enhance corridors linking the CBD with major nodes in surrounding areas.</p>	<p>Corridors need to be developed to their full potential to ensure an organic integrated development of the city with economic opportunities for all.</p>
<p>Improve conditions for pedestrians.</p>	<p>To promote a pedestrian friendly CBD.</p>
<p>Address parking concerns (problems being experienced in regard to parking system and negative perceptions regarding availability and convenience of parking facilities).</p>	<p>To provide affordable, convenient, and secure parking facilities.</p>
KEY ISSUES	STRATEGIES
ATTRACTIONS	
<p>Facilitate the recycling/use of old/vacant buildings.</p> <p>Promote the maintenance of existing buildings.</p> <p>Promote the availability of a wider, improved range of government facilities and services.</p>	<p>Promote optimal use of vacant or unused buildings / structures.</p> <p>Facilitate necessary upgrading aesthetics and maintenance of buildings.</p>
<p>Formalise and support the informal trading sector.</p>	<p>Support, improve and upgrade SMME's, emerging businesses, and informal traders.</p>
<p>Upgrade/beautify existing Public Open Spaces and promote environmental management.</p>	<p>Promote Environmental Conservation.</p> <p>Promote Environmental Management.</p> <p>Balance architectural enhancement with creation of more green lungs.</p>
<p>Develop new attractions - undertake lead projects (e.g. Freedom Square, Dorpspruit Waterfront Development).</p>	<p>Develop a catalytic urban spaces project that will trigger a range of secondary projects including Urban Renewal.</p> <p>Further development of Church Street Mall as an important urban space.</p> <p>Create sustainable human spaces / environments within the CBD.</p>
<p>Promote tourism further (in particular in relation to the rich cultural and heritage history and unique blend of pioneering, colonial and contemporary history).</p>	<p>Re-establish the Freedom Experience concept as a tourism product worthy of investment.</p> <p>Identify CBD based attractions/sites that should be linked to the Freedom Experience.</p> <p>To develop as a Gandhi presentation centre</p> <p>To develop as pick up/drop off site for heritage rail and railway enthusiasts.</p> <p>To promote city as an events destination.</p> <p>To develop a definitive plan which focuses on tourism management, destination marketing and the</p>

	<p>development of the tourism plant of the city as a whole.</p> <p>Integrate various histories relating to the CBD and enhance the experience of each for the user.</p>
Facilitate the provision of social welfare facilities and services for street children, the homeless and other vulnerable groups.	To provide shelter for homeless people.
Retain existing residential areas and develop a range of quality, inner city housing opportunities.	<p>To facilitate the development of a range of housing from low to upper income together with attendant amenities and mix of commercial uses to bring the central area to life.</p> <p>Develop viable economic models for housing development and promote it as an investment to developers.</p> <p>Promote conversion of vacant office and retail space for housing where appropriate.</p>
Retain existing commercial/retail uses and encourage a wider range of commercial/retail uses.	Retail and commercial core to be expanded and focused along the main central activity spine of the central area.
<p>Undertake CBD promotion and marketing.</p> <p>Promote the CBD (available space; attractions, commercial/retail outlets) and enhance its image.</p>	<p>Promote the city as an eco-tourist, historical, and Capital city.</p> <p>Re-evaluate the present grant-in-aid for destination marketing in conjunction with the suggested organisational/proposed Tourism Management Plan.</p>
Develop distinct precincts (including "traditional shopping" precincts; the mall; the legislative precinct; and the parliamentary precinct).	Identify strategic precincts and develop these by preparing and implementing detailed plans.
Provide additional leisure and recreational/cultural facilities.	<p>To develop and promote leisure and recreation facilities.</p> <p>To develop economic models that sustain leisure and recreational facilities.</p>
<p>Facilitate the preservation/upgrading of old buildings which have historical/ architectural merit.</p> <p>Promote the maintenance of existing buildings.</p>	<p>To build and develop the existing rich fabric of the city.</p> <p>Promote incentives for urban conservation.</p>
Promote a range of strategic economic sectors.	Promote diversification of economic sectors.
KEY ISSUES	STRATEGIES
AMENITY	
Improve waste management.	Good waste management would benefit the city and is the primary strategy for city development.
Improve safety and security.	Develop a zero tolerance crime strategy.
Upgrade existing, and develop new, convenient public facilities.	<p>To upgrade and maintain existing facilities, as well as develop new ones.</p> <p>Develop proper facilities for street markets such as toilets, waste removal and storage facilities.</p>

KEY ISSUES	STRATEGIES
ACTION	
Provide an enabling environment - review policies, bylaws and financial incentives; provide a one-stop advice centre; and review the Planning Scheme.	<p>Maximise development and develop Pro-business approach.</p> <p>Update the Land Use Management Use System.</p> <p>To develop enabling legislation that unlocks the full potential of the Central Area and integrates the city as a whole.</p> <p>Update Bylaws.</p>
Enhance city management (e.g. undertake project co-ordination and implementation; enforcement of policies and bylaws; political leadership; and funding commitment).	Ensure proper project implementation.
Enter into strategic partnerships with the private sector (BIDs).	Encourage establishment of formal structures,
Facilitate public participation in relation to CBD issues, provide information and undertake ongoing communication in relation to managing change in the CBD.	Set up public participation structure.

2.2.5 Inner City Residential Strategy

In 2004, the Msunduzi Municipality initiated the preparation of the Inner City Residential Strategy which was in response to the recommendations made in its Managing Change in the Pietermaritzburg CBD study, with the primary aim to:

- Determine the current status of residential developments within the inner city;
- Identify multi-functional areas combining residential community amenities and commercial uses.
- Prioritize residential development areas.
- Identify vacant retail and office space suitable for residential development in the Central Area.

The study identified key issues and linked objectives with appropriate strategies.

These include;

- **KEY ISSUE:** DETERIORATING, DERELICT & DANGEROUS BUILDINGS; There are numerous derelict buildings and some are dilapidated, whilst there is an evident increasing number of buildings that are in the process of deteriorating. Other buildings have deteriorated to the extent that they are no longer habitable.

OBJECTIVE: To refurbish deteriorated, derelict, and dangerous units.

STRATEGY: The Council in partnership with the CIDS, major Property Owners, Business, and Banking and Building Institutions, will establish “Izakhiwo Zethu” Program (*“Our Buildings”*). The program will focus on the inner city’s buildings, with the aim of attracting business and investors back to the Central Area. It will also promote city living and encourage improved inner city housing developments.

- **KEY ISSUE: INNER CITY NEIGHBOURHOODS;** There is an evident loss of community identity and character, as well as the concept of inner city neighbourhoods.

OBJECTIVE: To create a stronger community identity within the central area and develop a more attractive and aesthetically pleasing central area that instils civic pride.

STRATEGY: The Council in partnership with the CIDS, Property Owners, Business, and Banking and Building Institutions, will establish “Ekuhlaleni” Program (*“Our Neighbourhoods”*). The program will focus on the inner city’s neighbourhoods, where an environment of attractive city living is created.

- **KEY ISSUE: HISTORIC HERITAGE;** The City has the potential to sell itself as one of the few remaining European Cities in Africa. It is believed to be the only in the southern hemisphere, however this important historic heritage is being lost as a result of illegal conversion of listed buildings.

OBJECTIVE: To preserve the historic heritage of the Central Area of Pietermaritzburg.

STRATEGY: The Council in partnership with the CIDS, AMAFA, Property Owners of Listed Buildings, and Business, will establish “Siyonga” Program (*“We are Preserving”*). The program will focus on preserving the historic heritage of the Central Area, whilst creating a vibrant African City.

- **KEY ISSUE: VACANT AND UNDERUTILIZED BUILDINGS;** There are a number of vacant and under utilized buildings that have potential for more useful occupation.

OBJECTIVE: To use all of the Central Area’s buildings to their fullest potential where appropriate.

STRATEGY: Identify buildings that are vacant and in the process of deteriorating and make recommendations on how to best use such buildings.

- **KEY ISSUE: VACANT LAND AND UNDERUTILIZED SPACE;** The Central Area has vacant pockets of land, which provides potential for brown-fields developments, where appropriate social housing could be encouraged. In certain instances the land is under utilized providing potential for infill developments.

OBJECTIVE: To use all of the Central Area’s land to its fullest potential in a sustainable manner, through the densification process.

STRATEGY: Identify vacant pockets of land that have potential for social housing developments in order to address housing backlog whilst strengthening the concept of inner city neighbourhoods.

- **KEY ISSUE: ASHE ROAD INFORMAL SETTLEMENT;** The Ashe Road informal settlement at the periphery of the inner city is undesirable due to its location on the banks of the Dorpspruit River and its visibility from the N3. It is a potential flood hazard for the residents, environmentally unsound, and is not aesthetically pleasing to passer-by’s.

OBJECTIVE: To promote improved city living conditions in a sustainable manner.

STRATEGY: There is a need for Council to pursue the upgrading of the Ashe Road informal settlement and to consider negotiating with residents regarding relocation.

2.2.6 CBD and Central Area Local Development Plan

Numerous strategies were identified as part of the LDP (1998) process, some of which have spatial implications and are relevant to the SDF. The list indicated below is not all encompassing but highlights some of the strategies identified that have spatial implications:

- The identification of city improvement districts (CID's) and facilitation for activating the CID's;
- Promote incentives for urban conservation;
- To develop harmonious environments where modern and historic buildings are integrated;
- The need to carry out an audit of man made and natural elements worthy of preservation;
- Balance between conservation and development;
- Promote the city's corridors to the benefit of the central area;
- To support and promote development that revitalises and grows the central area;
- The marking of pavement areas for informal stalls and the provision of appropriate street furniture;
- The promotion of housing in the central area;
- Traditional mixed use housing areas in the city to be revitalised;
- Promote densification of land for housing;The development of a riverside trail around the city;
- The identification of strategic environmental precincts and developing these by preparing and implementing detailed plans;
- The development of Business Improvement Districts (BID's) and City Improvement Districts (CID's);
- The development of a Metropolitan Open Space System (MOSS) linking hiking trails, water courses, conservation areas, parks and cultural heritage resources as an integrated open space system;
- The development of catalytic urban spaces that will trigger a range of secondary projects including urban renewal;
- The definition of an interlinked hierarchy of public spaces, precincts, squares, markets, streets, parks and promenades;
- The development of the Msunduzi river as a multi-functional open space which is integrated with the city fabric;
- The development of a hierarchy of primary, secondary and tertiary road networks;
- Taking advantage of the close proximity of the N3 to the central area and the establishment of key linkages giving direct access into the central area;
- The promotion of road networks that link the city to its corridors;
- The promotion of parking garages at strategic locations;
- Undertaking commuter rail viability studies for the eastern and western areas;
- Retail and commercial core to be expanded and focussed along the main central activity spine of the central area; and
- Consolidate existing retail and other major land uses.

As indicated, these are not all of the strategies identified in the LDP. The ones selected have a spatial implication and will be considered in the formulation of the Msunduzi SDF.

2.2.7 Metropolitan Pietermaritzburg Retail Study

This study was prepared in 1993 to:

- Create a framework for understanding the changing nature of retail systems;
- Present proposals for a retail policy for the Pietermaritzburg Metropolitan Area (PMA); and
- To suggest appropriate parking standards for large multi-use complexes such as neighbourhood, community or regional shopping centres.

The study area included municipal Pietermaritzburg, Edendale, Edendale East, Vulindlela, Foxhill and Shenstone/ Ambleton, Hilton, Mount Michael and Ashburton.

The study identifies the following:

- A desirable overall development pattern for the metropolitan area, including:
 - Creating opportunities for the emergence of an outer axis structured along the current Eastern boundary of the then Pietermaritzburg Borough.
 - Strengthening the major development axis (Northdale-CBD-Edendale Corridor).
 - Supporting the evolution of a strong south-east axis.
 - Increasing residential densities.
- The establishment of an appropriate retail hierarchy, including:
 - Identifying the role of the central area.
 - Identifying the role of the suburban community and neighbourhood centres.
 - Identifying the role of convenience shopping clusters.
- What was termed “filling the retail gaps”.

Broad spatial policy guidelines identified include:

- Retaining the central area which fulfils the functions identified in the plan within the context of a generally more competitive retail environment.
- Encouraging decentralised retail developments in the form of community level centres with the aim being to satisfy consumer needs in decentralised areas and to promote city building, in particular the consolidation of the major development axis.
- Encourage the widespread establishment of local convenience shopping clusters which supply the daily needs of nearby residents.

The report also makes the following:

- Broad spatial policy guidelines;
- Spatial policy proposals of a general nature; and
- Specific policy proposals for the central area and development corridors.

2.2.8 Northdale/ Edendale Public Transport Corridor Study

This study (2006) is a work in progress and identifies land uses in pre-defined areas that can act as catalysts to stimulate future development. The outcomes of this study will be aligned with the SDF.

The main objectives of establishing this corridor are the following:

- Greater Edendale-CBD-Northdale corridor will see public transport facilities upgraded which would be in preparation for the implementation of the taxi recapitalization program in KwaZulu-Natal. This will result in a more efficient transportation system. A key feature will be the construction of a Central Public Transportation Interchange in "Freedom" Square.
- Fundamental restructuring of public transportation in the Msunduzi area, with a particular focus on creating attractive and user-friendly public facilities as well as the transformation of the minibus-taxi industry.
- Commuters and other users of public transportation will enjoy an improvement in the level of service with emphasis on fare stabilization, reduced journey times, and extended hours of operation.
- The promotion and support of non-motorized forms of transportation will be provided for that is walking and biking.
- Local economic development will be stimulated with the key focus being on inner-city renewal, job creation and poverty alleviation.
- Community interaction would be revived and bridged.
- The key elements of the public transportation corridor will be the following:
 - Upgraded public transportation facilities and infrastructure,
 - Public transportation vehicles given priority over private vehicles,
 - Sidewalks and bikeways provided for pedestrians and cyclists,
 - Urban renewal, community revival and job creation through the establishment of multi-purpose community centers, and adoption of a labour-intensive approach in undertaking some parts of the project.

2.2.9 Cemetery Development Plan

The cemeteries and crematoria plan was prepared by the uMgungundlovu District Municipality in 2002 with the main recommendations being contained in the proposed project lists. The plan proposed that these projects be implemented on a phased basis to address the problems in terms of urgency of community needs.

The Mkhambathini and Richmond municipalities were identified as Phase 1 interventions whereas two interventions in the Msunduzi municipality were identified as part of Phase 2, namely:

- A centralised LM cemetery that also provides the centralised DM cemetery facility in Pietermaritzburg; and
- A second cemetery to service the southern and south-western communities of the Msunduzi municipality.

The main implications for the Msunduzi municipality associated with the provision of cemeteries is the need to identify and earmark suitable sites. Associated infrastructure will also need to be planned for including access so as to allow for the successful operation of such a facility.

2.2.10 Integrated Waste Management Plan

The Integrated Waste Management Plan (2002) outlines short, medium and long term interventions for the DM. The short-term implications for the Msunduzi LM are summarised below:

- Waste minimization: the implementation of a hazardous household waste drop-off centre pilot project in the Msunduzi municipality;
- Landfill Site Waste Acceptance: the establishment of a strategic builders' rubble (construction/ demolition) waste centre in the Msunduzi municipality; and
- uMgungundlovu DM Regional Landfill Site Development- Phase 1.

The medium-term implications (5 to 10 years) 2008 – 2013 of the plan for the Msunduzi municipality are the Phase 2 developments of the uMgungundlovu DM regional landfill site, if this site is identified in the Msunduzi municipality. These include:

- Permit receipt followed by detailed design;
- Contract documentation, tender and award;
- The construction phase; and
- The commissioning phase and 6 months external audits (permit conditioning)

Other medium term interventions include those on the “Dense Settlements” where waste collection, transportation and disposal will be extended to the Inadi (I, II, and III), Ximba, Mpumuza (I and II) and Nxamalala settlements.

The implications of the long term plans of action (10 – 15 years) 2013 to 2018 for the Msunduzi municipality include part of the Phase 3 development of the uMgungundlovu DM regional landfill site, if this site is located in the Msunduzi municipality. Actions include:

- Site extension contract documentation, tender and award; and
- Development and commissioning.

Other long term implications of the plan for the Msunduzi Municipality include the formalisation/ development of communal landfill sites in the Baynesdrift F/A.

In addition to the issues outlined above, possible waste transfer stations, in support of the regional type facility, will need to be investigated further. This will likely take place during the review of the IWMP and once the outcomes of such an investigation are known, the spatial implications thereof will need to be incorporated into the SDF.

3.0 SITUATIONAL ANALYSIS: Informants

A comprehensive analysis of the physical environment was undertaken and published in a document "Pietermaritzburg Metropolitan Plan Volume 1 Physical Conditions". The objective of this analysis was to identify spatially the areas of the metropolitan region that are environmentally best suited for the location of selected land use activities. The section 3.1.1 LAND: Topography is sourced and based on the findings of this study.

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.

The most prominent topographical feature is an escarpment which forms an abrupt 400 – 600 metre vertical transition between the "Intermediate" and "Uplands" regions. The escarpment, which forms the watershed between the Msunduzi and Umgeni River catchments, extends in a crescent shape from Elandskop, situated in the south western portion of the region, to the upper reaches of the Rietspruit valley, situated in the north eastern portion of the region.

The main effects of relief will tend to be on soil depth and drainage. On steep slopes the natural rate of erosion is rapid so that deep soils are usually confined to the gentler slopes, while depressions and concave slopes tend to become seepage zones where a water table may develop. In much of the study area with its many areas of rugged topography it must be expected that rock outcrops and shallow soil depths will occur in such areas.

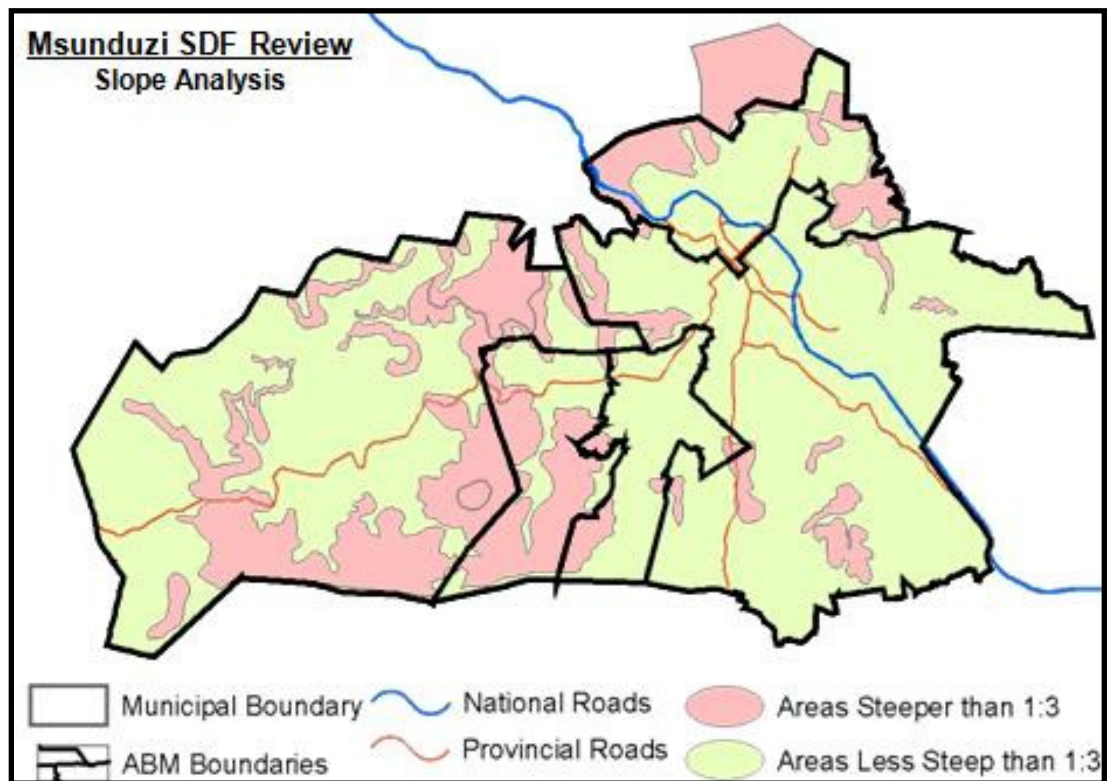
On the other hand, in very flat areas beside the larger streams where flooding occurs periodically, resulting in the deposition of alluvium, substantial areas of good alluvial soils may occur – as is indeed the case beside the Msunduzi river and several of its tributaries in the vicinity of Pietermaritzburg.

(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.

Flat topography having a gradient flatter than 1 metres in 3 metres (1:3) constitutes approximately 70% of the municipal area. At least 60% of this topography is concentrated in the former Pietermaritzburg Borough and its surrounds.

Figure 5: Slope Analysis showing areas steeper and flatter than 1:3



(3) Landform

Landform is also a major factor in determining land capability, mainly through the adverse effects of steep slopes and rock/stone outcrops which often cause land to have to be regarded as non-arable and hence land of low capability. Risk of flooding is another important consideration which is closely linked to landform.

The active nature of the clay soils found throughout the area can cause walls of buildings to crack unless appropriate foundations are constructed. One of the cheapest form of foundation which consists of brickwork laid on simple shallow non-reinforced cast strips. The engineering properties of some soils within the area require dwelling houses to be provided with deep strip, pile, beam or raft foundations. As these types of foundation can substantially increase building costs, consideration should be given to siting housing developments, particularly low cost housing schemes, in areas where simple relatively cheap foundations can be constructed.

The Metropolitan region has been graded into areas where the relative building foundation costs are likely to be “high”, “Medium”, and “low”. In the absence of comprehensive information concerning the plasticity index, shear strength properties and compressibility of the soils, the criteria used to determine these gradings was the percentage of clay found in the soils situated 0,6m to 1,2 metres below the surface. The depth of 0,6 metres was chosen as this is the normal founding level for simple strip foundations.

“High” cost foundations were considered to be required in areas where the clay content of the soil is greater than 55%, “medium” cost foundations where the clay content is 35 to 55% and “low” cost foundation where the clay content is less than 35 % or where simple strip foundations could be cast on the underlying bedrock.

In terms of these criteria the south eastern half of the Msunduzi River catchment is graded as requiring relatively low cost building foundations, whilst the northern half of the catchment and most of the Umgeni catchment is graded as requiring relatively “high” cost building foundations.

(4) Relative Urban Suitability

A composite plan has been prepared by superimposing the overlay plans which were generated through a process of grading and mapping the physical elements of the Metropolitan region. The plan should not be regarded as being definitive as it is intended that it be refined in relation to additional information and values.

The reservation and subsequent development of any of the areas identified as being suitable for a particular land use will also depend upon the resolution of economic, political and social considerations during the implementation plan preparation process.

The Metropolitan region has been graded into generalized areas of relative suitability for urban development. The gradings used are based on the following criteria:

Table 5: Land Grading Criteria

Grading		Criteria
Low	(i)	Land steeper than 1 : 4 (25 %)
	(ii)	Areas situated above the water supply limit
Medium / Low	(i)	Land flatter than 1 : 4 (25 %)
	(ii)	Areas underlain by talus
	(iii)	Areas outside the Msunduzi River Service Infrastructure Catchment and underlain by soils that are deeper than 600mm and have more than a 55 % clay content.
Medium	(i)	Land flatter than 1 : 4 (25 %)
	(ii)	Areas within the Msunduzi River Service Infrastructure Catchment that are underlain by soils that are deeper than 600mm and have more than a 55 % clay content.
	(iii)	Areas outside the Msunduzi River Service Infrastructure Catchment that are underlain by soils that are deeper than 600mm and have a 35 % - 55 % clay content.
Medium / High	(i)	Land flatter than 1 : 4 (25 %)
	(ii)	Areas within the Msunduzi River Service Infrastructure Catchment that are underlain by soils that are deeper than 600mm and have a 35 – 55 % clay content.
High	(i)	Land flatter than 1 : 4 (25 %)
	(ii)	Areas within the Msunduzi River Service Infrastructure Catchment that are underlain by soils that are deeper than 600mm and have a 35 – 55 % clay content.
	(iii)	Areas underlain by soils that are deeper than 600mm and have less than a 35 % clay content or where the soil depth is less than 600mm and the bedrock can be easily excavated for foundations.

In terms of these criteria the south eastern quadrant of the Metropolitan region is regarded as being the most suitable for urban development. Whilst a large portion of this quadrant has already been developed there is considerable potential for future urban development to the east, south east and south of the former Pietermaritzburg Borough.

The areas regarded as having the lowest suitability for urban development include large portions of Vulindlela, Greater Edendale and the extreme eastern portion of the Metropolitan region.

(5) **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.

The sandy and clayey shales, which form part of the Pietermaritzburg Formation (Ecca Groups) and Volksrust formation, underlie about 80 % of the region. Whilst they are easily weathered when exposed, their low porosity and permeability often causes high surface water runoff, especially in areas having a shallow depth of soil cover.

Soils derived from the process of weathering have accumulated at the base of escarpments within the region to form the talus geological formation. Extensive areas of talus are found in the Town Bush Stream Valley and the northern portion of Northdale within the Borough of Pietermaritzburg, the Sinathing River Valley within Edendale, portions of Vulindlela, particularly the Mpumaza ward near Sweetwaters, and in the vicinity of Otto's Bluff. These areas are generally unstable and subject to slumping.

(6) **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.

The depth of soil cover in the Msunduzi River catchment is generally shallower than in the Umgeni River catchment being 0,2 to 1,2 metres and 0,6 to 10 metres respectively. A notable exception is the area situated at the base of the escarpment where soil depths of up to 10 metres have been recorded.

The other main factor in determining land capability is that of the soil where factors like soil depth, texture, drainage and moisture holding capacity are all important characteristics. These, together with the landform characteristics of slope and rockiness, have been combined by the KZN Department of Agriculture into a Land Capability Classification system for use in the province (Manson *et al*, 1995).

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)

These sources of information, combined with the physiographic features indicate the following broadly similar agricultural climates:

Table 6: Summarised Mean Annual Climatic data for the main climatic units.

Climatic Unit	Rainfall (mm)	Temp. (°C)	Frost	Climatic limitations
Cool & very moist	>1 000	16	Light	Slight to moderate
Cool & moist	800-1 000	16	Light	Slight to moderate
Warm & moist	800-1 000	16-18	Light	Slight to moderate
Warm sub-humid	700-800	18	Occasional	Moderate to severe
Hot & dry	<700	19	Rare	Severe

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.

Such a sub-division is indicated by changes in the natural vegetation and current farming patterns and particularly the distribution of areas in which sugar cane is being grown (only in the moister sub-unit).

The temperature ranges and occurrence of frost given above are largely dictated by physiographic factors, mainly altitude. They will have an effect on the choice of crops. The climatic limitations are those as assessed by the Department of Agriculture in their bio-resource units (BRU) descriptions.

3.1.3 Vegetation and Natural Areas

The veld types corresponding to the foregoing climatic units are as follows:

<u>Climatic Units</u>	<u>Veld Type</u>
In the high, cool very moist climate	Moist Midlands Mistbelt
In the intermediate, moist climate	Moist Coast Hinterland
In the warm, sub-humid climate	Ngongoni Veld
In the warm-sub-humid climate	Dry Coast Hinterland
In the hot, dry valley climate	Ngongoni Veld
	Coast Hinterland Thornveld
	Valley Bushveld

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 so that the present grazing capacities will tend to be lower than the above.

It should 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.

A further analysis of these latter land uses is offered in the discussion on present land uses.

The natural vegetation tends to reflect this pattern with thorn bush in the drier climates giving way to grassland veld types in the moister areas and even patches of indigenous forest in places along the very moist scarp face. The natural vegetation has, however, been heavily modified by population pressures, urban development and the establishment of timber plantations.

3.2 Agriculture and Agricultural Potential

3.2.1 Review of present agricultural land use

Present agricultural land use in the study area is reviewed below in relation to the main administrative areas within the municipality as follows:

(i) The Northern areas

These are the areas north of the city from the N3 highway around to Bishopstowe. They include the very moist and moist climatic units where rainfall favours intensive agriculture but much of the land is very steep, including the major escarpment between the Howick and Pietermaritzburg benchlands, and hence with little arable land. Large parts of the area have also been developed as residential areas including the suburbs of Montrose, Oak Park, Chase Valley, Northdale, Bombay Heights, Raisethorpe, Copesville, Panorama Gardens and Eastwood.

Most of the remaining land is used for forestry or for recreational purposes, e.g. Queen Elizabeth Park nature reserve, while parts of the escarpment, where it is very steep, have been left under indigenous forest.

The only farmland in the area is confined to an area astride the Greytown road, and to the Bishopstowe area. In both cases sugar cane production is the main farming enterprise. In terms of land tenure these are freehold properties owned by commercial farmers, though many are quite small properties.

(ii) The Eastern areas

This area extends along the eastern boundary of the municipality from Bishopstowe to near Umlaas Road in the south. It consists of two distinct sub-units:

- the Bishopstowe area on the northern side of the Msunduzi river, where both altitude and rainfall increase quickly (from about 500 to 700m in altitude and from below 600mm to 832mm mean annual rainfall for the Bishopstowe BRU)
- the southern part of the Msunduzi valley which is lower (mainly below 700m) and drier with a mean annual rainfall for the Ashburton BRU of only 691mm.

The difference in climate is reflected in the pattern of agricultural land use even though both are commercial farming areas. Thus, whereas cropping, mainly to sugar cane, is the main farming enterprise in the Bishopstow area, the southern area is mainly used for livestock production with cropping being confined to a few small patches of irrigable land beside the Msunduzi River, the Mpushini River or close to existing farm dams. Much of the grazing land in the southern area consists of either planted pastures, on what was previously cultivated land, or former cultivated land which is now reverting to bush (thornveld) indicating that the farmers in these areas have realised that dry land cash cropping is not economically viable.

There are several large poultry farms in this area but mainly just to the east of the N3 which forms the Municipality's eastern boundary in this vicinity.

(iii) The Southern areas

This is the area to the south of the city from the Richmond road to Umlaas Road. It includes the residential suburbs of Bisley, Scottsville, Pelham, Epworth, Oribi, Cleland, Hayfields and Lincoln Meade as well as Mkondeni.

The farming area to the south of these suburbs is mainly rather higher than the above suburbs, much of it above 800m in altitude and receiving more rain (in the 750-800mm range) as compared to 738mm at Ukulinga (the University's research farm near Mkondeni). As a result there is more cash cropping in this area with sugar cane again becoming an important crop. There are also several large poultry farms in the area.

This is again a commercial farming area on freehold land, but with a large number of smallholdings.

(iv) **The Edendale and Imbali areas and the former farms of Ambleton and Shenstone**

At the time of the latest available aerial photography (20/7/2004) the farm Shenstone was still mainly being used as grazing land but Ambleton was then already mainly residential land. Shenstone had some good arable land along its southern edge, with favourable topography, deep loamy Hutton soils and a rainfall of about 830mm. It was previously planted to sugar cane. The northern part of the farm was mainly grazing land.

Greater Imbali and Greater Edendale are now mainly residential land with only a little grazing land still remaining in Greater Imbali. In the Greater Edendale area, the south-western corner of the property is under forestry with some, mainly very steep, rugged grazing land. Otherwise both areas appear to be fully allocated as residential land. There is thus very little scope for agriculture except, possibly, for the development of small community garden type projects in the valley bottoms of the Slangspruit, Wilgefontein and KwaPata streams and, possibly, in some of the alluvium in the Msunduzi valley.

(v) **The Vulindlela area**

This is by far the largest area and the one with the most varied pattern of land use, the main ones being:

- a. Residential land use, but in a more rural (now peri-urban) pattern of scattered settlements based on traditional and communal land tenure and administration.
- b. Grazing land, for use by the community as a whole.
- c. Arable land, mainly in comparatively large blocks but allocated to individual community members. These areas have recently, in many cases, been allocated, at least partially, as residential land as a result of increasing population pressure.
- d. Small irrigated gardens – usually run as community gardens.
- e. Timber plantations.
- f. Patches of indigenous forests, usually found on steep southerly slopes, especially along the main escarpment. **Shown on Map 2.**

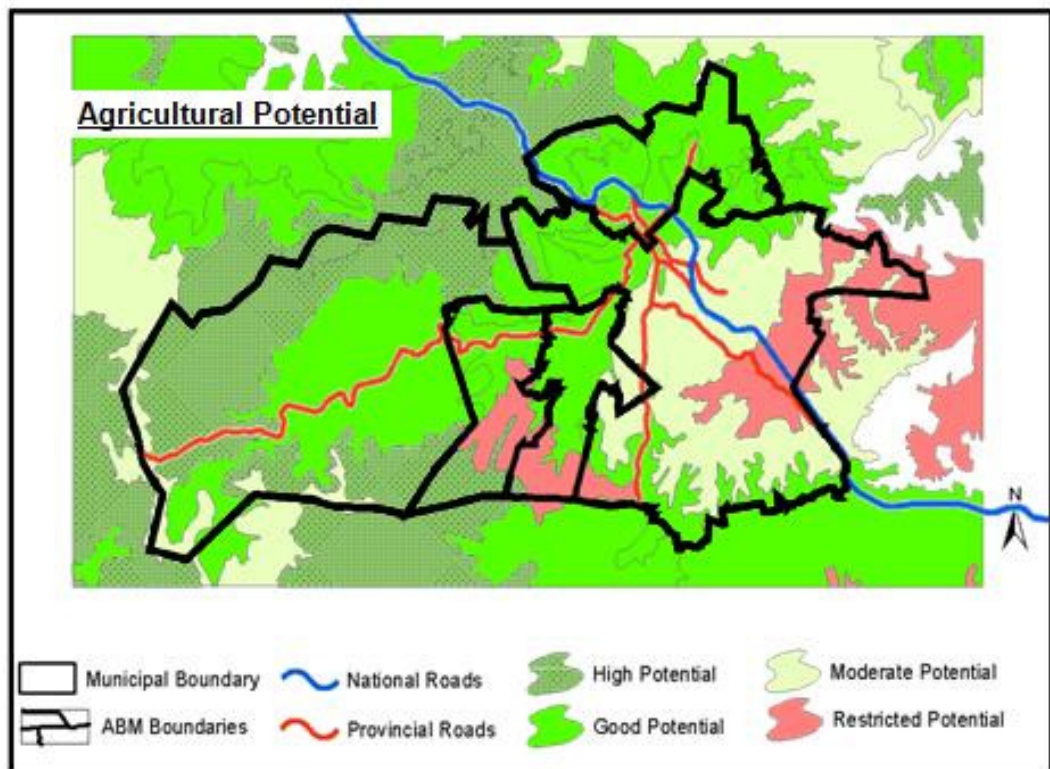
3.2.2 Factors affecting agriculture

This section of the report provides an overview of the present situation regarding agriculture in the area covered by the Msunduzi Municipality as shown on. In order to do this it is necessary to review: firstly, the agricultural resources available in the area and secondly, the existing patterns of land tenure and land use in the various parts of the area. From an agricultural point of view the main features of the study area are as summarised below:

5. **Physiography:** the diversity of the area, in terms of both landform and climate, because of the huge range in altitude from 500-1 500m, and the fact that the main variations in altitude are at right angles to the flow of incoming moisture from the sea. This results in very moist sea-facing slopes on rising ground but with hot dry northerly and westerly slopes in rain shadow localities.

6. **Climate:** As a result of the above most of the higher ground has a cool moist climate. Even at the lower altitudes the area to the north of the Msunduzi river has a mean annual rainfall in excess of 800mm. The south and south east, on the other hand, tends to be dry with a mean annual rainfall below 700-750mm. Dryland cropping then tends to be risky and non-viable economically.
7. **Soils:** These vary largely in response to changes in climate, relief and parent material; all three of which vary markedly within the study area. A more detailed analysis of soils and land capability is therefore being undertaken with those areas where agriculture is still possible in order to indicate areas for future development.
8. **Water supplies:** This is the other resource requiring more detailed investigation with particular attention to areas in Vulindlela, Edendale and Imbali, and also in the Ashburton area, where additional irrigation may be possible.

Figure 6: Agricultural Land Potential



3.2.3 Prime Agricultural Land Recommendations

In the more detailed investigations referred to above particular attention should be paid to urban agriculture and to the Vulindlela, Edendale and Imbali areas.

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.

3.3 Environmental Conservation and Open Space System

3.3.1 Environmental Overview

Spatial planning within Msunduzi is influenced by the escarpment, and hills which surround the city in the north east and west. Development on the escarpment and hills is limited due to the slope, however these areas provide opportunities for recreation and job creation. Beyond these limitations however; it is critical to identify important areas of environmental significance, to protect and preserve valued ecosystems, natural habitats and special case areas in order to minimise negative environmental impacts. Specific ecosystems and vegetation communities that require environmental management are wetlands, grasslands, and indigenous forests that contain the habitats of important species. It should be noted that environmental management need not be limited to protection or preservation but also areas may be identified for opportunities that a particular environment may provide such as the rehabilitation of wetlands, eco-tourism opportunities etc.

One of the development issues in the municipality is the promotion of LED therefore; it is essential that while accommodating these challenges, environmental assets associated with the municipality are not undermined. An integral part of ensuring this is the development of a Spatial Development Framework, based on a Local Environmental Analysis that will identify priority areas for management and types of use and suggest appropriate management techniques to ensure that environmental assets are not undermined during development.

Prior to formulating the SDF, it was necessary to undertake Environmental Inventory. As a basis to the SDF it was necessary to identify the natural resources within the municipal area and to make optimal use of those resources. An environmental Inventory assigned categories of importance to various ecosystems, to include the assessment of agricultural potential in rural areas to inform the SDF.

3.3.2 Methodology

A comprehensive land use was undertaken for the municipality (**see map 10**): This land use was determined through the analysis of digitally corrected photography of the municipality.

To better determine the Environmental Inventory this land use was then overlaid with Ezemvelo's KZN wildlife's MinSet data (**shown on map 3b & 3c**). Minset is a function or tool within C-Plan (Conservation Planning Software) that is used to identify a 'minimum set' of sites (planning units) that would fulfill the aim firstly of achieving the conservation targets within a number of constraints that can be set by the user e.g. avoid highly productive agricultural land, or land adjacent to major highways. It presents the most efficient solution to achieving conservation targets and other land use constraints. The Minset output map shows areas that are already protected, 'Mandatory Reserves' and 'Negotiable Reserves'. Mandatory reserves are those areas that appear as totally irreplaceable on the irreplaceability map, since there are no other alternatives for achieving the conservation targets. Areas identified as negotiable reserves are the areas that the Minset function returns as the most efficient for achieving targets and constraints. However there are alternatives to achieving the targets and constraints but with less efficiency, and hence the designation of this area is still negotiable.

In using the results of the Minset analysis for impact assessment and incorporating recommended areas into regional and local plans, planners need to proceed with caution. While mandatory reserves (totally irreplaceable areas) must be incorporated to meet conservation targets, negotiable reserves need not. However with respect to the latter, if an area is rejected for incorporation into the conservation network, landscape planning cannot end there. For the planning cycle to be completed in this respect, the planner must identify and recommend the incorporation of alternative sites that will allow the targets for the affected biodiversity assets to be satisfied. This will involve the rerunning of the Minset analysis with the initially excluded site removed from the analysis, and is what makes C-Plan a truly interactive and iterative planning tool.

By overlaying the two maps one is able to identify the untransformed land that falls within the categories of Mandatory and Negotiable reserves and in such a way identify the environmental priority areas.

These were determined as follows:

Priority 1: Zones that are spatially defined as those areas that are designated as non-negotiable reserves, in the EKZNW Min Set data set, and have a natural land cover. It therefore designates areas that are indigenous forests and grasslands or veld and have a high biodiversity value. These areas have the highest priority for environmental management and as such development within this designation should be low-key, highly environmentally sensitive and harmonious with the surrounding conditions.

Priority 2: Zones that are spatially designated as areas that have natural land cover and not designated as negotiable reserves. They are therefore areas of moderate biodiversity importance and still maintain natural ecosystem. Development in this zone should still be environmentally sensitive as it could be identified as mandatory reserve in future based on land transformation in the future.

Priority 3: Zones that are spatially designated as areas that have natural land cover but have no reserve status as per the EKZNW MinSet data set. They are therefore areas of low biodiversity importance but still maintain natural ecosystems. They therefore have a high functional importance as they provide ecosystems goods and services such as habitat, clean water, carbon sequestering or nutrient recycling. This zone focuses on ecosystem goods and services and as such activities impacting on the functioning of the ecosystems should be limited such as large scale clearance, water extraction, emissions of waste into the air or streams and rivers.

The Environmental Inventory in the form of these priority zones will inform the SDF.

Beyond the Priority Areas the following factors need to be considered.

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:

- ❑ No indigenous trees should be removed without authorization from DWAF who are responsible for protection of protected tree species.
- ❑ No undergrowth should be removed or the natural forest structure interfered with in any way as; when the forest undergrowth is removed, the large trees left standing often slowly die due to drought. Authorization must be obtained from DWAF prior to any clearing of both trees and under story of indigenous forested areas.
- ❑ All forest along streams and rivers must be conserved to prevent bank erosion.
- ❑ Wherever possible, patches of forest must be linked to form a continuous network and thus a path of migration for flora and fauna present (bushbuck, duiker, birds and so on) this would be easiest along existing corridors like streams and rivers.
- ❑ Forest trees should be left to screen development to improve stormwater drainage and aesthetics.
- ❑ Developers should be encouraged where possible to maintain any trees on site as part of the layout of the development.

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, Further the environmental atlas areas within the municipality are almost entirely biodiversity related and therefore these areas are included 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.

- ❑ The local authority should negotiate with the property developer to incorporate land not to be used for development into Conservation Reserves. This can be done when permission for development is being sought.
- ❑ The Environmental Impact Assessment required for priority 1 zones should include a biodiversity assessment of the site and its biological value.
- ❑ The layout of the development should take biodiversity impacts and mitigation into account and as such should avoid areas of high biodiversity value.
- ❑ The local authority should negotiate with the property developer to incorporate land not to be used for development into Conservation Reserves. This can be achieved as part of authorization for development on submission of the plans.
- ❑ When building plans are submitted to the local authority for approval, they shall indicate whether the development constitutes a listed activity and if so include a copy of the Record of Decision (ROD) issued by DAEA and an Environmental Management Plan (EMP) where required by the ROD.
- ❑ 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.
- ❑ Any unauthorized development should be reported immediately to the DAEA.
- ❑ The width of survey paths shall be kept to the absolute maximum of 1 metre.
- ❑ Where areas have been set aside for conservation in the layout, such areas will have to be demarcated. This should be done before building starts, sites must be staked and should be fenced or cordoned off with Chevron Tape. This is with a view to preventing damage to conservation areas during construction and operation. The fencing used should be appropriate and should allow for the movement of small animals, which may be found in this area.
- ❑ In the conserved areas, only nature-related recreation and education shall be permitted, such as bird watching, walking and canoeing. These areas should be left as undisturbed as possible.
- ❑ Exotics should be avoided in landscaping of developments.
- ❑ Invasive aliens should be eradicated as part of landscaping and management plan for the development.
- ❑ As far as possible, medium density housing development in this zone should be clustered in order to minimise visual impact and the amount of land needed. This reduces development costs and also makes land available for conservation or open space purposes. Further advantages are wind protection and better controlled access to the development area.
- ❑ Landowners shall be made aware of the priority status of their land before purchase. Estate agents in the area could assist in this regard. The clearance certificate issued to each purchaser shall make note of the priority status, for the purchaser's information, should the estate agent not have raised the issue.
- ❑ Earthmoving equipment must be prohibited from the site until the environmental assessment has been approved and the vegetation to be conserved has been demarcated.

- ❑ The Local Council should not plant exotic trees or shrubs in areas of this category.
- ❑ Sub divisional applications should be assessed in the light of proposed usage and the effect it would have on areas of high biodiversity value.
- ❑ Landowners should be made aware of the high biodiversity value of their land before purchase. Landowners should be made aware of their responsibility to maintain and manage the vegetation on their land. The local council may need to provide assistance in the form of advice to landowners in high biodiversity value areas.

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 (Note: if the width of the outer temporary zone is greater than 15 m and Item 1 above is met then this requirement would automatically be met). The seasonal and permanent zones generally have surface water for extended periods. In the case of seasonal zones, it may be for most of the wet season and in the case of permanent zones, it may be throughout the year. A buffer is required between areas potentially generating non-point source pollution and such areas characterized by surface water.
- ❑ Extension to the buffer in localized areas should also be included to minimize the impact of concentrated stormwater run-off into the wetland. Stormwater outflows should not enter directly into the wetland. A predominantly vegetated buffer area at least 20 m wide should be included between the stormwater outflow and the outer boundary of the wetland, with mechanisms for dissipating water energy and spreading and slowing water flow and preventing erosion. This buffer is particularly important when the catchment feeding the stormwater drain comprises predominantly hardened surfaces. Extensive hardened surfaces in the catchment and stormwater drains

significantly increase the intensity of stormwater runoff, which increases the risks of erosion in a wetland. In addition, urban stormwater runoff is often polluted. A buffer is therefore required to reduce the energy and erosive power of the stormwater and to decrease the level of pollutants in the runoff before it enters the wetland.

- 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.
- If a road crossing is planned in a wetland, first seek an alternative route. If this is not available then ensure that the road has minimal affect on the flow of water through the wetland (e.g. by using box culverts rather than pipes). Do not lower the base level of the wetland or any stream passing through the wetland. Ensure an adequate buffer is present to deal with run-off from the road (see Item 3 above). During construction, minimize disturbance of the wetland at and adjacent to the road crossing site. Road crossings may potentially greatly modify local water flow patterns in a wetland. In addition to having a damming or draining effect on the flow upstream of the road, roads which do not allow for the adequate passage of water may concentrate flow downstream, increasing the erosion hazard and drying out this portion of the wetland. A lowering of the base level increases the gradient in the wetland, thereby increasing the speed of water flow and its erosive potential and the extent to which it contributes to lowering the water table.
- Where a road runs alongside a wetland and it intercepts natural hillslope runoff into the wetland, the road should be set back from the boundary of the wetland by at least 20 m and feed-off points should be included at frequent intervals along the road (at least every 100 m) and the outflows of these should conform to the requirements of the stormwater outflows (given in Item 2 above). A road running alongside a wetland can strongly affect the natural hill slope runoff into the wetland by intercepting this runoff and concentrating it in localized entry points. The fewer the feed-off points into the wetland and the less protected they are, the more severe this effect will be.
- Where development (e.g. hardened surfaces, infilling and drainage) in a wetland is unavoidable then the resulting impacts must be mitigated. In many cases, off-site mitigation may be the only means of achieving satisfactory mitigation. The cumulative loss of wetlands in South Africa is already very high (see Section 1.1) and the continued net loss of wetlands needs to be prevented. Invasion of a wetland by alien plants may considerably reduce the integrity of a wetland.
- Where any disturbance of the soil takes place in a wetland, clear alien plants which establish and follow up for at least 2 years thereafter. Disturbance of a wetland favours the establishment of alien plants, which require long-term control.
- Where the infiltration rate of a wetland's catchment is naturally high and the wetland is maintained predominantly by groundwater input, at least 60% of the wetland's catchment should remain as permeable

surfaces in a residential area and preferably at least 30% in an industrial/commercial area. Where the level of development is very high, reduced surface runoff can be promoted through mechanisms such as porous pavements (The inclusion of these mechanisms in areas dominated by hardened surfaces is generally sound catchment management practice and should be encouraged widely). Failure to maintain groundwater input to a predominantly groundwater-fed wetland will considerably alter the hydrological regime of the wetland, thereby compromising its integrity.

- ❑ The onus is on the developer to identify and delineate all wetlands in the project area at a finer scale depending on the proposed development. Mapping at a minimum scale of 1: 10 000 is generally required. In order to account for the impact of a development adjacent to a wetland, it is essential that the boundary of the wetland be mapped. Any wetlands identified on the ground should be delineated and mapped by the municipality on an ongoing basis.
- ❑ Any development must comply with the requirements of the National Water Act. Through the concept of the “ecological reserve”, this act makes provision for ensuring water of acceptable quantity and quality for maintaining the ecological functioning of wetlands and river systems. While wetlands assist in enhancing water quality, they should not be relied upon as an easy substitute for addressing pollution at source, as this may lead to serious impacts to the wetland systems.
- ❑ Access to wetlands by off-road vehicles, man and livestock, should be as far as possible prevented.
- ❑ Development within the floodline or within 32 m of a river or stream should be avoided and vegetation in this zone should be conserved.

3.3.4 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 Vulindela ABM. These serve as structuring elements and constrain development into a series of development interfluvies 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.

Vacant Land

In 2004, the Corporate Strategic Planning Business Unit assisted by the Estates Department completed the Land Audit of all Council owned land, at the request of the Economic Development and Planning Committee. This was done in order to formulate a land release programme.

The Msunduzi Housing Delivery Unit was requested to within the list of audited land, identify land deemed suitable for future housing projects. A total of m2 of vacant Council land was identified. The full report submitted to the Economic Development and Planning Committee in annexed.

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.

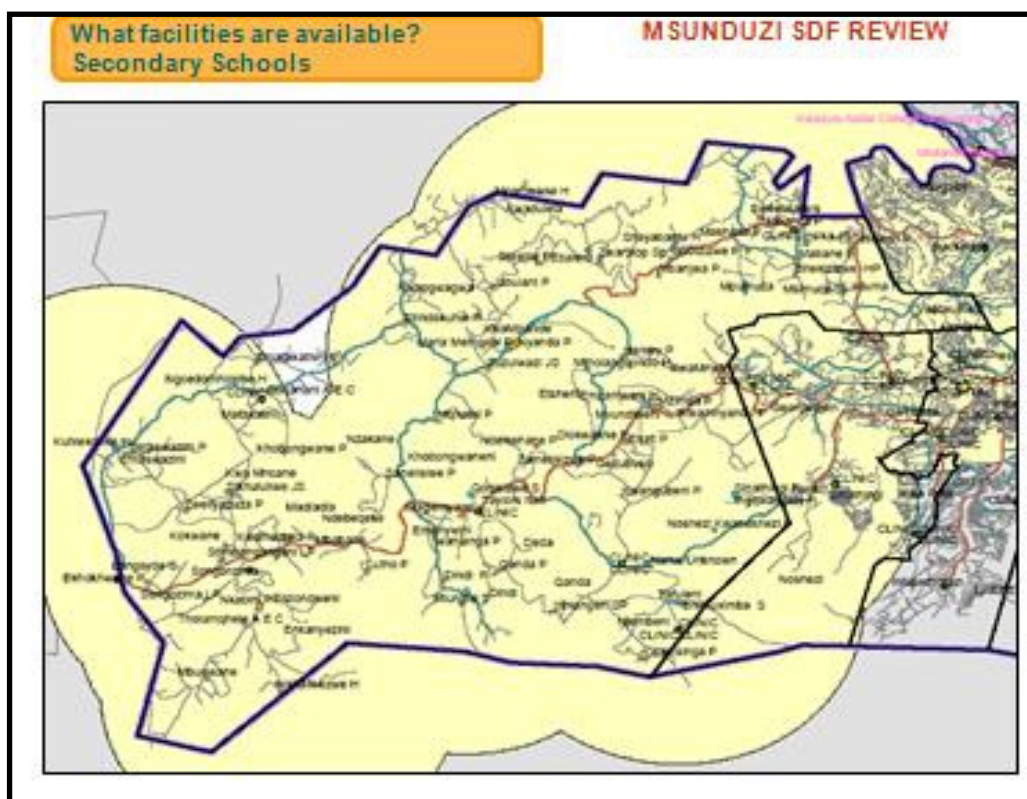
The level of social infrastructure varies throughout the municipality, and reflects the imbalances created by the Apartheid system.

- 3.4.1 Vulindlela ABM:** The area is relatively well catered for with schools, and clinics, but desperately lacks community centres, sports and recreation facilities, and cemeteries. The issue of cemeteries is more serious in this area considering the large population, the impacts of HIV/AIDS, the distances traveled to the nearest cemetery, and the undesirable practice of home burials.

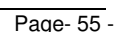
Figure 7: The distribution of Primary Schools in Vulindlela ABM with a walking distance buffer of 1km (radius)



Figure 8: The distribution of Secondary Schools in Vulindlela ABM with a walking distance buffer of 2km (radius)



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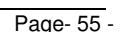
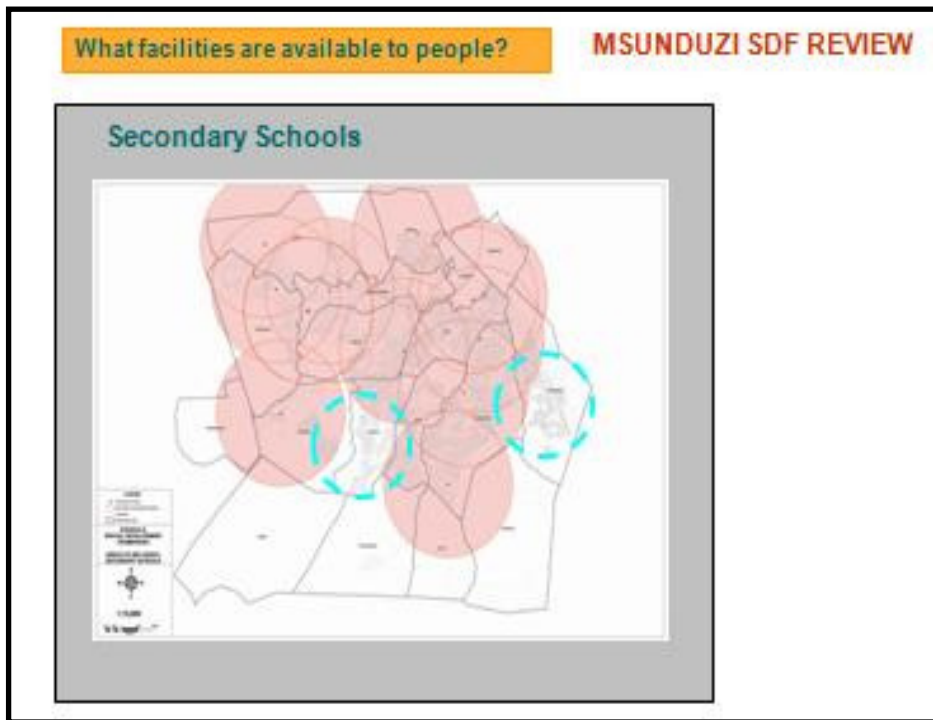


Figure 11: The distribution of Secondary Schools in the Edendale ABM with a walking distance buffer of 2km radius (source: Iyer Design Studio, 2006).



The 2km buffers around the clinics within the Edendale ABM indicate the area is well serviced, apart from the Slangspruit area. Most clinic sites are embedded within the residential areas and do not lie on or adjacent to major road systems.

Figure12: The distribution of clinics in the Edendale ABM with a walking distance buffer of 2km radius (source: Iyer Design Studio, 2006).

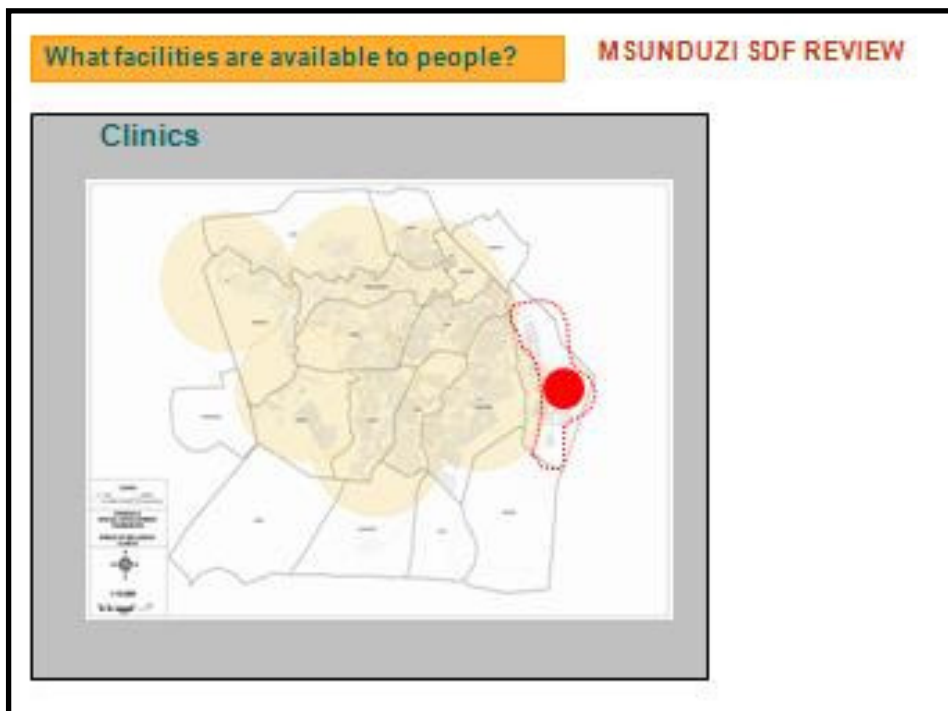


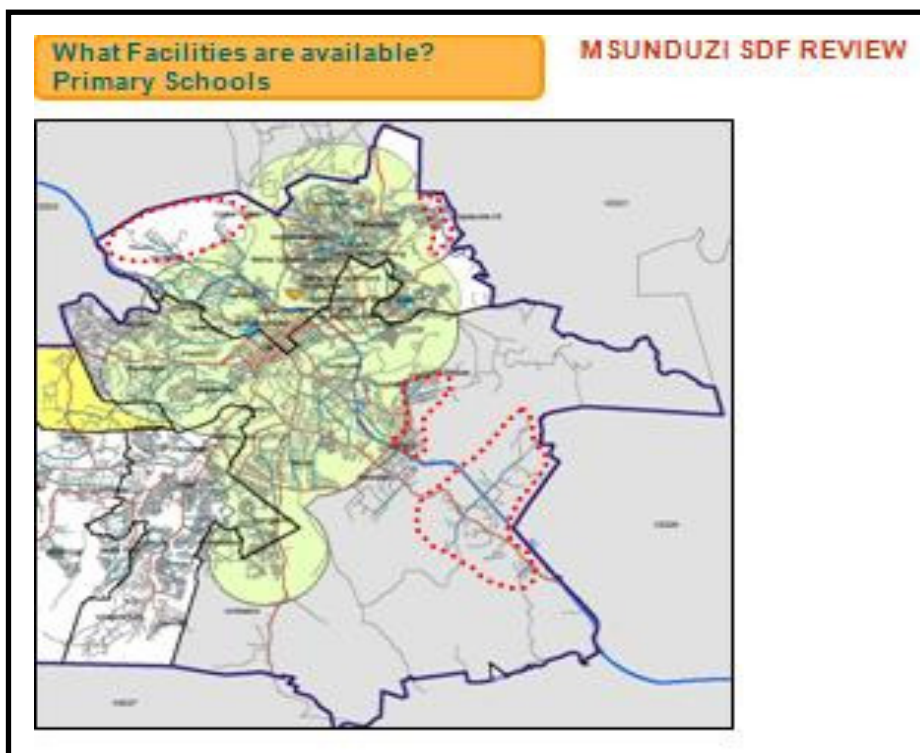
Figure 13: The distribution of community facilities in the Edendale ABM with a walking distance buffer of 2km radius (source: Iyer Design Studio, 2006).



A 2km buffer was also taken around the Community Facilities within Edendale and indicates the area is well serviced, apart from the Slangspruit area.

- 3.4.3 Northern Areas ABM and CBD, Ashburton, and Eastern Areas:** There is a satisfactory distribution of Primary schools in both ABM's, with some gaps in places. The gap northeast of the area is not serious because a large part of this area is forestry. The gaps in Copesville, Cleland, Lincoln Meade, and Ashburton will need to be considered in light of the anticipated growth of the city in a southeasterly and southwesterly direction.

Figure 14: The distribution of Primary Schools in the Northern Areas and ABM with a walking distance buffer of 1km radius.



There is a satisfactory distribution of Secondary schools in both ABM's, with a gap evident in the Ashburton area.

Future developments towards the Ashburton area will take this gap into consideration.

Figure 15: The distribution of Secondary Schools in the Northern Areas and ABM with a walking distance buffer of 2km radius.

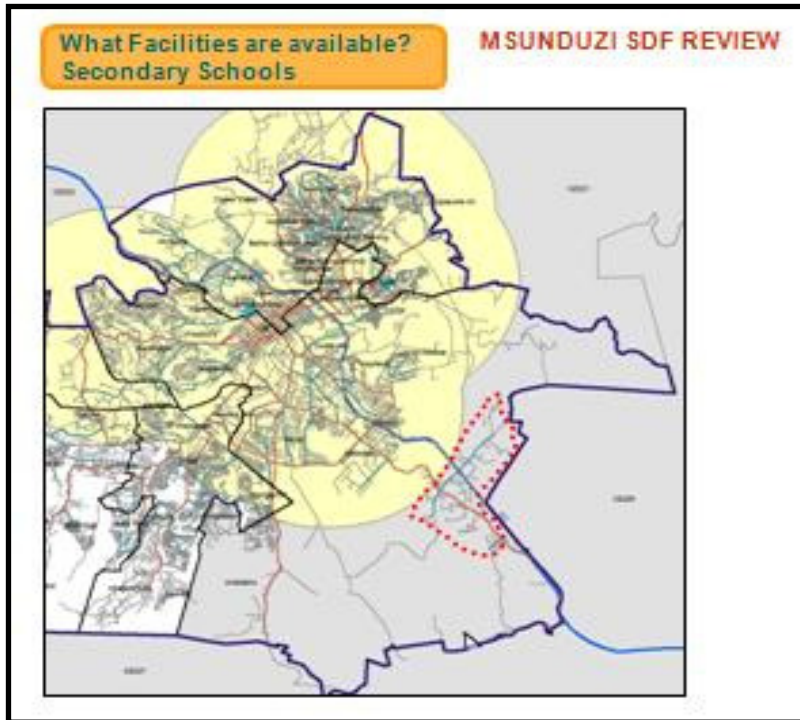
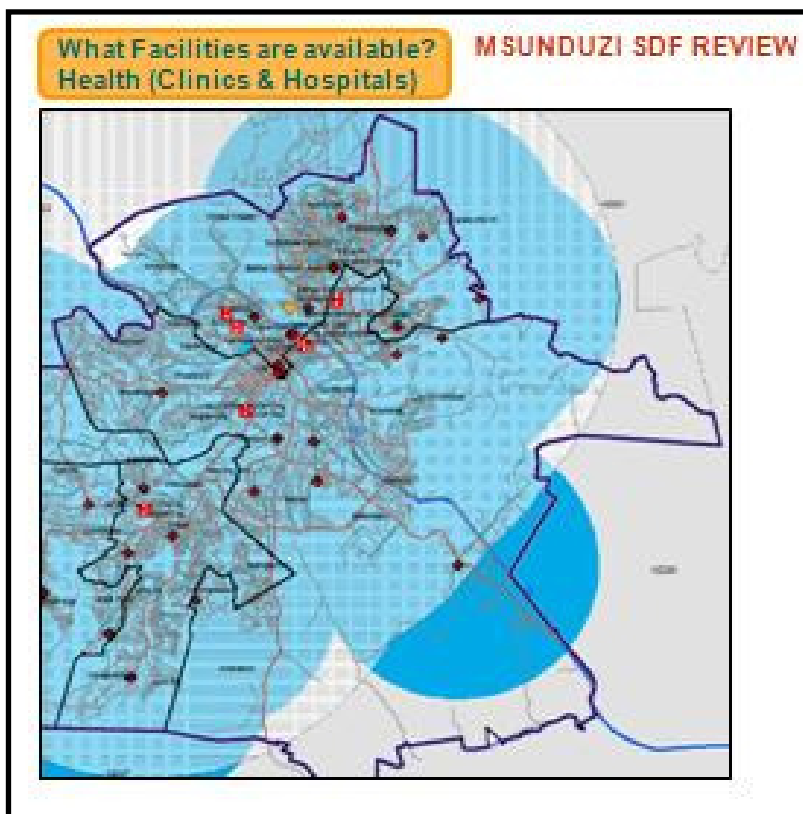


Figure 16: The distribution of clinics in the Edendale ABM with a walking distance buffer of 2km radius (source: Iyer Design Studio, 2006).



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.

3.5.1 The Msunduzi Housing Policy

Msunduzi Municipality has had to respond to the transformation agenda, which seeks to create integrated South African cities that are geared towards the creation of sustainable and integrated human settlements (Isibuko seAfrika, 2009).

The transformation agenda requires that participants revisit their approaches to the delivery of housing and adopt new approaches such as;

- Breaking New Ground (BNG) strategy; and
- The National Housing Policy

(i) **Breaking New Ground Strategy**

The Breaking New Ground (BNG) strategy is founded on the principles of integrated and sustainable human settlements. It sees housing as a vehicle for addressing related socio-economic issues (Isibuko seAfrika, 2009).

(ii) **The National Social Housing Policy**

The National Housing Policy (is founded on the principles of using housing as a vehicle for achieving the national, provincial, and local development vision. It also looks at housing as vehicle for spatial restructuring, which is in line with the philosophy of creating post apartheid cities that are socially, economically, and spatially integrated.

The implications for the Spatial Development Framework are clearly about the identification of strategically located land for future housing developments to achieve the objectives of BNG and NSHP.

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. There was a general inequality, inequity, lack and inadequate service delivery particularly in rural areas. Where services existed they were fragmented or at a single centralized place without reaching the periphery. To curb this, the municipality saw a need to develop a proper land use plan to provide a framework for service delivery," (IDP, 2006).

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.

The recent developments particularly residential developments in the city have increased the demand for water and sanitation, and this has seen the municipality's pipelines increase. However; there are still areas in the city in Greater Edendale and Bishopstowe that are provided with water by means of water tankers and boreholes, whilst informal settlements are provided with stand pipes.

The Ashburton area is one of the few areas of the city that makes use of a septic tank system which is acceptable given the sizes of the stands. However, there are areas within this area where it is impossible to have this system due to low permeability and high water table. This situation has delayed approval of development applications, whereby the nature of the development requires a waterborne sewerage system.

The level of sanitation facilities in Vulindlela and Greater Edendale include; no service, VIPs, conservancy tanks, septic tanks, and waterborne sewerage system. As indicated above, Vulindlela is the hardest hit area in this regard.

It is important to mention that the city's infrastructure is aging and requires regular maintenance to ensure reliability particularly in Edendale where water losses are common. At a municipal wide level, the infrastructure will need to be upgraded in the near future.

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).

The IDP, 2006 argues that statements made relating to single occupancy vehicle usage as the cause for traffic congestion are unfounded, as this congestion disappears during school holidays. This argument can be taken further to say that one has to acknowledge that the existing transport system requires people from all parts of the city to converge in the city centre before making their next links to their destinations. Private vehicles from outlying areas also converge in the central area to drop-off and pick up learners during peak hours. However, one must also consider that most families opt to take holidays during the same period, which reduces traffic on the city’s roads.

A November 2006 presentation to EXCO by South Roads Agency Limited (SANRAL) reiterated that the 40 year old N3 Bypass is largely consumed by local urban commuters. At present freight transport amounts to 77’000 t/day and traffic is 15’000-40’000 v/day. There is an estimated 36’000 v/day that cross the N3 from Northdale (into Church Street), and 7’000 v/day make use of the northern ramps. The presentation revealed that in order to improve the capacity of the N3, insufficient capacity of Church Street and Bhambatha Road (was Greytown Road), it is necessary to improve the interchanges and provide additional lanes on the N3. It is the expectation of SANRAL that these multi-million rand projects will be done in partnership with Msunduzi Municipality, KZNDoT, and MTAB.

It is important for the SDF to take cognizance of the local Edendale – Northdale Corridor Development (which runs through the central area) and the provincial Ethekeini – Umgeni Corridor Development. In both instances, significant development nodes are identified along these corridors and these will be affected or will affect the proposed road upgrading projects.

The 2006/07 IDP reports that since the introduction of the IDP in local government, the Msunduzi Municipality has provided 21,541km in low cost housing developments.

It is important to mention that at a municipal wide level, the aging road infrastructure requires regular maintenance and upgrading.

3.6.5 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.

The majority of electrification projects are linked to low income housing projects and are funded by the Department of Minerals and Energy. There are projects identified in the IDP for informal settlements, and these areas are difficult to service because it is difficult to ascertain electrification routes and some of these are on private properties which are serviced by council. In the meantime council will explore the possibility of providing grid electricity or alternative energy sources for these areas (IDP, 2006).

In general, council's electricity infrastructure is aging and council is faced with huge costs to maintain and upgrade the existing infrastructure. Over and above that vandalism, illegal connections, and cable theft is also on the rise putting additional pressure on the city's financial resources.

3.6.6 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 7: 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	524 0

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

The requirements in terms of the T.O.R for the Review and preparation of the Msunduzi SDF include; an analysis of the current and future demographic profile and growth dimensions for the city up to the year 2025, in line with its Vision 2025.

This exercise cannot be achieved in isolation to the growth trends at a provincial level and without taking cognizance of what happens at a national level.

Summary: The figures for KZN population for the years 2001 & 2006 are based on the 2006 Mid-year estimates released by Stats SA and new boundaries have been incorporated i.e. the Umzimkhulu area has been included and the Matatiele area has been excluded.

Johan Carlitz from DBSA provided the figures for the Msunduzi Municipality population growth from the years 1991 to 2006. Statistics SA has calculated the provincial population growth at a 5 year interval therefore; the calculation for the

local municipality will also be calculated at five year intervals. The population projections will thus be made up to the year 2026.

A basic population projections and growth rates formula has been used which is as follows:

$$\begin{aligned} \log y &= a + bx \\ \text{where } a &= \log \text{ of base population} \\ b &= \log (\text{growth rate} / 100 + 1) \\ x &= \text{number of years} \\ y &= \text{final population} \end{aligned}$$

An example of 2021-2026 population projection for Msunduzi Municipality has been given:

$$\begin{aligned} \log \frac{2021}{2016} \\ x \\ \log \frac{770814}{739009} = 0.0036 \\ 5 \\ \text{Growth Rate is therefore} &= 1.0083 - 1 \times 100 \\ &= 0.83 \% \text{ per annum} \end{aligned}$$

Given growth rate = 0.83% and 2021 population = 770814.

Population for 2026 will therefore be as follows:

$$\begin{aligned} x &= 2026 - 2021 = 5 \text{ years} \\ \log y &= \log 770814 + \log (0.83/100 + 1) \times 5 \\ &= 5.886 + 0.00358 \times 5 \\ &= 5.9039 \\ y &= 801493 \end{aligned}$$

3.7.1.1 KwaZulu-Natal Projected population growth for 2026

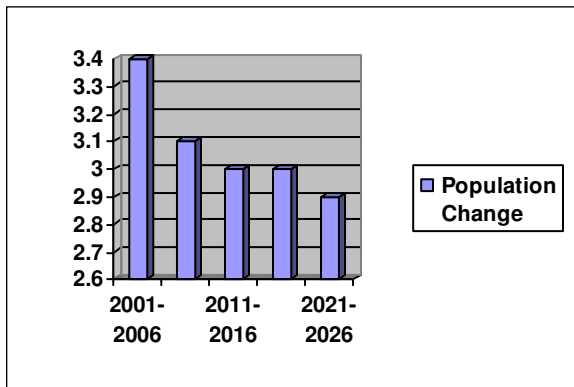
Table 8: KwaZulu-Natal Projected Population Growth for 2026

Population	KZN					
	2001	2006	2011	2016	2021	2026
Total	9,584 146	9,924 000	10,244 717	10,565 741	10,894 316	11,225 352

SOURCE: Based on the 2006 Mid-year estimates released by Stats SA for the years 2001 & 2006

Population	Percentage Change				
	2001-2006	2006-2011	2011-2016	2016-2021	2021-2026
Total	3.4	3.1	3.0	3.0	2.9

Figure 17: Population Growth Structure for Kwa- Zulu Natal, projected for 2026



The figures above indicate that whilst the population of the province will continue to increase from 9,924 000 in 2006 up to 11, 225 352 in 2026, the growth rate will go down over the same period. This can be attributed to the impact HIV/AIDS will have over the same period, as well as behavior changes and more effective family planning methods.

3.7.1.2 The Msunduzi Municipality projected population growth for 2026

Table 9: Msunduzi Municipality projected population growth for 2026

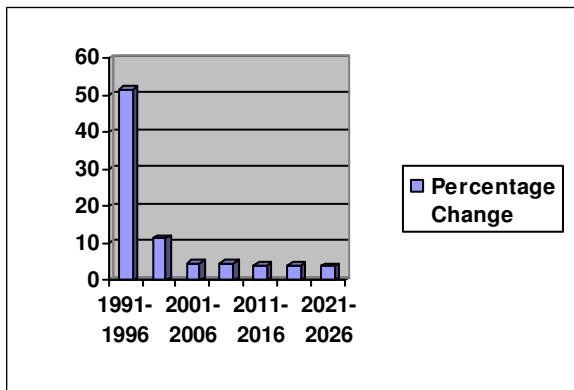
Population	Msunduzi Municipality							
	1991	1996	2001	2006	2011	2016	2021	2026
Total	277521	571495	645042	676192	707758	739009	770814	801493

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

Population	Percentage Change						
	1991-1996	1996-2001	2001-2006	2006-2011	2011-2016	2016-2021	2021-2026
Total	51.4	11.4	4.6	4.5	4.2	4.1	3.8

The figures above indicate that between 1991 to 1996 there was a 51.4% increase in population, and in 1996 to 2001 there was an 11.4% increase in population. The increase of 1991-1996 can be attributed to the fact that in 1991 Pietermaritzburg Borough was a single entity however, after the elections of 1994 the Pietermaritzburg-Msunduzi TLC was established and it incorporated the Greater Edendale areas. The second increase in 1996-2001 was as a result of the introduction of “wall to wall” municipalities after the elections of December 2000. This resulted in the establishment of Msunduzi Municipality which amalgamated the TLC’s of Pietermaritzburg-Msunduzi and Ashburton, and included Claridge, Bishopstowe, and the Tribal Areas of Vulindlela.

As is the case at a provincial level, the population growth rate of Msunduzi Municipality is expected to go down from 4.6% in 2001-2006 to 3.8% in 2021 to 2026. Nevertheless, the population will increase at a lesser rate. This means whilst there is a backlog of services and facilities, future decisions will have to take cognizance of this trend in order to avoid an over supply of services and facilities which may become unsustainable.

Figure 18: Population Growth Structure for Msunduzi Municipality, projected for 2026

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%.

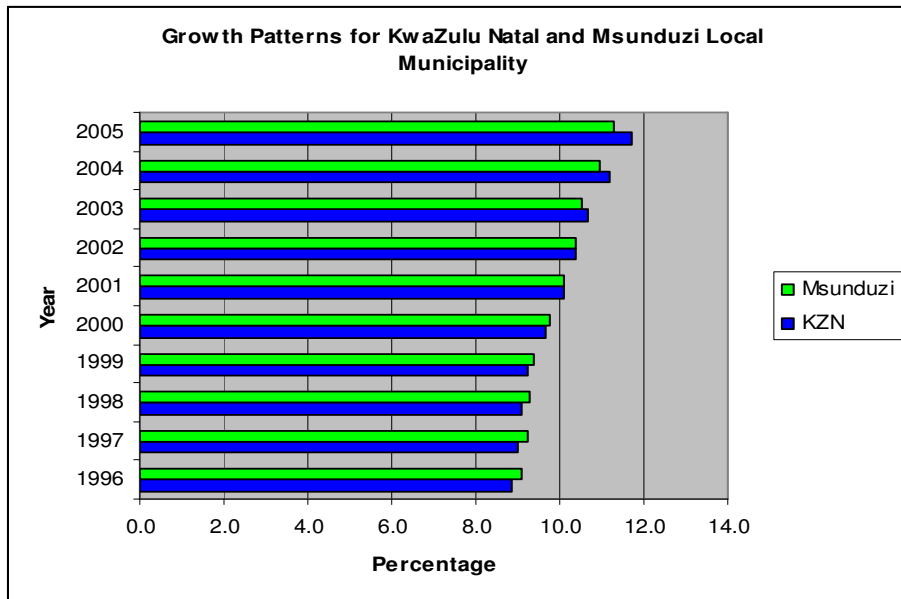
Table 10: Comparison of Economic Growth Patterns of major towns of KwaZulu-Natal.

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 19: 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 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 11: 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

Table 2 below indicates number of businesses in the local economy. The majority of the businesses can be found in real estate and business service sector (73.48%), but that manufacturing (35.14%) contributes the most of the total turnover generated in the local economy. The tertiary secondary is clearly more prominent in the Msunduzi Local Municipality as compared to the primary and secondary sectors. There is a clear dependence on the consumer as indicated in the table below. The table below has included some sectors that were not captured in Census and therefore provide a clearer and more concise understanding of the local economy.

Table 12: Number of Business & Turnover within Economic Sectors of Msunduzi Municipality

Sector	As a % of Total of Number Businesses	As a % of Total Turnover
Agriculture, Forestry, Hunting		5.32
Farming	0.52	5.06
Mining	2.73	0.00
Quarrying	0.00	0.09
Manufacturing	0.05	35.14
Electricity, Gas and Water	2.46	0.92
Construction	0.29	1.21
Education Institutions	3.56	0.17
Catering and Accommodation	0.63	3.14
Wholesale and Retail	3.58	23.49
Transport, Storage and Communication	7.13	2.04
Banks	1.01	
Insurance		2.20
Pension and Medical Aid Funds	0.03	0.25
Real Estate and Business Service	0.15	0.85
Building Societies	0.03	15.64
Central Government	73.48	
Local Government		0.00
Provincial Government	0.01	0.00
Social and Personal Services	0.04	2.68
Taxis	0.09	0.00
	0.02	1.79
	4.15	0.00
	0.03	

Source: Coetzee. C (2006) p 10

There has clearly been a change in the economic sectors of the Msunduzi local economy. There has been a decrease in the agriculture, forestry and fishing by 0.68%. There has also been a drop in the manufacturing sector. This can be attributed to the decrease in the leather and textile industry due to cheaper imports from China etc. This can be compared to the table above which indicates the number of businesses that are in Msunduzi which is 2.46% which is relatively low. The economic sector that has seen a substantial increase has been finance and business services. This can clearly be seen in the table above which indicates the highest percentage of number of businesses and second largest contributor in terms of total turnover.

Table 13: Employment in Economic Sectors within Msunduzi Local Municipality

ECONOMIC SECTOR	ACTUAL NO 1996	ACTUAL NO 2005	%
Agriculture, forestry and fishing	1721	1619	-0.68
Mining	345	574	5.82
Manufacturing	21909	16753	-2.94
Electricity & water	986	931	-0.64
Construction	4589	4348	-0.60
Wholesale & retail trade	12380	17066	3.63
Transport & communication	3102	3171	0.24
Finance and business services	10923	20464	7.22
Community, social and other personal services	18494	17446	-0.65
General government services	22798	22146	-0.32
TOTALS	97247	104518	0.80

3.8.2 Summary of Economic Sectors within Msunduzi Local Municipality



Turnover and remuneration

There has been an increase in turnover from 2003 to the first two quarters of the 2006. There has been an increase from R8 billion to R9.2 billion which is an increase of 4.7%. This has seen an increase in upward trend however the new interest rates have not been taken into consideration as yet.

One assumption is that due to the increase in the number of businesses and increase in the range of products and services available there has been an upwards rise in the local economy. Businesses that have targeted the consumer directly have seen an increase in the profitability since 2003. The Msunduzi Local Municipality has become a very lucrative market and therefore this should be a pull factor for potential investors.



Business Investments and Expansions

There has been an increase in the business investments and expansions since 2004 however; in the first two quarters of 2006 has been a slowly decline. The increase in this sector can be attributed to the fact that the local economy is performing well and the increase in profitability expectations. There has also been a substantial increase in industrial space from 2005 to the first two quarters in 2006 from 19 708m² in 2005 to 6032m² in the first two quarters of 2006. This is a positive trend as it indicates that manufacturing sector is slowly growing and that investors have confidence in the local economy. There has also been an increase in commercial space from 2005 to the first two quarters in 2006 from 15608 m² in 2005 and with 6156m² during the first two quarters. This can be attributed to the increase in the consumer market.



Labour Market

The labour market is vital to the economy as it determines the economic activity that is prevalent in the local economy. There has been a decrease in the number of claims for unemployment since the third quarter of 2005 and this trend has continued into the first two quarters of 2006. This is significant as it indicates that there is a decrease in unemployment rate and that there is an increase in employment opportunities due to the positive growth of the local economy in the last three years.



Monetary Sector

The interest rate plays a significant role in the economy and impacts on all aspects of the economy. The increase in the interest rates in the second quarter of 2006 and the effects thereof are not clear at present. The economy which is consumer dominated economically could be potentially affected however it is presumptions at this stage.



Residential Property Market

The residential property market has increased all over South Africa and Msunduzi is no different. The increase in this sector from January 2003 to June 2006 is 176%. There is an increase in the higher priced property market however the number of houses being sold has decreased by 63%. The increase in the residential properties is one of the main reasons for the increase in the wealth effect. The wealth effect occurs when consumers borrow against the increase in collateral.



Retail Activity

The increase in retail activity is measured based on the head counts in shopping complexes. This sector has seen an increase of 26% year on year during June 2006. The average expenditure per person is R90 in 2004, R105 in 2005 and R111 in June 2006. Clearly this trend is set to continue and that consumer market will clearly not be seeing a decrease in market consumption.



Vehicle and Transport Sector

There has been an increase of new passenger vehicles sold per month increased by 87% from January 2003 to June 2006. There has been an increase of commercial vehicles by 55% during the same period. However the interest rates have not deterred consumers from purchasing

vehicles however it should stabilize moderately. The rising fuel prices also have not decreased the demand for new vehicles over this period however the latter of 2006 should determine the state of the vehicle market.

There has also been an increase in the number of heavy load vehicles in the local economy. These vehicles are utilized for transporting commercial and household goods.



Petrol and Diesel

The consumption of petrol and diesel are good indicators to determine the economic activity within the local economy. There has been an increase in the usage of petrol and diesel by 4% and 1.2% year on year. There seems to be a greater demand for these commodities even though there have been increases since January 2003 to June 2006. These increases have only marginally affected the demand for these commodities.



Building and Development Sector

There has been an increase in this sector by 26% from the period of January 2003 to June 2006. The Rand Value of the building plans approved increase from R2.9m in January 2003 to R46m in June 2006 which has represented 1507% increase. This represents 100% increase yearly for the approval of business plans. However there has been a decrease in the first two quarters on 2006 due to the increase in interest rates. This sector is influenced by the property market and the boom in this sector has sparked off many residents to make changes to existing properties. Building permits approved are a significant indicator of future economic activity.



Hospitality and Entertainment Sector

There has been a phenomenal increase in this sector with an increase of 158% from January 2003 to June 2006 of local people utilizing this local entertainment and hospitality venues. There has been an increase of non local residents by 17% from January 2003 to June 2006 however there has been a decrease in the first two quarters of 2006 by 13%.

The economic performance indicator is a weighted economic performance indicator. The table below refers to the economic performance of the local economy from January 2003 to June 2006. There has been an increase of 195% however during the first two

quarters of 2006 there has been a modest increase of 8%. It indicates that the local economy is slowly stabilizing.

Table 14: Economic Performance for Local Economy from 2003 to First Two Quarters of 2006

EPI per Quarter	Jan 03=100	% Changer per Quarter
March 03	111	14
June 03	148	31
Sept 03	178	20
Dec 03	186	4
Mar 04	185	0
June 04	170	-8
Sept 04	232	37
Dec 04	211	-9
March 05	198	-6
June 05	211	6
Sept 05	318	51
Dec 05	281	-11
March 06	273	-3
June 06	295	8

Source: (Coetzee C, 2006)

3.8.4 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 can not 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. These include;

1. Agriculture, including agri-industry (with opportunities to impact considerably on the economic needs of the poor through Land Reform);
2. Industry, including heavy and light industry and manufacturing
3. Tourism, including domestic and foreign tourism
4. Service sector including financial, social, transport, retail, and government.

The 2006/07 IDP Review concluded that in acknowledging the remarkable growth in the city's economy, it is imperative that the city maximizes the benefits and opportunities that is provided by such growth. It added that Council needs to increase its expenditure in improving the infrastructure in order to keep up with the current and anticipated demand. The implications to the SDF would be that it needs to identify areas where opportunities exist in order to guide Council decisions with regards to areas for investment.

4. 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”.

A simple matrix, as indicated below, identifies each planning element by a three-way planning treatment.

Type of activity	EXISTING	IMPROVE	NEW
Treatment	Maintain Ltd Improvement	Consolidate Realign Formalise Upgrade	Infill “Greenfields”

Examples:

A. Residential

Type of activity	EXISTING (Maintain)	IMPROVE (Consolidate, Upgrade, etc)	NEW (Infill, “Greenfields”)
Formal Residential			
Informal Residential			
Rural			

B. Roads

Type of activity	EXISTING (Maintain)	IMPROVE (Upgrade, Realign,)	NEW
Mobility / Ltd Access Rd			
Major Arterial			
Minor Arterial			

C. Nodes

Type of activity	EXISTING (Maintain)	IMPROVE (Consolidate)	NEW
Primary Node			
Secondary Node			
Tertiary Node			

In this sense, each basic element has a potential of 9 elements on the plan Key

4.2 Guiding Principles

- iii) 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 15: SDF Review Guiding Principles

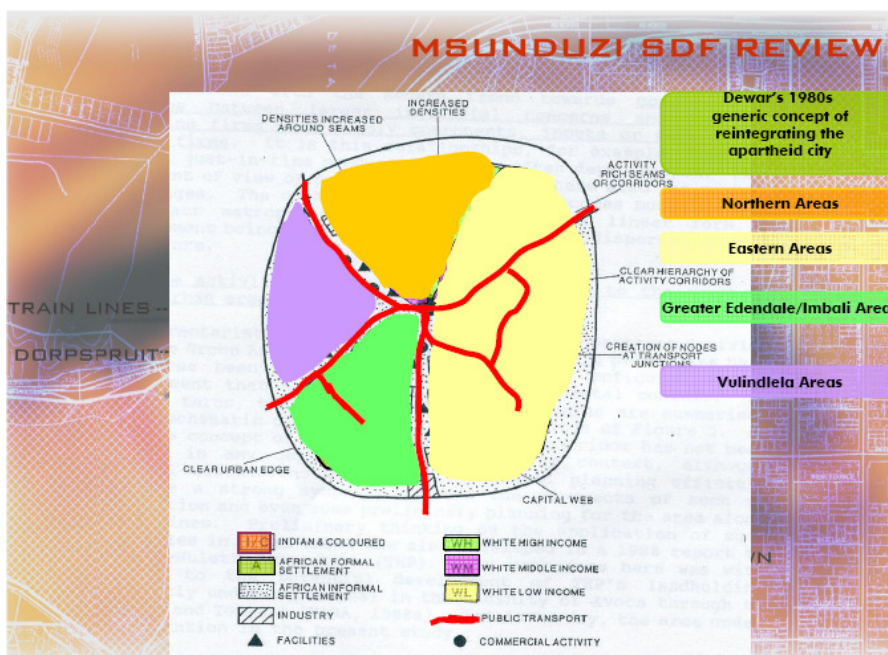
CURRENT SDF: Guiding Principles	REVIEWED SDF: GUIDING PRINCIPLES
<ul style="list-style-type: none"> - Compaction - Integration - Densification - Restructuring of the City - Meeting Land Use Needs - Identification of areas of economic development potentials 	<ul style="list-style-type: none"> • Compaction • 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 20: David Dewar's generic concept of integrating the Apartheid city, illustrated in the context of Msunduzi Municipality



4.4 Planning and Development Informants

The application of general planning and development principles and concepts are influenced by the local context. The following informants shape the SDF;

- The strategic location of the Municipality on the N3, providing high levels of accessibility between major urban centres and adjacent provinces.
- The City's status as the Provincial Capital and the primary node in the District, and as an emerging metropolitan area.
- Present development patterns and the interaction between residential and employment areas, and the availability of services and facilities to communities.
- The present transport infrastructure which is focused on the central area, and low levels of connectivity between the peripheral areas.
- Relatively low levels of access to urban services and facilities for some communities.
- Physical and topographical constraints.
- Environmental consideration.
- Pockets of poverty and unemployment and low levels of participation in the local economy by low income communities.

These informants are analysed and discussed in detail in the contextual framework, and the SDF's for each of the ABMS's.

5. 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.

5.1.1 Summary of SDF Principles and Applications

Table16: 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 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 The Conceptual Principles

The proposed *development concept* for the Msunduzi SDF review is informed by the principles o ;

- the **Provincial Growth and Development Strategy (PGDS)** [*these include; Good Governance, Competitive Investment, Local Economic Development, and Sustainable Communities*],
- the **NSDP** [*these include; Rapid economic growth, Government spending on fixed investment, Investment in poverty alleviation and basic services programmes, and Addressing past and present social imbalances*],
- the **PSEDS** [*these include; Sustainability, Correcting historical spatial imbalances, Curbing urban sprawl, Differentiated levels of infrastructure provision, Identification of priority development areas, Strengthening of major movement corridors, Identification of areas of high biodiversity and conservation significance, Alignment of national/ provincial/ municipal spatial visions, Aligning government budgets to priorities, and Private sector investment to support shared vision for the Province*] and it is also informed by **District SDF Guidance Framework for Local SDFs** which is outlined above.

The concept implies the development of a road "lattice" that offers both alternative routes and the dissipation of traffic, with a clearly differentiated road system and clearly differentiated Nodes, i.e. a hierarchy of Nodes, varying from small local level nodes through to "regional" servicing nodes, with appropriate catchments or thresholds of support. The application of the twin concept of "Nodes and Corridors" has become common practice over the last few years.

The use and application of these concepts has also become distorted and misused. Essentially, every major route or road (at the level of major Limited Access Mobility roads and Major Arterials) has tended to be called a "Corridor" or

a "Spine". Major activity foci located along such a road has been tended to be called a "Node".

In its "good practice" sense the concept implies the location of major facilities, of all types, being differentially located along these roads. At no stage in the evolution of this concept did it imply that it advocated the concept of "Ribbon Development". The concept always meant that these nodes would be spatially distinct and separated, often separated at distances of the order of at least 2 kilometres from each other so that most people would be within walking distance of these foci. Only in very specific circumstances would the disposition of land uses along a major road become a "mixed-use" corridor.

Unfortunately, the concepts of "Corridor" and "Mixed-use" have become intertwined and synonymous which is clearly an unfortunate interpretation. There has also been a tendency to locate a Node at every single intersection on these Major roads - sometimes without much differentiation between them. Clearly, there is a hierarchy of commercially orientated nodes, such that in a metropolitan area there would be at least the standard 5 tiers of a retail hierarchy and additional new forms of shopping centres. In addition, there could be decentralized office nodes, and hospital and administrative nodes. Consequently, the attempt to squeeze all of these types of foci into a simple trilogy of Primary, Secondary and Tertiary Nodes into plans, especially at the SDF level, is more than simplistic and inappropriate.

The draft SDF largely refines and builds on the current SDF, and is aimed at restructuring the existing radial form of the city through:

- The introduction of additional Mobility and Arterial roads to create a more functional road lattice to facilitate movement with alternative options. It also attempts to improve access to areas previously marginalised from the local economy.
- The establishment of a series of nodes in both the urban and rural components of the city, distributed in such a way that communities are within reasonable travelling distance of the services offered at these nodes.
- Mixed use activity spines that extend a limited distance from the CBD, and in focussed areas along some of the major routes, without undermining the primary mobility function.
- The location of new residential developments in relatively few areas within an Urban Growth Boundary, to create a compact and efficient city, contain urban sprawl and conform to basic environmental objectives.

The Consolidated SDF's main departure from the current SDF is in the reduction and rationalisation of proposed nodes and development corridors.

6.3 Application of the Concept to Msunduzi

ii) 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.

ii) Basic Elements

The SDF Plan will also distinguish between: (see diagram)

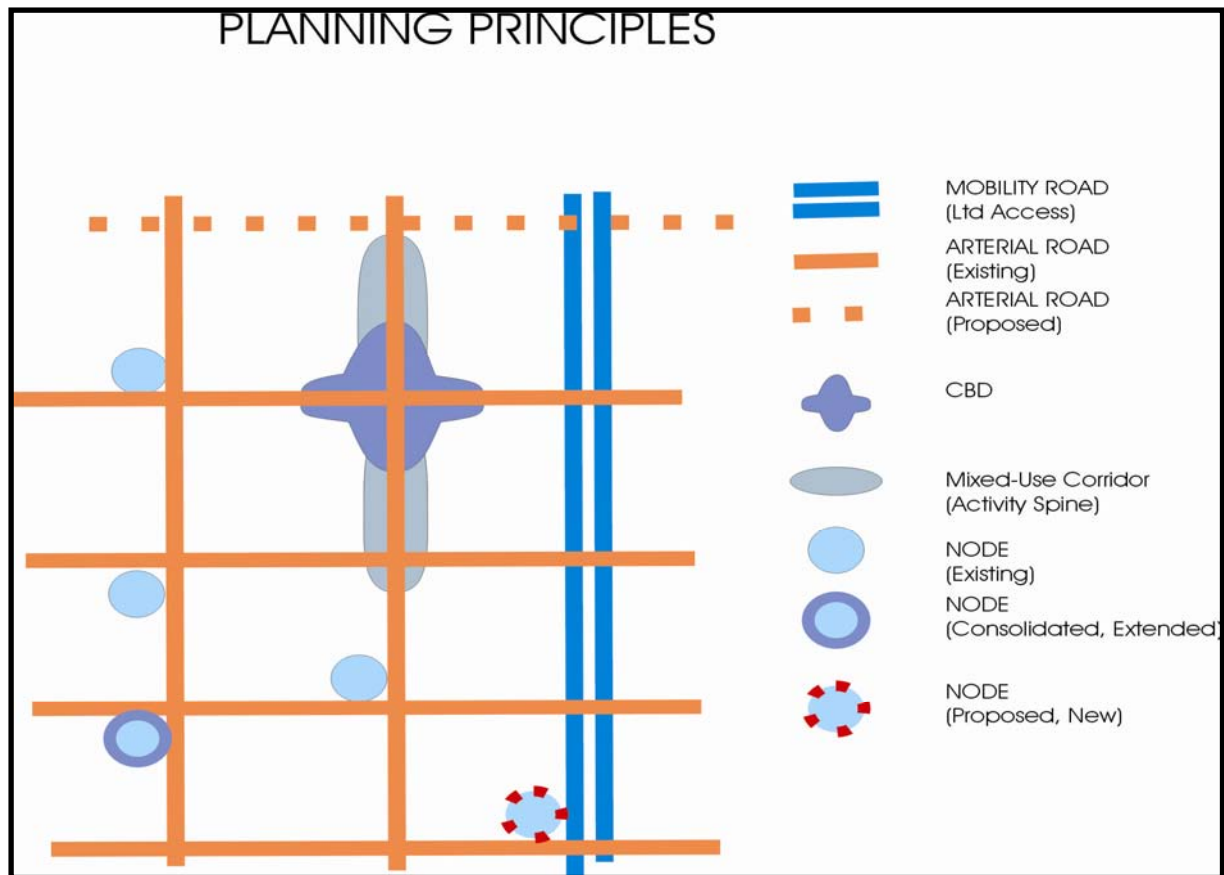
- **ROADS**

- o Existing roads - of all types
- o Roads for improvement or realignment
- o New Roads of all types

- **NODES**

- o Existing nodes, which will be maintained at essentially their current magnitude
- o Consolidated or extended nodes, in which existing nodes will be upgraded to play an additional and higher order role.
- o New nodes to be established and appropriately phased.

Figure 21: 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 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.
- i) 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.
- j) 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 Section10 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 en 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.

- o Existing economic opportunity areas
- o Future economic opportunity areas.
- o Future Economic Opportunity Nodes

d) **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.

e) **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.

f) 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

e) **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.

f) **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.

g) **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 underutilised 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.

h) 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.

(iv) 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.

(v) The Dorpspruit

The Dorp Spruit meanders from its upper reaches in the Celtis road area and joins with the Msunduzi river near to Ohrtmann road and portions of the river flow through the Central Area. This river provided the water supply for the early settlement of Pietermaritzburg.

(vi) Mpushini River

The Mpushini spruit flows in a South-west- North-easterly direction parallel to the Mkhondeni river and joins with the Msunduzi river in Ward 37. Like the Mkhondeni river, the course of the river has not been majorly modified and the natural vegetation along the river is largely one of secondary grasslands and bushed grasslands, bushland, and bushland thicket.

(vii) Mkhondeni River

This river flows from the area to the south of the Bisley Valley Nature Reserve in a West- North-east direction where it joins with the Msunduzi river to the north of Ashburton. The course of the river has not been majorly modified and the natural vegetation along the river is largely one of secondary grasslands and bushed grasslands, bushland, and bushland thicket. There are a number of small dams in the catchment, the largest of which are on the main spruit in the southern sector of the catchment and also on the main tributary to the north of the N3.

(viii) 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.

(ix) 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.

b) 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.

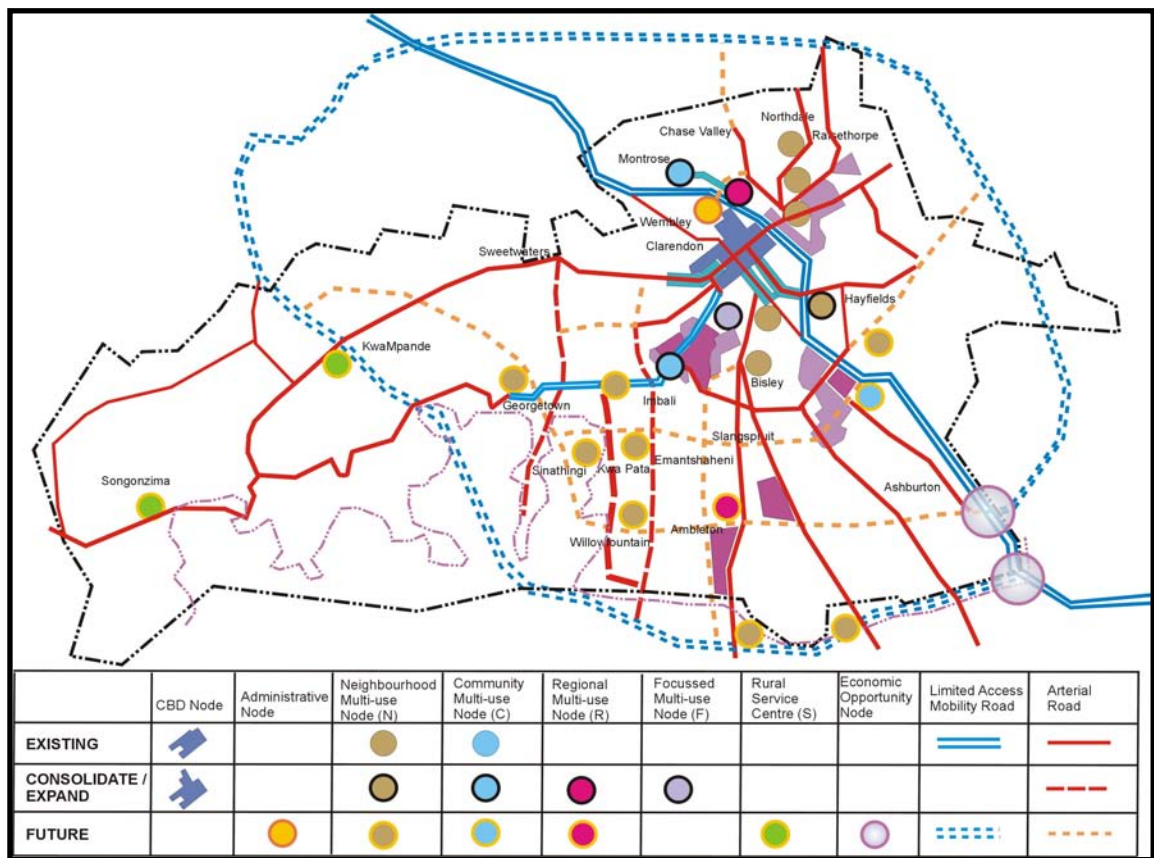
7.8 The SDF Structure

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.

Figure 22: Diagram exhibiting the main Road and Nodal system.



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 alternative 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.

In addition to these main structuring elements, the SDF identifies an integrated major open space system (called Environmental Management Areas) and this is a consequence of River and tributary systems, steep undevelopable land, and the need to protect environmentally sensitive and valuable eco-systems.

The various forms of residential development are identified with their implicit levels of planning interventions, viz. Those areas to be maintained as there are; areas that will be subject to degrees of "Improvement"; and areas of new development.

8. AREAS REQUIRING MORE DETAILED PLANNING

8.1 Context / Background

The SDF identifies

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

- an area for an open space system,
- an area for Restricted Use
- 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.

8.2.8 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.

8.2.9 Vulindlela

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.

8.2.10 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.

8.2.11 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

8.2.12 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.

8.2.13 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 17: 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 and 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:

10.1.1 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.

10.1.2 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

10.1.3 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.

10.1.4 Activity Spines

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

10.1.5 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

10.2.7 Compaction

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

10.2.8 Integration

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

10.2.9 Urban Densification

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

10.2.10 Creating a Quality Environment

Create a polycentric city – a city with several focal points

Creating a mix of housing types in different areas

Reinforcing the public transport system

10.2.11 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
- Insitu 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

The table, below, identifies the main areas for densification, the areas are also indicated on the table below. Other areas will be identified at the level of Local area Plans and in the preparation of a Land Use Scheme.

Table 18: Areas for Densification

SUBURB NAME	INTERVENTION	DESCRIPTION
Boughton	Densification	Densification along Sweetwaters road/ Mayors Walk
Blackridge	Densification	Densification along Sweetwaters road/ Mayors Walk Densification adjacent to Heritage Primary School and the Botanical Gardens Hotel.
Prestbury	Densification	Densification along Sweetwaters road/ Mayors Walk Densification adjacent to the Bridge road centre.
Clarendon	Densification	Densification along Roberts road
Wembley	Densification	Densification along Roberts road and Taunton drive
Napierville	Densification	Densification of properties adjacent to the proposed new residential areas. Social Housing in old railway lands.
Bisley	Densification	Densification of properties adjacent to the Southgate Mall.
Cleland	Densification	Densification of properties along Murray road through to Hesketh drive.
Scottsville	Densification	Densification along Alan Paton/ Durban road and New England road
Hayfields	Densification	Densification along Hesketh road
Lincoln Mead	Densification	Social housing and medium density housing adjacent to the Maritzburg Golf Course and along Murray road.
Eastwood	Densification	Along the main road.
Montrose	Densification	Densification along Town Bush road. Densification along Peter Brown road
Athlone	Densification	Densification adjacent to the commercial cluster adjacent to Athlone School, as well as on and adjacent to the Lexton Boy Scout grounds.
Chase Valley	Densification	Densification along the lower portions of Chase Valley road.
Clarendon	Densification	Densification along Roberts's road and the upper

SUBURB NAME	INTERVENTION	DESCRIPTION
		portions of Taunton drive adjacent to Athlone school.
Woodlands	Densification	Densification along the Ottos Bluff road.
Northdale	Densification	There are quite high densities already in this area. Further densification along major roads where the stand size permits.
Raistethorpe	Densification	There are quite high densities already in this area. Further densification along major roads where the stand size permits.
Copesville	Densification	There are quite high densities already in this area. Further densification along major roads where the stand size permits.

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 19: 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-Rtclie 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

13.2 The Capital Projects are mapped on Map 15.

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.

14.1.3 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 intentions 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

14.1.4 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

14.2 LUMS Background

The Department of Local Government and Traditional Affairs has set out a sectoral checklist for preparation of Land Use Management System (LUMS) Guidelines in a report entitled "Sectoral Guidelines for the Review of Integrated Development Plans in KwaZulu Natal"

14.2.1 Land Use Management System (LUMS)

- (i) LUMS is a single and flexible system used to manage land within a municipal area. Land Use Management is a combination of all the tools and mechanisms used by a municipality to manage the way land is used and developed.

These tools include *inter alia*: land use schemes; by-laws; licensing; rates and general property information. Municipalities are required to undertake land use planning in terms of the Municipal Systems Act No. 32 of 2000, and also under the proposed National Land use Bill.

- (ii) The former Natal Town and Regional Planning Commission (TRPC), now known as the KwaZulu-Natal Planning and Development Commission (PPDC), commissioned a study for the preparation of Guidelines for a Land Use Management System (LUMS).

(iii) **What are the Aims of a LUMS**

A Land Use Management System is aimed at co-ordinating all land uses and their relationship to each other - ensuring certainty, order and compatibility of land uses - in order to:

- create safe, healthy and liveable environments through appropriate design standard;
- promoting sustainable development and resource protection (e.g. protection of land assets);
- promoting viable services provision.

(iv) **How do you prepare a Land Use Management System?**

STEPS	ACTIONS	OUTCOME
1. What is the institutional capacity for preparing a land use scheme?	<ul style="list-style-type: none"> • Develop an information system that functions efficiently, both internally and externally to the organization. • Establish and or confirm a planning section / spatial planning unit in your organisation. • Appoint staff in the unit / or consultants taking into consideration the empowerment of the municipality. 	Functioning Planning Unit
2. What is the status quo within a Municipality?	<ul style="list-style-type: none"> • Conduct the information audit to get an indication of the following: <ul style="list-style-type: none"> ➢ No. of TPS, R293 and Amakhosi areas included in the Municipality; ➢ Clarity and accuracy of tenure, cadastral and mapping information. ➢ Existing sectoral plans and policy guidelines. (Transportation, environment, housing, etc). ➢ Financial resources and budgeting. • Identify the level of community consultation required (Consultation Plan). 	A clear picture of information gaps and the level of consultation required.

STEPS	ACTIONS	OUTCOME
3. What type of a Land Use Scheme (LUS) do you need?	<ul style="list-style-type: none"> • Prepare a Strategic Land use Framework which will include the following: • Strategic issues identified in the IDP and its SDF. • Identify pressure points (areas needing urgent attention). • Identify the LUS level for various parts of the municipality (Elementary, primary, comprehensive or rural level). • Decide on the type of Land Use Scheme you prefer by doing either or a combination of the following: • Translate the existing zones into a LUS without a review or consolidation. • Partially translate, consolidate or align different schemes and extend such schemes to areas where there is no land use management. • Undertake a detailed review of zones, land uses and controls in all current schemes with a view to creating a single scheme. 	An agreement on the type of a Land Use Scheme that the Municipality wishes to prepare.
4. How to prepare a Land Use Scheme?	<ul style="list-style-type: none"> • Council resolves to prepare a LUS in accordance with a new LUMS using appropriate legislation (once available). • Address information gaps (if necessary). • Formulation of the Statement of Intent (SOI) for large or special areas of the LUS based on the objectives of the municipal IDP. • Identify the zones, districts and appropriate development control. 	A Municipal Land use Scheme comprising of a Plan, a Land Use Table (Matrix) and a table of development control (Land Use Template)
5. What is the Road to Approval of the LUMS?	<ul style="list-style-type: none"> • Circulate the LUS for public comments within a legislated time period. • Amend the LUS by incorporating the received public comments. • Table the LUS (reports and maps) to Council and Amakhosi or a structure comprising of the two for final approval. • Submission to DTLGA for comments and or assessment. 	An approved Land Use Scheme to guide land use management within a municipal area.

Reference: Sectoral guidelines for the Review of Integrated Development Plans in KwaZulu-Natal.

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:

- (vi) **Scale of effect:** Will any effect be marginal or significant?
- (vii) **Timing of effect:** Will the effect manifest itself in the short term or the long term?
- (viii) **Geographic scale:** Will there be any trans-boundary effects (for example impacts on adjoining Municipalities, Provincially or Nationally)?
- (ix) **Rural / urban:** Will there be differential impacts for rural and urban environments?
- (x) **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.

15.3.2 The following (Sub-Section 12.4) is an outcome of the Sustainability Appraisal undertaken for the Msunduzi SDF Review.

15.4 Sustainability Appraisal for Msunduzi SDF Review 2009

(i) Process Appraisal

No.	SEA PRINCIPLES				COMMENTARY
	Key Questions	Yes	No	?	
1	Has there been the establishment of a vision, goals and objectives using principles of sustainability?	Yes			This element of the SDF has been adequately addressed.
2	Have opportunities and constraints that the environment places on development been identified?	Yes			This element of the SDF has been adequately addressed including existing information available in the EMF process and other studies, and will be reviewed in the next review process, once new information becomes available from the EMF.
3	Have key environmental issues and concerns that are likely to affect spatial development decision making been identified?	Yes			These were identified as part of point 2 above therefore; the response is similar.
4	Have sustainability parameters and indicators been determined to guide development?	Yes			The plan has begun to identify parameters and indicators. The sustainability criteria is being developed as part of the EMF and would be used to guide future SDF Reviews and other Sector Plans.
5	Have alternatives and strategies to achieve the vision, goal and objectives been determined, evaluated and assessed?	Yes			The SDF evolved over a period of time taking into account the goals of sustainability and the IDP.
6	Have the alternatives and strategies that best meet sustainability objectives been established?	Yes			Refer to 4 and 5 above.
7	Does the plan include the concepts of precaution, iteration and provision of continual improvement?	Yes			The SDF by its very nature is subject to review on an annual basis in line with the review of the municipality's IDP.
8	Has clear justification for the choices made with regard to options and alternatives been provided?	Yes			Refer to 5 above and in addition changes in government policies were taken into account to develop the SDF.
9	Has the process to develop the plan drawn on the best available information and encourages independent review to give quality assurance?	Yes			The SDF has made use of available information and has been independently reviewed.

10	Has the process been transparent and participative?	Yes			The plan was tabled at Mayoral Izimbizo in 2008, and was subjected to public scrutiny in 2009. It was advertised in the local press, made available at public venues around the City, and on the municipal website since 2008.
11	Has the plan been defined within a wider context of environmental and planning processes?	Yes			The plan has considered District, Provincial, and National Planning Policies.
12	Is the plan integrative and cross-cutting?	Yes			There has been wide consultation with external and internal role players. The plan has considered four key areas of sustainability namely; social, environmental, economic, and institutional.

(ii) Policy Appraisal

Appraisal	Number
Very positive impact	0
Positive impact	4
Neutral / No impact	6
Negative impact	3
Highly negative impact	0

No.	SUSTAINABLE DEVELOPMENT OBJECTIVE	SCORE	COMMENTARY
	SOCIO-ECONOMIC		
1	Infrastructure, Urbanisation & Housing: Ensure a balance between the need for development and its effects on the environment; Recognise the threat of uncontrolled urban expansion on the environment; Identify and map land required for biodiversity conservation and public open space purposes; Identify land suitable for development purposes and identify most appropriate uses.		This element of the SDF has been addressed and further refinement would occur as more detailed and up to date information becomes available as more detailed studies are undertaken.

2	Economy: Emphasize the interdependence between poverty, economic growth and the environment; Rehabilitate and conserve the city's urban and natural environment; Recognise and encourage small and micro businesses;		The SDF identifies poverty stricken area and areas of economic opportunity.
3	Environmental Education: Form and support environmental education initiatives that will enable Msunduzi communities to use resources sustainably; Communicate intended environmental impacts to affected communities		Some environmental education and capacity building occurred during the consultation process.
4	Cultural Heritage: Preserve and improve the cultural heritage of the Msunduzi area; Acknowledge and respect the historical significance of cultural and religious features; Consider cultural values, sites and landscapes of historic significance, areas of scenic beauty and places of spiritual importance in planning, decision making and development proposals; Promote and support cultural tourism initiatives;		The plan has been reviewed with all of these elements in mind and the planning principles adopted make head way for preservation of Cultural Heritage.
ENVIRONMENT			
5	Biodiversity: Preserve the City's biodiversity and minimise the loss of species resulting from the development of the City; Create an openspace system representing the full range of habitats within Msunduzi.		Refer to 1. Areas of high bio-diversity were considered within the formulation of the SDF.
6	Trees & Forests: Conserve and promote the sustainable use of indigenous trees in the City		Not applicable at this level of planning.
7	Air Quality: Maintain air quality at levels that are not a threat to the environment and human health and well being		The SDF will be refined with further data arising from the EMF and the Air Quality Management Plan.
8	Water Resources; Ensure the quality of water from rivers, streams and wetlands is suitable for the maintenance of biodiversity and the protection of human health and well being		The SDF will be refined with further data arising from the EMF and other plans.
9	Water Resources: Ensure the quality of potable water meets the minimum legislated standard		Not relevant considered at this level of planning.
10	Renewable & Non-renewable Resources: Plan for and facilitate a shift from use of non-renewable to renewable resources		Not considered relevant at this level of planning.

11	Energy: Accentuate the importance of energy and it's role in development and the negative effects that energy production may have on the environment; Identify and encourage the use of alternative renewable and sustainable energy sources in new and existing developments.		This has not been addressed in the current plan and should be considered in the next review.
12	Landscapes & Townscapes: Protect the City's landscapes and townscapes; Identify activities suitable for each piece of available land based on its geology, soils, topography, aesthetics, biodiversity, ecological corridors, wildlife habitat.		Not considered relevant at this level of planning, rather at a Local Area Development Plan level.
13	Noise, Shock & Vibration: Ensure that the physiological and psychological effect of noise, shock and vibration levels do not exceed legislated standards		Not considered relevant at this level of planning.
14	Waste: Provide for an effective and efficient waste management system; Provide for an integrated approach to waste management.		The SDF will be refined with further data arising from the EMF and the Waste Management Plan.

(iii) NEMA CONFORMANCE

Conformance	Number
Very good	1
Good	17
Neutral/Not Applicable	7
Poor	3
Very poor	0

No.	NEMA: ENVIRONMENTAL SUSTAINABILITY PRINCIPLES	SCORE	COMMENTARY
	Sustainable Development		
1	Sustainable Development: Development must be socially, environmentally and economically sustainable		The SDF Review has adequately addressed the elements of Sustainable Development.
2	Eradication of Poverty: Basic human needs must be satisfied to ensure sustainable development.		The plan is driven by the need to improve the quality of life of the people of the city.
3	Waste Management: Waste must be avoided, or where it cannot be altogether avoided, must be minimised, re-used or recycled where possible and otherwise disposed of in a responsible manner		The SDF will be refined with further data arising from the Waste Management Plan.
4	Pollution Control: Pollution and degradation of the environment must be avoided, or, where they cannot be altogether avoided, minimised and remedied		The SDF will be refined with further data arising from the Integrated Waste Management Plan and Air Quality Management.
	Environmental Justice & Equity		
5	Priority of Human Needs: Environmental Management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.		The plan is driven by the need to improve the quality of life of the people of the city.

6	Environmental Rights: Negative impacts on the environment and on peoples environmental rights must be anticipated and prevented, and where they cannot altogether be prevented, must be minimised and remedied		The plan is guided by principles of sustainable development and considers human needs with the need to preserve the environment.
7	Environment as a Public Resource & Heritage: The environment is held in public trust for the people, the beneficial use of resources must serve the public interest and the environment must be protected as people's common heritage		The SDF has taken into account the need to set aside environmental resources.
8	Environmental Justice: Adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.		The SDF aims to promote environmental justice.
9	Equitable Access: Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.		The plan encourages equal access to resources, facilities, and amenities. Where these are not available it recommends that these be provided for the benefit of all residents and not a particular section.
10	Environmental Health & Safety: The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected		Not considered relevant at this level of planning.
Participation, Empowerment & Transparency			
11	Participation in Environmental Governance: The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged peoples must be ensured.		The plan was tabled at Mayoral Izimbizo in 2008, and was subjected to public scrutiny in 2009. It was advertised in the local press, made available at public venues around the City and on the municipal website since 2008. Some environmental education and capacity building occurred during the consultation process.

12	Contributions to decision making: Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge.		The plan considered comments and input received during the public scrutiny process and where deemed necessary those areas of concern were addressed.
13	Empowerment: Community well being and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.		This was to some extent addressed in the plan.
14	Transparency and access to information: Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.		The plan considered comments and input received during the public scrutiny process and where deemed necessary those areas of concern were addressed. The plan also provides responses to the comments raised during this process.
15	Role of women and youth: The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.		Interest of all society is considered by the SDF.
Co-operative Governance			
16	Intergovernmental co-ordination: There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.		Relevant pieces of legislation and policies at local, provincial, and national level were considered together with their implications for the SDF.
17	Conflict resolution: Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.		Not considered at this level of planning.
18	Global and international responsibilities: Global and international responsibilities relating to the environment must be discharged in the national interest		The SDF has been aligned to National Policies which are aligned to International responsibilities and protocols.
Ecological & Cultural Integrity			
19	Biological diversity: The disturbance of the ecosystem and loss of biological diversity must be avoided, or, where they cannot be altogether avoided, must be minimised and remedied		The SDF has considered biological diversity and the avert its loss thereof. The SDF will be refined with further data arising from the EMF and other plans.

20	Non-renewable resources: The use and exploitation of non-renewable natural resources must be responsible and equitable, and take into account the consequences of the depletion of the resource		Not considered at this level of planning, but the SDF upholds the need to maintain a balance and exercise responsibility when using non-renewable resources.
21	Renewable resources: The development, use and exploitation of renewable resources and the ecosystems of which they are part should not exceed the level beyond which their integrity is jeopardised		Not considered at this level of planning, but the SDF upholds the need to maintain a balance and exercise responsibility when using renewable resources.
22	Sensitive ecosystems: Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.		Areas of sensitive ecosystems are identified by the SDF and will be refined when more detailed information becomes available.
23	Cultural integrity: The disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied		The specific ABM SDF's have identified areas of Cultural and Heritage significance and encourages their preservation. The next review will be refined with the EMF findings.
Environmental Decision Making			
24	Integration: Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.		The SDF has considered four key areas of sustainability namely; social, environmental, economic, and institutional.
25	Life-cycle approach: Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle		Not considered relevant at this level of planning.
26	Accountability: The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution; environmental damage or adverse health effects must be paid for by those responsible for harming the environment.		Not considered relevant at this level of planning.

27	Precautionary principle: A risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions		Once the EMF has been finalized, its findings and recommendations will be used to revise the SDF.
28	Consideration of impacts: The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.		The SDF has considered four key areas of sustainability namely; social, environmental, economic, and institutional.

(iv) **DFA Conformance**

Conformance	Number
Very good	4
Good	11
Neutral/Not Applicable	4
Poor	0
Very poor	0

No.	DFA: SUSTAINABILITY PRINCIPLES	SCORE	COMMENTARY
	Policy		
1	Provide for urban and rural development and should provide for formal and informal, existing and new settlements.		This is adequately addressed by the revised plan.
2	Discourage illegal occupation of land, with due recognition of informal land development processes		The plan identifies informally settled areas for improvement and the Housing Sector Plan will make recommendations on informal settlements.
3	Should encourage and optimise the contribution of all sectors of the economy to land development so as to maximise the Republic's capacity to undertake land development.		The plan promotes sustainable development of land by all sectors of society.

4	Promote speedy land development		The SDF has identified areas for priority development and will be refined further at ABM level of planning.
5	Proposed land developments must be judged on their own merits and no particular use of land, such as residential, commercial, conservational, industrial, community facility, mining, agricultural or public use, should in advance or in general be regarded as being less important or desirable than any other use of land.		Land designations have been made in the plan in terms of the land's perceived suitability in terms of available information. The specific zonation of land will be dealt with in the Land Use Schemes which will consider detailed studies of a particular piece of land earmarked for development.
6	Land development should result in security of tenure and provide for the widest possible range of tenure alternatives, including individual and communal tenure.		The SDF aims to promote a variety of land tenure arrangements.
7	There should be co-ordination of the interests of the various sectors involved in or affected by land development so as to minimise conflicting demands on scarce resources.		Interested and affected parties have been engaged throughout the planning process and their inputs have been considered towards the finalization of the plan.
8	Should stimulate the effective functioning of a land development market, based on open competition between suppliers of goods and services.		The revised SDF provides a clear guide to developers and various sector bodies in terms of proposed vision for the City.
Sustainable Development			
9	Promote the integration of the social, economic, institutional and physical aspects of land development.		The plan has considered four key areas of sustainability namely; social, environmental, economic, and institutional.
10	Promote integrated land development in rural and urban areas in support of each other.		Refer to 1 above.
11	Promote the availability of residential and employment opportunities in close proximity to or integrated with each other.		This has been adequately addressed in areas such as GEDI and Vulindlela where there are fewer economic opportunities. New areas identified for development are supported by areas of economic opportunity in close proximity.
12	Optimise the use of existing resources including such resources related to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities.		This has been addressed in the plan however; there is a need to improve on minerals and bulk infrastructure aspects.
13	Promote a diverse combination of land uses, also at the level of individual erven or subdivisions of land.		A diverse combination of land is promoted by the plan's land designation however; the SDF level of planning does not focus on specific erven.

14	Discourage the phenomenon of urban sprawl in urban areas and contribute to the development of more compact towns and cities.		The principles of Densification are promoted by the plan and Policy Statements are made in the plan for use in detailed plans.
15	Contribute to the correction of historically distorted spatial patterns of settlement in the Republic and the optimum use of existing infrastructure in excess of current needs.		The Municipal IDP commits to correcting historically distorted spatial patterns is adopted by the SDF.
16	Encourage environmentally sustainable land development practices and processes.		The plan has addressed this aspect of planning based on available information.
17	Promote sustainable land development at the required scale in that they should - promote land development which is within the fiscal, institutional and administrative means of the Republic; promote the establishment of viable communities; Promote the sustained protection of the environment; meet the basic needs of all citizens in an affordable way; and, ensure the safe utilization of land by taking into consideration environmental constraints.		Refer to 16 above.
Participation, Empowerment & Transparency			
18	Members of communities affected by land development should be given the opportunity to participate in the process of land development.		The SDF aims to promote public participation in land development processes.
19	Skills and capacities of disadvantaged persons involved in land development should be developed.		The principle is supported in the SDF and should be applied in site specific applications.

ANNEXURE 1

DEVELOPMENT CORRIDOR CONCEPTS AND THE UMGUNGUNGLOVU SDF REVIEW

Dr Jeff McCarthy
06-05-2007

DEVELOPMENT CORRIDOR CONCEPTS AND THE UMGUNGUNGLOVU SDF REVIEW

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Objective

The purpose of this report is to provide an overview of the post-apartheid development corridor perspective, up to and including the February 2007 Provincial Spatial Economic Development Strategy (PSEDS), as a basis for assisting in the current (April 2007) stages of the Umgungundlovu Spatial Development Framework review.

Since Umgungundlovu, as a region, embraces both a significant emergent metropolitan area, and has rural and smaller town component within it and, at the same time the region sits strategically astride a major intra-national linkage (Durban/Gauteng), we examine the development corridor concept at a number of different geographical scales in generic terms before returning to the specifics of Umgungundlovu.

Intra-metropolitan corridors

Much thinking on the post-apartheid planning of the Msunduzi and uMgungundlovu areas in the 1990s was influenced by the UCT school of urban planning thought on intra-metropolitan development corridors. Initially these were thought of as reconnecting the former divided Group Areas components of especially Msunduzi, in physical terms. The concepts of Professor Dave Dewar of UCT were particularly influential here, and they did not only influence Msunduzi/uMgungundlovu in this province. The present author and other urban researchers and planners in Durban/eThekweni were also influenced by Dewar during the 1990s. Thus spatial development frameworks hatched in the 1990s for both Msunduzi and eThekweni had partly drawn upon Dewar's thinking, for example, in conceptualizing intra-metropolitan "activity rich seams or corridors" shown in figure 1 overleaf. (This figure is reproduced from Professor Dewar's more generic work in the 1980s where Dewar did not have a particular SA city in mind).

The employment and facility oriented "spines", "seams" or "corridors" in these schemes were seen as important both from the point of view of encouraging greater social interaction in previous buffer strips within metro areas; and in the Msunduzi context from the point of view of moving more work and investment generally to the north/south

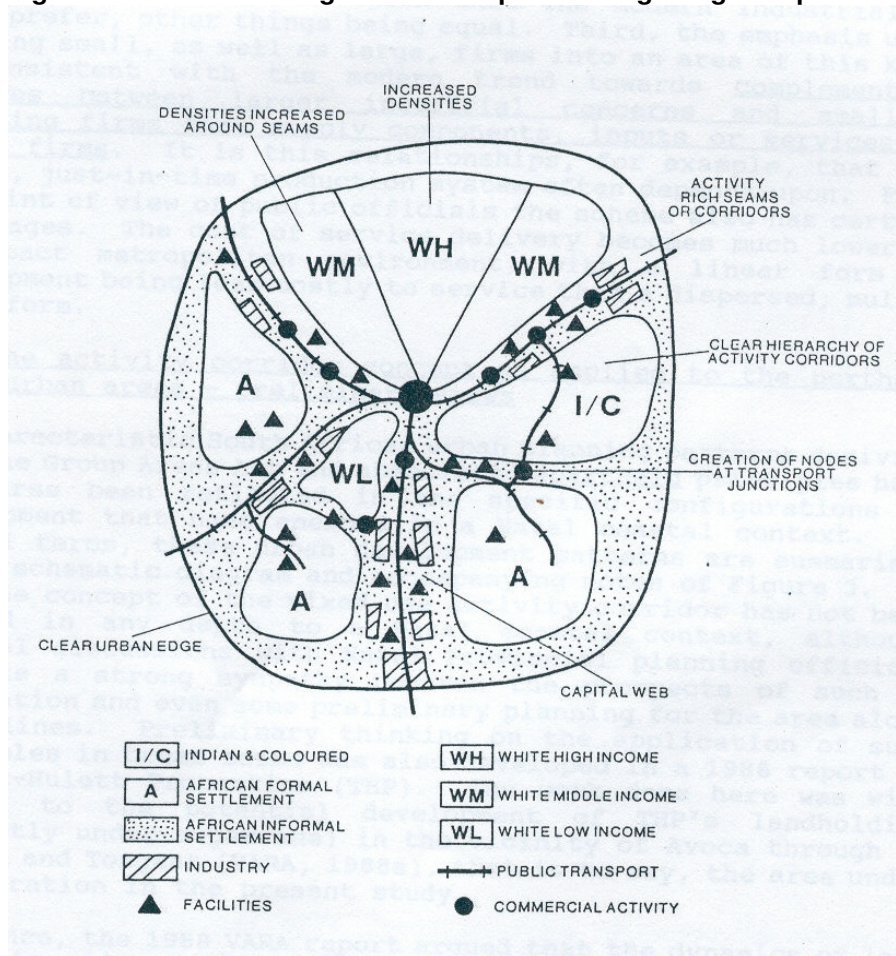
(Greytown/Richmond) axis given that, in previous decades, imbalances had developed in this regard.

The government's 1995 White Paper on Urban Development; and in the Spatial Development Framework documents of the Msunduzi (and other metro or major urban Councils in SA) in the late 1990s and beyond, deployed aspects of this notion of the intra-metropolitan corridor with its simultaneous emphases upon:

- Social reintegration and
- Economic efficiency

The idea was to make more use of hitherto wasted intra-metropolitan space, and to bring complementary land uses (e.g. work, play, home) closer together so as to minimize travel time and costs.

Figure 1: Dewar's 1980s generic concept of reintegrating the apartheid city



Inter-urban corridors

An emphasis upon inter-urban development corridors also emerged in the late 1990s at a national level, most particularly through so-called spatial development initiative (SDI) concepts developed jointly within the Departments of Transport and Trade and Industries.

As the DTI has recently noted, the SDI programme in South Africa was conceived in 1995. SDIs are based on the principle of growth corridors and to link key economic nodes and regions in the country with occasional cross-border links with neighbouring countries also being catered for (see figure 2). The corridors were designed as “arteries”, which would encourage growth in the key sectors present in those areas. Support for improved infrastructure goes hand in hand with support for catalytic economic projects based on regional strengths in this framework.

According to DTI: “The SDIs were regarded as the vehicle for achieving higher rates of both economic growth and job creation and to improve the functioning of government in targeted regions of the country. The SDIs were characterised by intensive interventions in identified areas to fast track private sector investments, to stimulate the growth of Small Enterprise and micro enterprises (SMME) and to enhance the empowerment of local communities.

FIGURE 2: SDIs in the Southern African Region



According to DTI, in the identification of the potential SDIs, the methodology was based on the following factors:

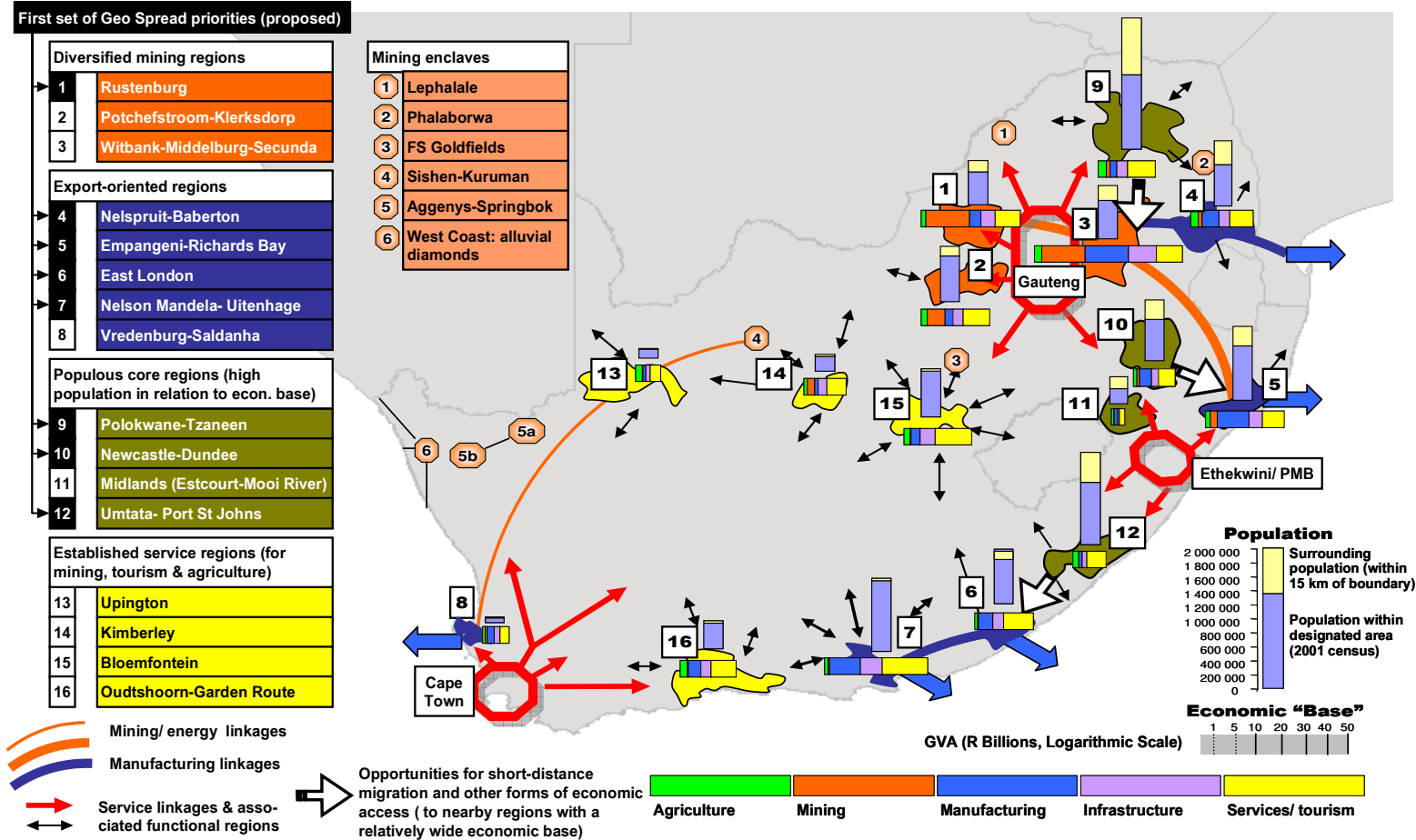
- Inherent economic potential
- Configuration of investments to ensure infrastructure viability through sustainable revenues streams
- Crowding-in investments
- Public-Private-partnerships (PPPs) and Community-Public-Private-partnerships (CPPPs)
- Political commitment
- Rapid planning and delivery

As of early 1999, 11 industrial, agricultural or tourism-led SDIs were initiated and launched in South Africa these include the following:

- Maputo Development Corridor (Industrial and Agro-processing)
- Lubombo SDI (Agri-tourism)
- Kwazulu Natal SDI (Industrial)
- Fish River SDI (Industrial)
- Wild Coast SDI (Agri-tourism)
- West Coast Investment Initiative (Industrials & Agri-processing)
- Gauteng Special Economic Zone
- Phalaborwa SDI (Industrial & Agri-tourism)
- Gariep SID (Mining & Agri-tourism)
- Platinum SDI (Industrial & Agri-tourism)
- Cost To Cost (Transport & Tourism)

More recently, at a national level, government formulated a national spatial development framework, which echoed some of the SDI themes as well as those of economic efficiency and spatial re-integration as elaborated by earlier by Dewar, but in his case at the intra-metropolitan scale. Of relevance here to Umgungundlovu is its positioning astride the eThekweni/Msunduzi “economic core” and the “populous core region” of the Midlands (figure 3).

FIGURE 3: National Spatial development perspective Core Regions and Spatial Economic Linkages outside South Africa's Three Main Metropolitan Areas



DTI comment in a recent draft document that: “These 16 areas have clear economic comparative and competitive advantages, which, to a large degree, are based on the strength of the dominant economic activities and industrial concentration nodes within them. Clustering of related economic activities is clearly a key regional competitive advantage in these areas. Appropriate support to enhance the competitive edge of these regions would clearly be of national and regional significance. In terms of the three primary cores, their diversified economies and multiple-activity bases are critical to the national economy and enhancement, if possible, would be ideal”.

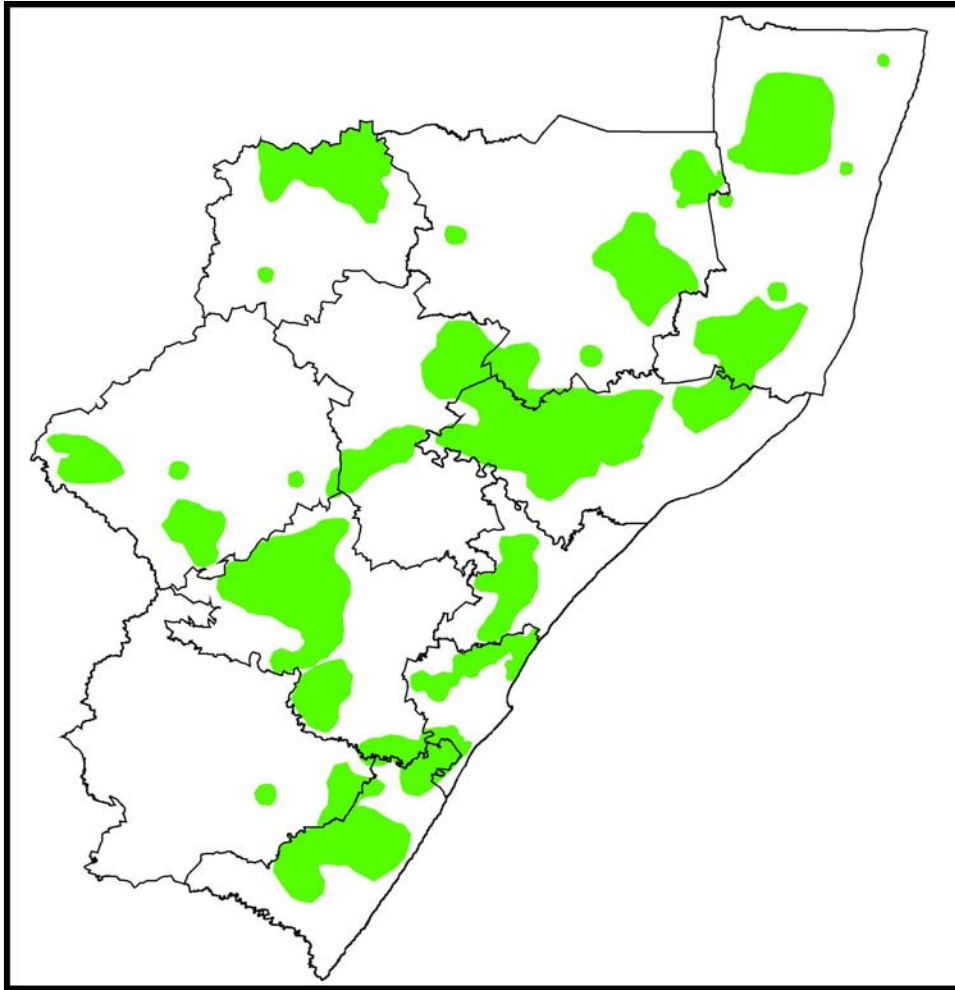
A Provincial Development Corridor Perspective

The recent Provincial Spatial Economic Development Strategy (PSEDS) partly took its brief from SDIs and the National Spatial Development Framework, and partly from the specific comparative advantages of the various components of this province. The collective perspective of Provincial Cabinet has been reflected in the recently approved (February 2007) Provincial Spatial Economic Development Strategy (PSEDS).

Key elements of this Strategy are as that:

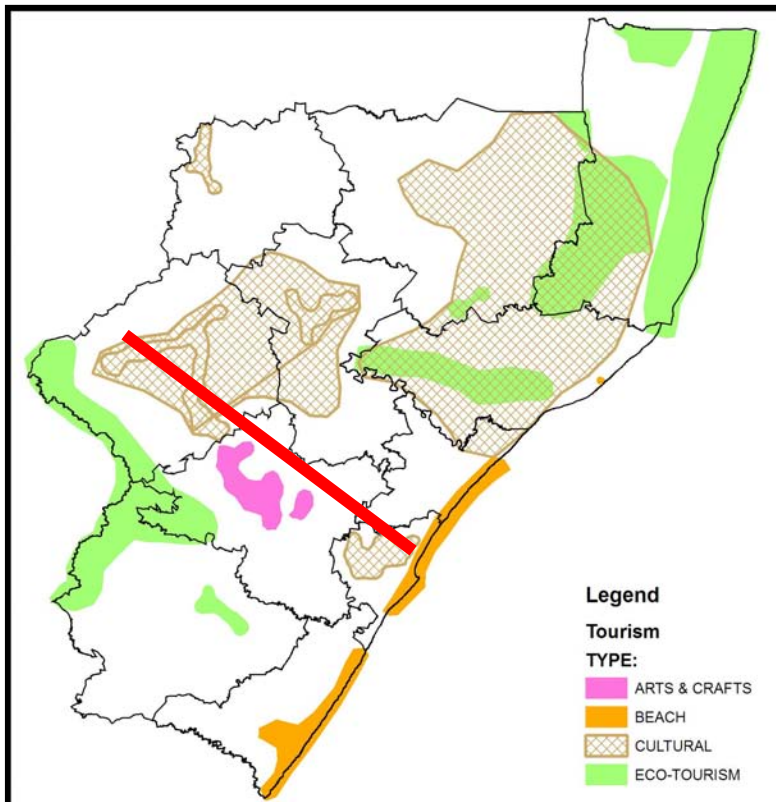
- Industrial development is seen as central to economic growth in the province and “Corridor linking two (Port) nodes & extending to Howick form the primary zone of industrial potential” ;
- Tourism development is seen as second in importance and “Primary sectors of tourism potential are beach, cultural 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; and
 - Largest existing or potential employer in rural areas; and
 - can make greatest impact on reducing poverty levels in rural areas”

As the map below from the PSEDS shows, in the southern and western portions of the District in particular, there are high quality agricultural lands (shaded green) which will be important ingredients of growth strategy planning there.

Figure 4: high agricultural potential zones in KZN after PSEDS

The full spectra of key tourism opportunity areas identified in the PSEDS and as extracted from their presentation are mapped in figure 5 below, with the N3 corridor area from eThekweni through uMgungundlovu approximately indicated with a red line overlay. As can be determined, the Umgungundlovu area incorporates two major tourism opportunity zones, one of them astride the N3 corridor.

Figure 5: Tourism Priority areas as identified in the February 2007 PSEDS, with N3 corridor area superimposed in red line



The PSEDS also recognises that: “The tertiary sector is the largest contributor to the economies of all except for the Ilembe and Uthungulu district municipalities.

The tertiary sector comprises:

- Wholesale / retail trade
- Transport / storage
- Communication
- Financial / insurance
- Real estate
- Business / Community / social / personal services
- Government services.....”

It is noted that this important economic sector is arranged in a number of nodes of varying levels in the province and in uMgungundlovu, as is reflected in figure 6 below. The PSEDS also notes that in addressing poverty, jobs should be created through developments in or near the established urban areas and the highest densities of poverty are located in eThekweni, Msunduzi, Newcastle and Umhlatuze”.

As a result of all of the above, the PSEDS then goes on to identify two “provincial priority corridors” for mixed economic investment, and these are mapped in relation to service sector nodes in figure 7 overleaf. The provincial priority corridors are code-named PC1

(eThekweni / Umhlatuze) shown in red on figure 7, and PC2 (eThekweni / Msunduzi / uMngeni) shown in brown on figure 7. Clearly the latter is of signal importance for Umgungundlovu.

There are other corridors and spatial planning concepts of relevance for Umgungundlovu in the PSEDS, but for the sake of focus and clarity in this short report, we have concentrated on the key considerations.

Figure 6: Provincial tertiary sector node levels and distribution

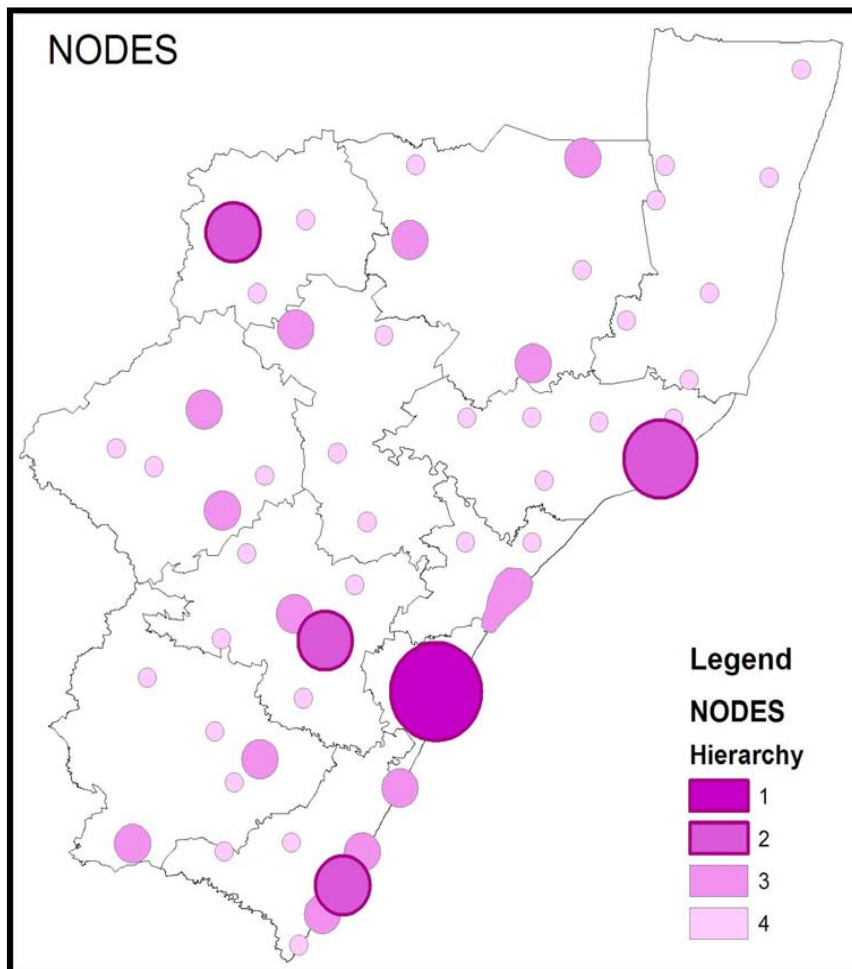
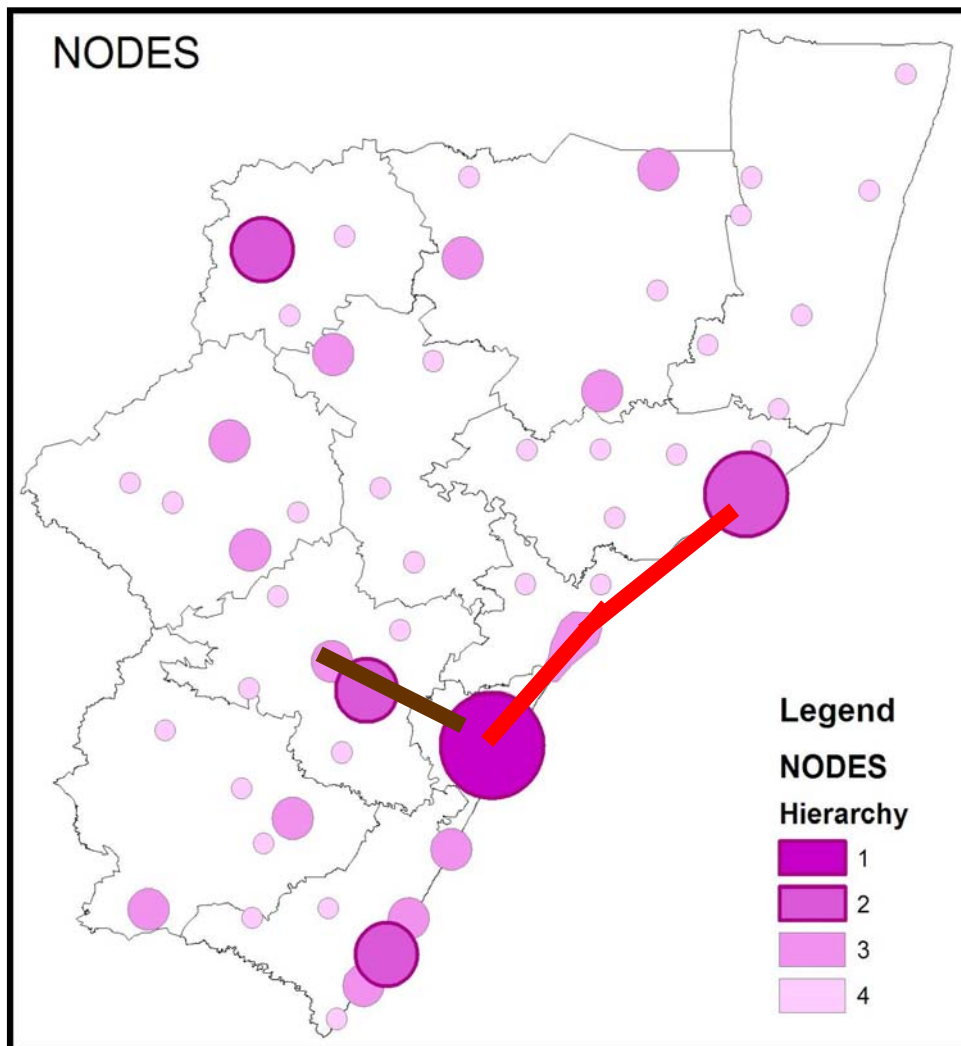


Figure 7: Provincial priority corridors



Finally it might be observed here that the PSEDS diagrams themselves are obviously illustrative of economic development concepts, and should not be not misinterpreted as spatially rigid; rather, the key analytical point is that there are challenges of **comparative economic advantage** that Provincial government seeks to harness through the strategy: “The PSEDS emphasises the need to invest the province’s strengths in order to address poverty and create employment”. Further comment on this aspect is provided in the final section of this report to follow.

Implications for the Umgungundlovu SDF Review

The spatial planning perspective of the District Municipality in relation to its area has been evolving over time, as is evidenced by the current SDF review. In addition to this review, most recently it has also become evident that the District Municipality sees N3 freeway intersection points as key economic drivers. Specifically, in a Terms of Reference *CORRIDOR DEVELOPMENT PROGRAMME PC2: ETHEKWINI-MSUNDUZI-UMNGENI CORRIDOR* recently issued to consultants it is noted that:

The DLGTA has been mandated to coordinate the implementation of a Corridor Development Programme as a priority intervention aimed at promoting growth and development in KwaZulu-Natal. The corridor that falls within uMgungundlovu District Municipality is called eThekwini-Msunduzi-uMngeni corridor in terms of the KwaZulu-Natal PSEDs.

uMgungundlovu District Municipality and its family of local municipalities has established a Steering Committee that is vital to the implementation of the corridor development. One of the responsibilities of the Steering Committee is to ensure that catalytic projects for economic development are identified and implemented in the corridor. The Steering Committee consists of representatives from the local municipalities falling within the corridor, namely, Mkhambathini, Msunduzi and uMngeni Municipality....(where)...the land around the N3 Intersections is identified as Opportunity points.”

In the author’s assessment, the Umgungundlovu District Municipality correctly infers that these intersections will be the focus of development pressures for especially manufacturing/industry and commercial/services use. Given both national and provincial policy as outlined above, as well as international experience, it would be wise for the District to accommodate as much of this pressure as is possible, given environmental constraints and the need to protect the approaches to the two major provincial tourism assets located within its boundaries (see figure 5).

However, as the current outputs of the Umgungundlovu SDF review process indicates, and as some of the preceding material in this report also indicates, the issue of corridors cannot and should not be restricted to the N3 corridor alone. A number of general points are made in this regard in relation the main current output of the SDF review, as shown in figure 8 below.

- Tourism

And, probably 90% of that will be aligned either along the provincial priority corridor, or along the District Primary corridors, as shown in blue and purple respectively on figure 8.

These are mostly both intra-metropolitan corridors within Msunduzi and inter-urban corridors within the District, as such should be jointly planned and facilitated, partly in terms of the intra-metropolitan corridor concepts referred to at the outset, and partly in terms of the inter-urban concepts also referred to with locally sensitive emphases upon the core principles of

- Comparative advantage
- Efficiency
- Integration

ANNEXURE 2:

A: PUBLIC COMMENTS ON THE DRAFT SDF REVIEW – MAY 2009

PUBLIC COMMENTS ON THE DRAFT MSUNDUZI

Person / Organization	Comments	Response
1.	(a) The PMMB Trust requests sufficient time to in which to assess the draft documentation, present the community proposals and help shape the future planning for the area towards a joint vision for one city. They therefore request an extension to Friday 15th May 2009.	Sufficient time for comments was provided therefore; this request was declined.
	(b) The need to define “urban” and “rural” particularly “urban agriculture” and “rural residential”	The term “urban” refers to the urban component of the municipality or formally layed out areas where properties are properly defined in the Municipal Valuation Roll. The term “rural residential” refers to the rural component of the municipality outside the urban component. The term “urban agriculture” has been replaced with “communal agriculture”.
	(c) The future Limited Mobility Access Roads occur to a large extent outside of the Msunduzi Municipality therefore; comments of neighboring municipalities are requested. There is a limited number of future arterial roads within the municipality. The Bellevue distributor has been removed from the SDF, Cleland Road and Hesketh Drive extensions have also been excluded. It is not clear whether this is an omission or a change in the SDF.	The SDF Review document will be tabled at District SDF level where alignment will occur between municipalities. The SDF map does not reflect all roads in the municipality but those which are considered as major roads. The roads in question are reflected on the amended map.
	(d) The position of the Urban Growth Boundary is conflicting as there many formal residential areas outside of the boundary in the south and urban agriculture in the west. The purpose of the line in the plan needs to be clarified.	The “urban growth boundary” is only reflected along the Edendale valley where the terrain of the valley has been regarded as a natural boundary.
	(e) There is a need to define the development corridors that have reduced and rationalized. Which are the mixed use corridors?	The SDF Review document and map is very clear on the nature, objective, and hierarchy of corridors.

	(f) The proposed housing in the category “CBD, Eastern and Ashburton”, does this refer to the land from Bishopstowe in the east to the agricultural land across the N3 through the Mkhondeni and Mpushini valleys?	The areas on the SDF Review map shown as dark yellow are areas where housing development is encouraged. The nature and extent of the housing will be determined by the Housing Plan.
	(g) There is no land use classification in the plan that indicates the position of “Longer Term Development Areas”.	The amended SDF Review map refers to “Long Term Development Areas”.
	(h) There is no description in the text for; (1) economic opportunity area, (2) limited development area	(1) The description of economic opportunities has been provided in the amended SDF Review document under Section 7. (2) This designation has been dropped in the amended SDF Review.
	(i) The economic growth opportunity at Mkhondeni, without a cadastral plan, it is assumed that the future expansion of the industrial site at Mkhondeni is over Ukulinga, the research farm of UKZN. At a meeting with UKZN, it is understood by the Trust that the land was donated by the government for research purposes and that any change in land use will be in contravention with the donor agreement. UKZN also donated a portion of this land to the municipality for the establishment of Bisley Nature Reserve and have a memorandum of understanding that this property for research and training of students.	It is not the intention of the SDF to designate land in accordance with cadastral boundaries but that of the Land Use Scheme. The SDF does not intend to change the land use of the research site in question. The ABM level SDF will also clarify this where a greater level of focus will be paid to specific land designations.
	(k) With regards to the proposed extension of Shortts Retreat Road to Richmond Road, the suitability of two arterial roads on either side of the Bisley Nature Reserve which needs buffer zones is questioned. It is recommended that Shortts Retreat Road be linked to Gladys Manzi Road.	The suitability of proposed roads will be best determined by the Msunduzi Transport Plan currently underway. The findings and conclusions of that plan will be used to refine the SDF.
	(l) What criteria were used to determine the position of the new sewerage works on the Mpushini River and which area would it service?	The position of the Sewerage Works is not fixed and has been included to indicate that it is important for municipal planners and Council to remember to address this issue. More so, if the areas in the eastern quadrant of the municipality are earmarked for future residential and economic development.
	(m) What criteria were used in the selection of the node development along the Dardenelles Road?	The location of all nodes is based on Dewars Model of Integrating Cities, which amongst other things recommends the use of best located major intersections

		to be developed into nodes.
	(n) How have the findings of the SEA been incorporated into the plans for the Mkhondeni Valley?	The findings of the Mkhondeni SEA and Msunduzi EMF process currently underway have been used to identify areas of environmental significance. This assist in the identification of areas that are recommended for development.
	(o) What research has been conducted to estimate a need for 40,000 houses in the next five years? There is also no distinction drawn between different densities of formal housing and position.	The SDF Review has considered population projections, as well as findings of the municipalities IDP to determine the number of housing units required by the City. The Housing Plan will best determine the nature and density of future housing.
	(p) What criteria have been used remove all agricultural land from the south and east of the municipality and focus urban agriculture 15-30km away from the CBD in the western position?	It is not the intention of the SDF Review to discourage agriculture in the eastern quadrant of the municipality, especially those areas that are considered as restricted use areas that might be currently under agriculture and those that are earmarked for "longer term development".
	(q) The Trust has consulted with Transportation in the municipality who have been unable to assist with the changes proposed in the draft SDF. It is unclear who was consulted in the Transportation department.	The Transportation department has provided input into the SDF Review. They have provided a list of major roads, and priority roads/projects. These are reflected in the SDF Review.
2. Real Landscape Installation	(a) There has been no due public participation in the process and now there is a pressing need to conclude the plan due to budget finalization. This organisation feels that once again their concerns and plans are to be brushed aside and treated with disdain.	The plan was tabled at Mayoral Izimbizo in 2008, and was subjected to public scrutiny in 2009. It was advertised in the local press, made available at public venues around the
	(b) The current careless attitude displayed by the city's managers is evidenced in the uncontrolled development of small businesses, livestock numbers, strip clearing, quarrying and destruction of the environment that is seen throughout this area.	This is not an SDF issue because it deals with specific grievances which are presumably on specific properties. The organization needs to formally lodge these grievances with the Council and not through the SDF Review process.
	(c) This attitude indicates ignorance and a general belief that Ashburton is merely open and undeveloped space and therefore ripe for altering in whatever manner that suit's the	All land should be used optimally on the basis of policy and land capability. The area in question lends itself to future development on the basis of its capability which

	city's need to develop.	will be investigated prior to the approval of any development.
	(d) There is no attempt to consult or take into account the long term vision held by residents in the Ashburton area, particularly those who straddle the D389. The use of this road as an arterial road is not commensurate with our vision for this area.	It is recommended that a Local Area Plan be conducted for the Ashburton area to deal with issues of this nature.
	(e) Our plan sees the closing off of this road once we have achieved PROTECTED AREA status, which in turn creates a biosphere that will then act as a buffer to the long mooted MKHAMBATHINI Game Reserve. As mentioned landowners have already taken the initiative and are well down this road, despite land claims, lack of real finances and <i>apathy from various government departments</i> .	The roads of the SDF will be refined in line with priority roads of the Msunduzi Transport Plan.
3. Upper Mpushini Conservancy	(a) New proposed road with new residential areas adjoining, running from the P338 (Dardenel's Road) North (and slightly East) to Mkhondeni. This proposed road runs from the P338 cutting the Hirsch's Game farm in half, through the residential components of Tanglethorn Wildlife Estate, and through the Smith/ Battershill Game development. This proposed road is cutting right through the Mpushini Conservancy and makes a vision of a greenbelt area / ecological corridor impossible. The topography of the area is incredible hilly and it would be very expensive to put a road and services there. We would therefore propose that this proposed road and the adjoining proposed residential areas are taken off the map.	The SDF map will be refined in line with the findings and recommendations of the EMF. The current SDF Review map is deemed to be in order and in line with readily available information. The alignment of roads will be addressed and refined in line with the Transport Plan.
	(b) "NF" at the link of the new proposed road into the P338 We assume this means "Neighborhood Multi- use Node/ Focus Multi-use Node". Surely it would make more sense to have this type of node 2 km down the road at the Umlaas Road / P338 Interchange?	If the P338 link and adjacent residential area is retained, it is recommended that this node be retained however; its position may be changed if deemed appropriate.
	(c) Proposed residential areas South of Mkhondeni There have been various areas of conservation significance identified within the Mkhondeni SEA, this is not reflected in the SDF and development of these areas may not be	The SEA proposals were taken into consideration and were further refined by the findings of the EMF process.

	appropriate.	
	(d) There is a piece of vacant land that has been artificially laid out as a typical urban “park” with a few trees (some indigenous) and large areas of mown lawns. These parks require large budgets and a large labour force in order to survive. This organisation also believes that planners neglected the fact that all species, whether they are birds, animals or invertebrates require paths along which they can migrate from one area to another as seasons change, and food and water resources become diminished.	This comment does not require any change to the SDF. This is an operational matter and should be dealt with at that level.
	(e) As the SDF plan shows that District Road 389 will be upgraded to an “Arterial Road”. This road passes through the soon to be proclaimed Mpushini Protected Environment and large and small wild animals are constantly grazing alongside the road and crossing it. Upgrading this road to a major arterial road will result in many high-speed collisions occurring between motor vehicles and the larger game animals such as Nyala, Impala, Eland, Zebra, Wildebeest, and Kudu which inhabit the area in large numbers. It will also result in many “road kills” of smaller species.	The SDF roads will be aligned to the Transport Plan roads.
	(f) A future sewerage works is shown on the SDF Plan on the banks of the Mpushini River. If constructed, this will cause serious deterioration of the water quality in the lower reaches Mpushini River and consequently the Msunduzi River. The existing sewerage treatment works in Lynnfield Park on the Malkopstruit is already causing problems with large quantities of partially treated waste water being released into river resulting in algal blooms in the Mpushini River (This is entirely due to mismanagement by the municipality), same thing might happen with the new plant.	Municipality needs to indicate where future treatment works are to be located.
	(g) Proposed Residential Areas along P338: This area falls partly within the Mkhambathini area and surely any changes in land use can only be proposed after consultation with the Municipality. The SDF of Mkhambathini presently shows this area as agricultural. If the vision is to change this area into residential, we would propose to limit it to a rural residential.	Alignment at municipal level will be required. We need to indicate that the general approach in this area is for “conventional” residential development to be constrained to a walking distance limit corridor ie; 750 - 1000m. This leaves sufficient space for Rural/small holding and natural/environmental land uses.
	(h) Area next to the N3 We have been encouraged that the plan did not show a	Noted

	continuous industrial development along the N3, rather isolated opportunity areas.	
	<p>(i) <u>The Way Forward</u> We would like to work on a development vision for the Eastern areas, possibly within the EMF process, where the Msunduzi Municipality together with interested and affected parties, including Upper Mpushini Conservancy, Tanglethorn Estate, Smith / Battershill Game farm Development, PMMB Trust, Lower Mpushini Valley Conservancy as well as Lynnfield Park Residents Association work out a more detailed plan. At present most of the above interest groups have been working on the vision of a “green belt area”, or biosphere resort, stretching from Bisley Nature Reserve to the P338 (Dardenel's Road) and to the Lower Valley.</p>	Local Area Plan is recommend to deal with the more detailed issues.
4. Mpushini Conservancy	<p>(a) A riverine corridor at least 200m wide should be reserved for conservation along all rivers in the area. The rivers that are affected are the Msunduzi River, Mpushini River, Mkondeni River and the Malkopspruit. These river valleys consist mainly of Eastern Valley Bushveld which has a high biodiversity rating.</p>	DAEA recommends 60m on either side of the river (120m). These buffers are already shown on the SDF map.
	<p>(b) Areas immediately adjacent to the riverine conservation corridors should be reserved for low-density development. Here the minimum plot sizes should be restricted to a minimum of 2Ha and only one dwelling should be permitted on each plot. No more than 25% of the plot should be allowed to be cleared of natural vegetation and the remaining 75% should remain natural. External perimeter fencing should only be permitted if it allows the free passage of wild animals. The fencing immediately surrounding dwellings can be of a more secure type. No industrial or commercial activities should be permitted in these areas.</p>	This is a LUMS matter. The SDF does include a Densification Policy Statements but only as a guideline to a more detailed LUMS process.
	<p>(c) Where a road crosses a natural area or a migration corridor, an adequate number of underpasses should be constructed to allow wildlife to cross that road in safety.</p>	This is an operational issue to be appropriately dealt with during construction.

	(d) The areas that are designated as “Longer Term Development Areas” should be incorporated into the “Restricted Use Areas” where no high-density development should be allowed to occur.	We do not agree with this view.
	(e) District Road 389 should be retained as rural access road so as to minimise possible road accidents and facilities to both human road users and wild animals.	The Transport Plan will be checked for alignment purposes.
5. AP Austen Smith & Co representing; (i) Boulder Hill Development Trust (ii) Honey Badger Family Trust (iii) Arthur Patrick Austen Smith (iv) Mpushini Estates (Pty) Ltd	<ul style="list-style-type: none"> The area shaded yellow as “future formal residential” which is propose to serve from this road (proposed arterial road), is unlikely to be developed as high density residential development. 	The nature and density of residential areas will be determined by the Municipality’s Housing Plan.
	<ul style="list-style-type: none"> There is already a shop and existing residential node at the junction of the existing Bisley / Manderson where the future node is proposed to be located. 	The SDF therefore; recommends the consolidation and expansion of this area as a fully fledged node.
	(a) District Road 365 adequately serves the existing smallholder community along this road	Clarity on this comment is required.
	(b) District Road 365 at present terminates at the entrance to Tanglethorn Estates, a low density eco-estate with a clustered residential unit with a single entrance to the DR365.	As above
	(c) There are other adequate and less intrusive routes for North – South links which will be less intrusive.	Alignment with Transport Plan is required.
	(d) It is not considered that, except for the existing development or future very low density development, that the objective for preserving a corridor along the Mpushini Valley river system will be respected by the proposed land use demarcation of the DFA Plan.	This comment needs to be clarified. The DFA process will determine what is considered appropriate and what is not.
	(e) The proposed development will preserve a valuable aesthetic area and retain it in productive agricultural production at the same time. The proposed road would bisect this development.	The alignment of roads will be best determined by the Transport Plan. Before any road is constructed, such factors will be addressed.
	(f) The prospect of a new additional “north / south corridor between P338 and Shortts Retread Road is not supported also because there are 2 existing roads serving this route: the Bisley / Manderston Main (P120) Road which incorporate a link to the Gladys Nzimanzi Road.	Alignment with the Transport is also required in this instance.
	(g) Any need for a further link to Shortts Retread Road could equally be served by upgrading the existing road D354 which	The proposed link and concentration of development is accepted.

	travels through a number of existing small holdings. This link could be extended to join in with the Old Main Road, or alternatively, could be located along the western boundary of existing and future development along Lynnfield Park.	
	(h) The SDF plan does not reflect the existing DR352 along the rail bridge area.	This road is reflected.
	(i) The clients states that the proposed arterial road extending from N3 Highway to Wally Hayward Drive traverses the low-lying land adjacent to the Mpushini River and one of its significant tributaries.	This point needs to be clarified as it does not mention any specifics to the SDF.
	(j) With the railway crossing and 2 river crossings, it is difficult to accept that this proposal should be included.	The alignment of roads will be best dealt with in the Transport Plan.
	(k) The land in question includes extensive areas of grasslands; it appears that this road may go through the Ishona Ilanga Nature Reserve. It also appears to go through sensitive and valuable Hirsch game farm, through Tonglethorn, through the Boulder Hill Ranch development, over the Mpushini river, over the existing D352 and through certain areas of strategic valuable pristine Thermeda grasslands to a point which presumed to be in the vicinity of the existing development along the western section of A P Smith Road and then through broken thornveld to a point where it links to Shortts Retreat Road. The route of this road goes through areas which must be classed as "highly sensitive and valuable"	The alignment of the road and construction thereof; would still need to go through a proper planning and application process. It is during this process where such issues would be addressed.
	(l) The proposed arterial road existing from Richmond Road over existing Road P120 down along the Mpushini should not abut on the Mkhondeni river valley catchment area.	Exact alignment be determined by the Transport Plan.
	(m) The justifiability of a "short cut" from the present Mkondeni Industrial area to the Shortts Rereat road should be located away from the Mkondeni riverine area.	This comment is accepted, if this road would have a negative impact on the water quality of the river.
	(n) Clients are aware that this will exclude part of the present Bisley Nature Reserve – perhaps a few hectares. Any land excluded could be incorporated into whichever of several existing or proposed "high priority conservation areas along the Mpushini stream" are selected a suitable custodians if this valuable	This point needs to be clarified as it does not mention any specifics to the SDF.

	riverine land.	
	(o) The proposed arterial road linking the development node with high density residential areas of Imbali, Slangspruit, etc. does need further considerations in relation to the creation of a corridor over the Thornville / Umlaas Road Crest along the "Dardenell's Road in order to link the Mpushini / Mkondeni Corridors to the Umlaas river corridors.	The SDF Map is only formulated at policy level.
	(p) Manderston is not a designated neighborhood multi-use node. At some future date the Main Road P120 from Bisley to Manderston will need to be upgraded to link up with other road networks outside the scope of the present SDF.	This point is accepted as far as it relates to the alignment of roads because these are best dealt with in the Transport Plan.
	(q) In view of the scale of the map, which does not reflect topographical or property boundaries, other than the major river systems, it is possible that the above comments will need modification.	Accepted
6. SSI Engineers and Environmental Consultants (PTY) LTD	<p>(a) Despite the early sale of 34 sites, it was clear that there was a need to secure additional development rights on the application property so as to ensure that the development would be sustainable in the longer term. Consequently a client has initiated the process of installing the thus approved infrastructure in parallel with the process of addressing the need for the additional development rights. This process is now well underway.</p> <p>(b) There is an objection which relates to the proposal to traverse a portion of a client's property by imposing a future road linking Ambleton, located within the Edendale area to the Lion Park Interchange. The client has an existing development approval which includes the development of 102 housing units, a clubhouse, meeting room and coffee shop, a tennis court and a swimming pool, a small office complex, security and administration office, a stable complex all set within a high quality secure farm wildlife estate, as reflected on the Site Development Plan.</p>	The comment is accepted and the road will be realigned.
	(c) Any routing of such high order road in the vicinity of the Client's property will adversely impact on vision of the farm wildlife estate. Furthermore any major road-link such as envisaged, will	Same as b above.

	have a severe impact, both on the Reserve, as well on the future nature and character of the Client's property.	
7. Robert Symons – Ukhambatini Properties cc With extracts from the -Mkhondeni Stream Catchment Area SEA - Summary of Boulder Hill Ranch Project - Kevin McCann	<p>(a) Robert Symons' most concern is about the future arterial roads between the N3 and the suburb of Lincolnmeade in the draft SDF as it conflicts with plans given by the Transportation which involves the extension of Hesketh Drive to the Bellevue Distributor which links the N3 to the present Rogers Road in Lincolnmeade and then links up with the extension of New England Road, it was indicated by Mr Budhi that the department would be surveying the proposed road infrastructure during the course of 2009, He then seeks the explanation why the road infrastructure on the draft SDF differs from the proposals from Transportation.</p>	These proposals have been included in the amended map.
8. JM Rivers-Moore	<p>1) The drawing shows as an existing arterial a road between the northern end of Hoosen Haffejee Street to Northdale Hospital. I am sure that the people of Woodlands. Raisethorpe and Northdale would be overjoyed if this were true. Journey speeds between the Central Area and these north eastern suburbs are the slowest of any from the Central Area and have been for at least forty years. Travel costs imposed on residents of these suburbs due to lack of adequate arterial roads must be enormous and every day's delay imposes additional cost.</p> <p>The construction of this facility should be the top priority Nproject of the Municipality.</p> <p>A current proposal to widen Chota Motala Road between Masukwana Street and Otto's Bluff Road to six lanes will result in millions of Rands being misspent because at each end the intersections lack capacity to match a six-lane arterial. The one-way pair Hoosen Haffejee Street and Pietermaritz Street has the required capacity to accommodate the traffic and distribute it to and from destinations in the Central Area. Widening of Chota Motala Road will merely provide more space for slow moving traffic to occupy.</p> <p>Someone in authority with foresight and vision should intervene to ensure that the arterial from Hoosen Haffejee Street is implemented and the current proposals by the National Roads Authority are modified accordingly. The three levels of government involved in road infrastructure</p>	<p>The issues raised will be best dealt with when alignment with the Transport Plan is undertaken.</p> <p>Generally we can amend road alignments, minor land use adjustments on our plans. But we need to explain that SDF id a Schematic "general intentions" plan, with no absolute cadastral implications. Subsequent Plans such as Land Use Frameworks (also called Physical Development Framework Plans) will detail cadastral sizes and alignments. Also some issues will be addressed with more detailed Transport Plans, LUMS, Urban Design, EMF's etc.</p>

	should be talking to each other; National Roads should not be going ahead alone	
	<p>2) The existing alignment of Murray Road between Hesketh Drive and New England Road is unsuitable for an arterial road because of the gradients. The Municipality has reserved the right of way for a new alignment through a portion of the Hayfields development and the old Hesketh race track. This should be shown on the plan as a future arterial.</p> <p>The northward extension of this route into the end of Royston Road and thence aligned with Ohrtmann Road would provide a direct route between the north eastern suburbs and the Mkondeni industrial area thus relieving the Central Area and the Chota Motala Road corridor of a substantial portion of traffic. Any plan to construct a bridge over the Msunduzi River at the existing causeway would be a mistake; the bridge should be constructed on an alignment with the southern end of Royston Road.</p> <p>3) Another important link not shown as a future arterial is the route along the northern side of the Msunduzi River from Camp's Drift Road into the southern end of Peter Kirchoff Street. This is necessary to provide additional capacity from the western suburbs of Edendale/Imbali and distribute it into the Central Area.</p> <p>I wish to comment also on the public meeting held on 14 March. Firstly, the meeting was advertised to be at 10-00am but did not start until after 11-00. Although an apology became obligatory, was given and accepted, this delay is unacceptable when one considers that paid staff are responsible for the organisation of the meeting.</p> <p>Secondly, the purpose of the meeting was advertised as presentation and discussion of the Spatial Development Framework. While the presentation was ably done by the consultants' representative the discussion did not include responses to the matters raised by the public. Comments from the public were merely recorded. For this purpose the meeting seemed superfluous as comments are being submitted and received as advertised.</p>	This is also an issue of alignment of roads which needs to be dealt with by the Transport Plan.

B: NOTES OF PUBLIC MEETING – 14 MARCH 2009



MSUNDUNZI MUNICIPALITY SPATIAL DEVELOPMENT FRAMEWORK REVIEW:

NOTES OF PUBLIC MEETING – 14 MARCH 2009

Date: 14 March 2009

Venue: Royal Show Grounds hall 6

Time: 13:00 pm. – 15:00pm

Participants Cllr Themba Zungu (TZ) Robbie Mkhize (RM) Vasu Naidoo (VN) Bryan Basett (BB) (Also see attached Attendance Register)	Apologies: Mayor Zanele Hlatshwayo Deputy Mayor Mervin Dirks Mr Rob Haswell
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The meeting was structured along the following Agenda:

Item No.

1. Welcome and apologies
2. Background to SDF
3. Presentation of SDF
4. Public Participation – Questions and Answers Session
5. Closure

No.	Item & Action	Responsibility
1.	<p>Welcome and Apologies</p> <ul style="list-style-type: none"> The members were welcomed by chairperson, who expressed gratitude about the attendance of the meeting by members of Ward Committees and the public at large, this considering that the meeting was held on a Saturday morning. Mr. Robbie Mkhize also extended his apologies about the late start of the meeting, explaining that the Deputy Mayor had been invited to open the meeting but was later held at another urgent Council commitment. He added that Councilor T Zungu would welcome all members on behalf of Council. Cllr. Zungu welcomed all present on behalf of Council and explained that the meeting was a milestone in the journey of restructuring the typical Apartheid City. 	<p>RM</p> <p>TZ</p>
2.	<p>Background</p> <p>a. General</p> <ul style="list-style-type: none"> The decision to revise the municipal SDF was taken at a senior management level and is in line with legislation requirements. Due to the size and the diverse nature of the municipality, it was decided that the ABM be divided into 4 focus areas in line with the ABM area boundaries. A tender process was followed, to which Uddi and IRC were the successful tenders. As a result, Uddi was subsequently appointed to undertake the overall Project Management of the review exercise. IRC was appointed to review the greater Edendale ABM, which includes the formulation of four Physical Development Framework Plans for Caluza, Dambuza, Georgetown, and Plessilaer. It is important that PT's should not necessarily be restricted by ABM boundaries as there are certain areas of overlap e.g.; Vulindlela and Greater Edendale. Mr. Zungu emphasized the following for the background to SDF: changes were made by the concill, clarifying that SDF is meant to reshape the city and also promote sustainable housing. People living in the city have be aware and participate in the reshaping of their city Most of the areas in UMgungundlovu do not have services which imply that the SDF has to suggest ways of addressing these issues and to identify new areas for developments within the city for the future and improving service delivery (water, electricity, sanitation and storm water). The SDF has to encourage opening of industries, factories, and more shops in Vulindlela, Mbali all the outlying areas of the city. It is important for the City to become more industrialized so the city Council can collect more rates which in turn will used to fund the provision of services such as water, electricity and roads. The impact that the City has is not confined to municipal boundaries but also affects what happens at an UMgungundlovu District as a whole. 	<p>GH</p> <p>TZ</p>

3.	Presentation of SDF The Draft SDF was presented by Uddi. <ul style="list-style-type: none"> • Presentation attached to minutes. 	MF
4.	Public-Questions And Answers <ul style="list-style-type: none"> • Members of the public raised the following questions pertaining the Draft SDF presented and other related issues. <p><u>Mrs Pandora Long</u></p> <ul style="list-style-type: none"> • How many SDF Review options were considered and what was the criterion used to choose the preferred option being presented? • Was there any public participation during the process of selecting options? <p>- The preparation of the SDF evolved over time and the Drafts were presented to various internal and external stakeholders. The draft being presented is an outcome of that process.</p> <p><u>Tulani Khofana (ward 23)</u></p> <ul style="list-style-type: none"> • How are you going to counteract resistance from indigenous peoples graves and ensure that there will be no encroachment. <p>- The SDF is sensitive to such issues and would not promote the development of such areas without exploring all possible options available. This matter would also be best dealt with when a specific property is identified.</p> <p><u>Sipho Dube (ward 4)</u></p> <ul style="list-style-type: none"> • How will the SDF ensure that communities are protected from potentially harmful development? <p>- The SDF is prepared with the strictest principles of sustainable development and ensuring the creation of quality urban environments. The SDF is prepared in a way that ensures that compatible land uses are encouraged whilst creating areas of work, live, and play.</p> <p><u>Nhlanhla Shange (ward 16)</u></p> <ul style="list-style-type: none"> • The limited resources available to Council are likely to hinder the implementation of IDP proposals, what is the SDF suggesting in this regard? <p>- Council is committed to making the best use of limited resources, so that a lot of communities can benefit. Communities in turn are expected to respect and protect the facilities and services they are being provided.</p> • The SDF should encourage the provision of recreation facilities in previously marginalized areas and underdeveloped communities? <p>- Council remains committed to providing recreation facilities in underdeveloped areas for example; Council approved that communities should be provided with facilities such as swimming pools one them being at Edendale behind the B.P garage. The provision of other facilities in other areas will be guided by available resources.</p> • What is the status of the proposals to extend Prince Alfred street to link up with College road/West street, in order to reduce congestion.	<p>MF</p> <p>MF</p> <p>MF</p> <p>MF</p> <p>TZ</p> <p>TZ</p>

	<ul style="list-style-type: none"> - Council is the process of finalizing the Integrated Transport Plan and this matter would be best addressed in that process. However; the SDF encourages any suggestions to deal with the current traffic congestions, as long as these are sustainable. <p><u>Hector Hlombeni (ward 20)</u></p> <ul style="list-style-type: none"> • Does Council or government have any plans to purchase the private properties in Edendale, so that these can be transferred to current occupiers? • If the municipality has done anything, how many of these properties have been purchased. <ul style="list-style-type: none"> - Council has spent approximately R20 million in order to address this matter. It has engaged in a number of discussions were held with stakeholders. <p><u>Sicelo Mlaba (ward 20)</u></p> <ul style="list-style-type: none"> • Does Council have any plans to upgrade the old brewery site in Imbali? <ul style="list-style-type: none"> - The SDF has identified this site as an economic opportunity area. <ul style="list-style-type: none"> • Does Council have any plans to develop the vacant properties in Willowfontain? <ul style="list-style-type: none"> - The majority of sites are on terrains that are difficult to develop or that would be too expensive to develop. <p><u>Roobus Moore (Scottsville)</u></p> <ul style="list-style-type: none"> • The SDF needs to reflect links roads from town to Northdale areas to deal with congestion. <ul style="list-style-type: none"> - The SDF has identified and suggested this link. <ul style="list-style-type: none"> • There is also a need to improve the Church Street / East street intersection. <ul style="list-style-type: none"> - The SDF has also acknowledged this need. <p><u>Stephanie Shooter (ward 27):</u></p> <ul style="list-style-type: none"> • The SDF shows a proposed road in an area that is too steep to develop. <ul style="list-style-type: none"> - The Integrated Transport Plan should be used to align specific roads proposals. <p><u>Elane (ward 32):</u></p> <ul style="list-style-type: none"> • Ward 23 also suffers from massive traffic congestion and proposals need to be forward to deal with this. <ul style="list-style-type: none"> - This matter was noted. <p><u>Sipho Dube (ward 4):</u></p> <ul style="list-style-type: none"> • The public participation process should have been undertaken in 2008. <ul style="list-style-type: none"> - This matter was noted and it was explained that the SDF Review is a process. 	<p>MF</p> <p>TZ</p> <p>MF</p> <p>MF</p> <p>MF</p> <p>MF</p> <p>MF</p> <p>MF</p>
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	<ul style="list-style-type: none">• It is also disturbing to note that Ward committee attendance for Indian communities is poor.- The matter was noted.	MF MF
.	<ul style="list-style-type: none">• Closure <p>The Chairperson declared the meeting closed at 15:00pm and thanked members that attended.</p>	RM

ANNEXURE 3:

MAPS