

**INVESTIGATING THE LEVEL OF ALIGNMENT BETWEEN THE MUNICIPAL  
CAPITAL BUDGETS AND THE SPATIAL DEVELOPMENT FRAMEWORKS IN  
THE EHLANZENI DISTRICT MUNICIPALITY**

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## **Declaration**

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## ABSTRACT

This study investigates the impact of two important post 1994 planning initiatives on spatial restructuring through an empirical analysis of the extent of alignment between the municipal Spatial Development Frameworks and the application of capital budgets as presented in their Integrated Development Plans. The study area includes four local municipalities in the Ehlanzeni District Municipality in the Mpumalanga province and used budget information over a three year period between 2011/12 and 2013/14. The analysis considered total planned investment as well as investment in three sub-categories including infrastructure, economic and social investment. The results of the study indicated that overall the planned spatial investment patterns as reflected by the IDP capital budgets of the municipalities were influenced by some of the spatial development priorities as outlined in the municipal SDFs. The regional and first order nodes were prioritized across all the investment categories and the special nodes targeted for economic investment. Second order nodes were however only prioritized for the social investment category. The development corridors identified in the SDFs were only marginally prioritized in terms of planned social and economic investment.

**Keywords and phrases: Spatial Planning, Spatial Development Framework, Capital Budget, Integrated Development Planning, Budget prioritisation**

## OPSOMMING

Hierdie studie ondersoek die invloed van twee belangrike beplanningsprosesse op die ruimtelike herstrukturering van munisipaliteite deur die vlak van belyning tussen die kapitale begrotings en die ruimtelike ontwikkelingsraamwerke van munisipaliteite te ondersoek. Die studie area bestaan uit vier plaaslike munisipaliteite wat deel vorm van die Ehlanzeni distriksmunisipaliteit in die Mpumalanga provinsie. Die fokus is op die totale beplande munisipale kapitaalbesteding oor die periode 2011/12 tot 2013/14 sowel as in drie sub-kategorieë wat insluit infrastruktuur, ekonomiese en maatskaplike. Die resultate van die studie toon dat die beplande kapitale besteding van die munisipaliteite op 'n oorhoofse vlak wel beïnvloed is deur sekere elemente soos geïdentifiseer in die munisipale ruimtelike ontwikkelingsraamwerke. Die streeks- en eerste orde nodusse is duidelik geprioritiseer vir belegging in al die verskillende sub-kategorieë en die spesiale nodusse vir ekonomiese investering. Die resultate toon dat die tweede orde nodusse egter slegs geprioritiseer is vir sosiale investering. Die ontwikkelingskorridors soos geïdentifiseer in die ruimtelike ontwikkelingsraamwerke is slegs op 'n beperkte skaal geprioritiseer vir sosiale en ekonomiese investering.

**Trefwoorde en frases: Ruimtelike Beplanning, Ruimtelike ontwikkelingsraamwerk, Kapitaalbegroting, Geïntegreerde Ontwikkelingsbeplanning, Prioritiserings van begroting**

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## **ANCRONYMS AND ABBREVIATIONS**

Accelerated and Shared Growth Initiative for South Africa (ASGISA)

Comprehensive Rural Development Programme (CRDP)

Development Facilitation Act (DFA)

Department of Water Affairs (DWA)

Growth, Employment and Redistribution (GEAR)

Geographic Information System (GIS)

Integrated Development Plan (IDP)

Kruger National Park (KNP)

National Development Plan (NDP)

National Spatial Framework (NSF)

National Spatial Development Perspective (NSDP)

Provincial Growth and Development Strategies (PGDS)

Reconstruction and Development Programme (RDP)

Spatial Development Framework (SDF)

Spatial Planning and Land Use Management Act (SPLUMA)

Statistics South Africa (STATSSA)

Water Services Development Plans (WSDP)

## **SECTION 1: INRODUCTION AND BACKGROUND**

### **1.1 INTRODUCTION**

The current form and structure of South African cities and towns and the developmental challenges faced by municipalities have been profoundly influenced by apartheid-based policies such as the Group Areas Act during a period characterized by forced removals and the development of new large-scale townships based on ethnicity (Harrison et al, 2008). This not only affected individuals and social groups, but also the space they occupy. Various policy and legal reforms were introduced after 1994 aimed at restructuring these spatial patterns. The first generation of municipal spatial plans and policies produced after 1994 were strongly influenced by the Reconstruction and Development Programme (RDP) which focused on investment in infrastructure and basic services (Republic of South Africa, 1994) and the Development Facilitation Act (DFA) that represented the first step to a new spatial planning framework through the provision of a set of normative spatial principles (Republic of South Africa, 1995). From 1996 onwards there was a change in focus to a competitive and fast-growing economy, and the introduction of policies such as the Growth, Employment and Redistribution (GEAR) Programme (Republic of South Africa, 1996) and later the Accelerated and Shared Growth Initiative for South Africa (ASGISA) in 2006 (Republic of South Africa, 2006).

From 2000 onwards there was great emphasis on integrated planning and service delivery by all spheres of government. The most prominent impact on spatial planning at municipal level has been through the introduction of the Integrated Development Planning process and the prescription that the Integrated Development Plans (IDPs) of municipalities must include a Spatial Development Framework (Republic of South Africa, 2001). More recently the National Development Plan (NDP) identified a range of recommendations to reconfigure towns and cities into more efficient and equitable urban forms (National Planning Commission, 2012). The implementing instrument to achieve this restructuring is the recently legislated Spatial Planning and Land Use Management Act (SPLUMA)(Act 16 of 2013). Of specific relevance for this research is the overall objective of SDFs to provide strategic guidance for the allocation of resources, infrastructure investment, and identify areas to be prioritised for development by investors and government (Republic of South Africa, 2011).

## **1.2 PROBLEM STATEMENT**

Despite the various policy- and inter-governmental initiatives introduced by government aimed at achieving improved coordination and alignment between the three spheres of government in order to ensure spatially coordinated investment, the country still reflects the inequalities of the apartheid era. The effectiveness of urban spatial planning post 1994 in restructuring the spatial patterns of municipalities is also increasingly questioned (Robins 2002, Pieterse 2004) and South Africa's National Development Plan 2030 concedes that little progress has been made in reversing apartheid geography (National Planning Commission, 2012). Todes (2008) also argued that infrastructure planning and investment can be more influential in directing the spatial structure of cities than spatial planning itself and Turok & Parnell (2009) argue for the pursuit of capital projects with a long-term view focused on selected areas. Recent research into the effectiveness of spatial planning (du Plessis, 2014) however indicates that the integration of infrastructure development and capital investment strategies with spatial development planning remains largely unsatisfactory in South African cities. Although some of the larger metropolitan municipalities such as Johannesburg, Cape Town and eThekweni have developed innovative and comprehensive systems for evaluating and prioritising capital projects, a clear spatial interpretation of the capital projects contained in the IDP and its integration with spatial development proposals is lacking in most municipal IDPs. Some of the underlying causes are the non-alignment of resource allocation with the spatial plans, lack of coordination between the spheres of government, lack of capacity to ensure proper implementation of the spatial plans and insufficient detail in spatial plans (Laldaparsad, Geyer & Du Plessis, 2013). In some cases budgets are incremental, based on historical precedents and political targets and the authorities responsible for resource allocations participate in some of the planning forums but do not consult these plans during decision-making. This resulted in a situation where municipalities often have SDFs for compliance purposes rather than as an actual strategic tool to also guide investment patterns.

## **1.3 RESEARCH AIM, RESEARCH QUESTIONS AND OBJECTIVES**

This study aims to investigate the extent of alignment between the capital budget allocation (2011/12 to 2013/14) as outlined in the IDPs on the one hand and the key elements and priorities of the SDFs on the other hand in four local municipalities within the Ehlanzeni

District Municipality in the Mpumalanga province in South Africa. The specific research questions are defined as follows:

Research Questions:

1. What are the key spatial development priorities and concepts identified in the municipal SDFs?
2. Do the capital budget allocations of the municipalities align with the envisaged spatial form and spatial development priorities of these municipalities?
3. What is the extent of municipal investment prioritization in SDF focus areas?

These questions can be translated into the following research objectives:

1. To determine the spatial development priorities and concepts identified in the SDFs of the study area.
2. To examine the level of alignment between the municipal capital budget allocations reflected in the IDPs and the envisaged spatial form and spatial development priorities of the municipalities.
3. To determine the extent of municipal investment prioritization in SDF focus areas.

## **1.4 HYPOTHESIS**

The underlying hypothesis of the research is that the resource allocation through capital budgets undertaken by municipalities during the development of IDPs is aligned with the development priorities and proposals reflected in the municipal spatial development frameworks.

## **1.5 STRUCTURE OF THE RESEARCH**

To fulfill the overall objective of the research, the thesis is structured in five sections. Section 1 provides the introduction to the research, the problem statement, as well as the research questions and objectives. Section 2 examines the existing literature on spatial planning and its role in guiding municipal capital budgets and investment. Section 3 describes the data and the methodology used to achieve the objectives of the study with the results presented in Section

4. Section 5 concludes the study and highlights some limitations and recommendations for further research.

## **SECTION 2: SPATIAL PLANNING IN A DEVELOPMENTAL CONTEXT AND ITS ROLE IN GUIDING PUBLIC SECTOR BUDGETING AND INVESTMENT**

### **2.1. SPATIAL PLANNING IN A DEVELOPMENTAL CONTEXT**

The physical development of land that occurs in space is influenced by a variety of role-players with different interests such as economic, social and environmental development and could include both the public sector (national, provincial and local government) and the private sector (developers, communities). This requires planning systems and processes to provide a platform for vertical and horizontal alignment at provincial and local levels. In most countries master planning became the most popular system practised after World War II (Conyers & Hills, 1984). The focus of these physical plans was to define the form of an urban area at a future point in time. The master planning system has, however, been criticised as being regulatory, static, and not suitable for developing countries and their cities that are faced with a high rate of urbanisation and changing economies (Albrechts 2006; Conyers & Hills 1984; UN-Habitat 2008; Mattingly & Winarso 2000). It has further also been criticised for being too technical, paying little attention to social issues and public participation processes. The dominance of master planning approaches has thus given way to more evolutionary and participatory planning principles (Baycan-Levent & Nijkamp 2008). Despite the introduction of these new concepts and approaches, a number of key elements have remained more or less consistent in aspects of the spatial planning process. Healy (2007) summarises the key elements of this type of spatial planning process as a proper understanding of the physical structure of an urban area and the forces shaping it, orientating goals expressed through policy statements, a framework of principles outlining concepts, projects and programmes, and an inspirational future vision.

Internationally this has led to many countries such as Britain, Portugal, France, the Netherlands and others converting to a more comprehensive planning system (Faludi 2000; Hajer & Zonneveld 2000; Winarso & Mattingly 2000; Albrechts 2006). Comprehensive planning promotes integrated governance between the different spheres of government and emphasises plan implementation and bridges the gap between planning and political decision-making. The challenges of growing inequality, especially in developing countries (UN-Habitat 2008;



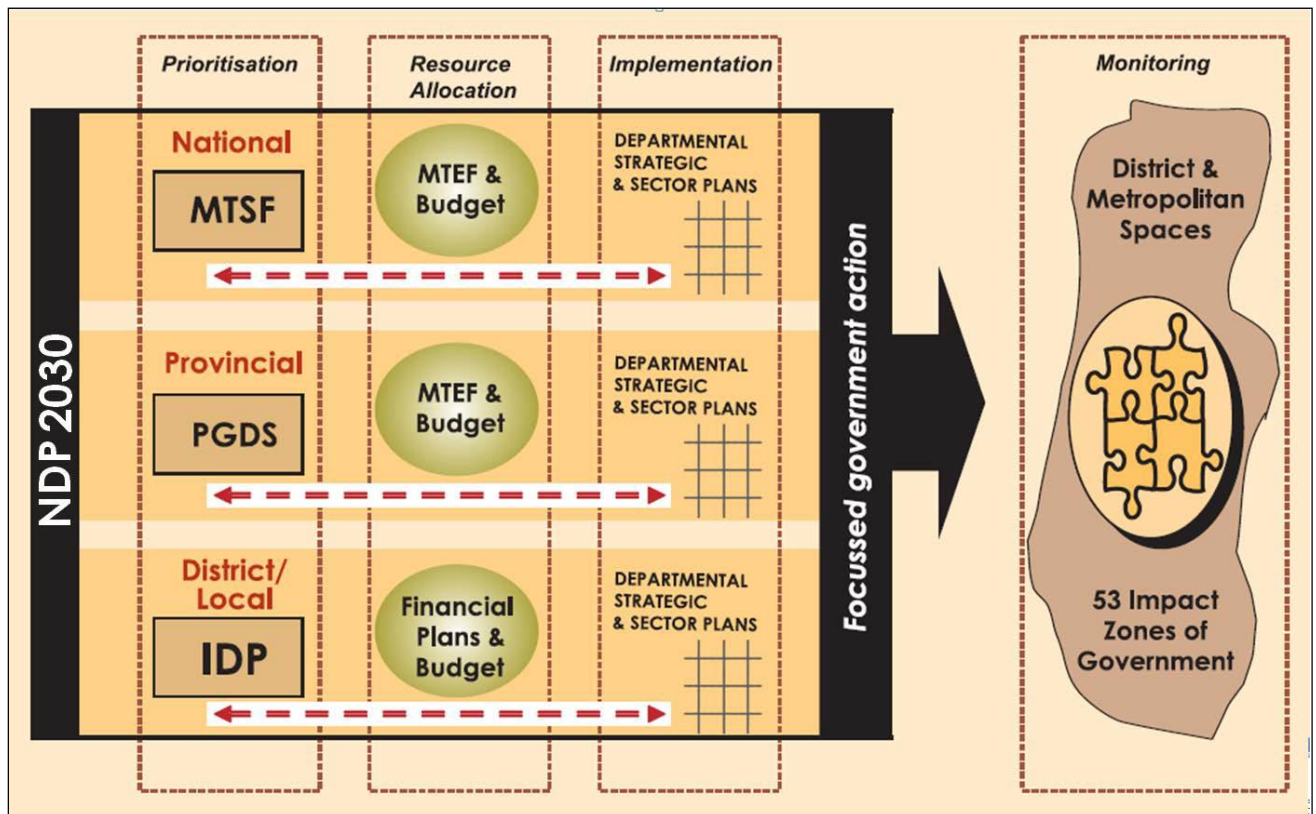
Kunzmann 1998) resulted in spatial planning increasingly used to address the development inequalities and ensuring that resources are channelled in a manner that promotes equity.

There has also been a growing awareness of promoting sustainable development through spatial planning. One of the key arguments in this debate is the need for local authorities to minimise the costs of providing bulk infrastructure through the application of spatial planning concepts promoting compact development forms. The development and implementation of these strategies has proven to be a success in certain areas (Laldaparsd *et.al* 2013) but a failure in other authorities. Some of the common failures are plans that lack funding for implementation, support from private investors, and a lack of skilled planners (Ahamad & Anjum 2012; Rizzo 2014) within the local authorities, political interference and poor collaboration with sector departments.

## **2.2 OVERVIEW OF THE INTERGOVERNMENTAL PLANNING SYSTEM IN SOUTH AFRICA**

The Constitution of the Republic of South Africa promotes three interdependent and interrelated spheres of government, namely national, provincial and local spheres which has resulted in the formation of the intergovernmental development planning system (Oranje & Van Huyssteen, 2007). This approach promotes coordination among the different spheres and sectors ensuring that national sector department plans, provincial sector department plans and municipal IDPs are vertically aligned in order to reflect the common spatial perspective. The district and metropolitan municipalities are seen as playing a central role in this intergovernmental coordination and alignment of actions of the various parties to bring social and economic transformation (Goss et al. 2008). It has however been argued (Oranje & Van Huyssteen 2007) that this objective is not yet achieved due to differences between the planning instruments of the three spheres of government as well as their different terms of office and development approaches.

The relationship between the key planning activities for the three spheres of government is illustrated in Figure 2.1.



Source: South Africa (Republic of) (2007:14)

Figure 2.1 Coordinating Development Planning Instruments

The Planning Commission developed a National Development Plan (NDP) 2030 with the overall aim to combat poverty and reduce inequalities by 2030 (National Planning Commission, 2012). The NDP acknowledges that, despite all the post-apartheid government initiatives, South Africa is still a divided nation and proposes the development of the National Spatial Framework (NSF) with an infrastructure investment framework to inform development policy and give spatial expression to the NDP. It also supports the promotion of compact high density cities, provision of housing for the poor along the transport routes to enable their mobility into the cities, and the building of safer communities.

Provincial Growth and Development Strategies (PGDS) are developed by individual provinces according to their powers as stipulated in the Constitution and must provide a provincial interpretation of the NDP. PGDS are long term strategies that provide guidance for and coordinate provincial and national sector plans and municipal IDPs. Mpumalanga has developed

its 10 year PGDS and has translated it into a spatial context by developing a Provincial Spatial Development Plan in 2013.

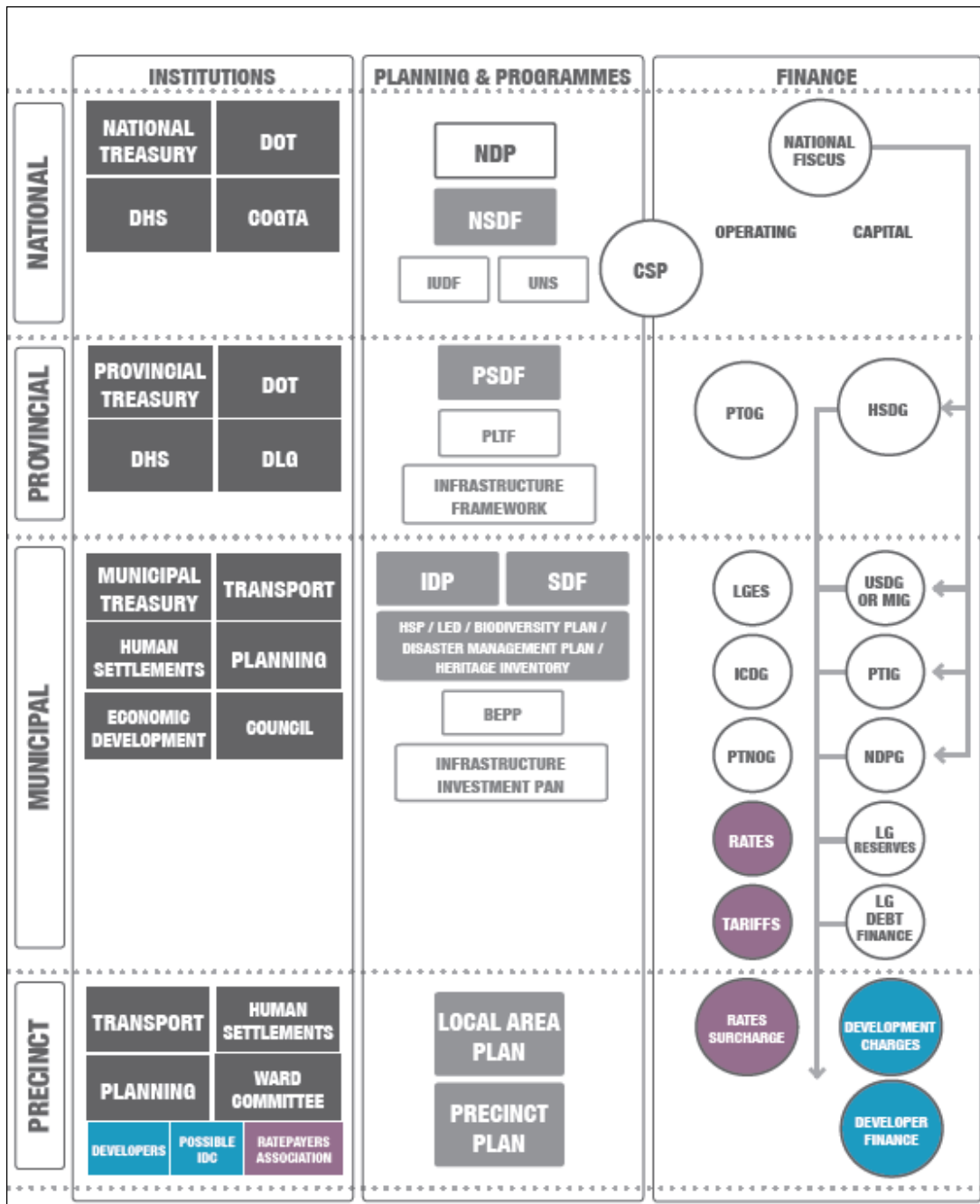
At a municipal level, Integrated Development Planning (IDP) is a process through which municipalities prepare strategic development plans for a five year period. This five year period runs according to the cycle of the elected council and is reviewed on an annual basis. It provides a long term vision for the development of the municipality to guide and inform all planning, management and development decisions within the municipality (Republic of South Africa, 2000). According to the Municipal Planning and Performance Management Regulations (2001), the municipality's Integrated Development Plan must also inform the municipality's annual budget, based on the development priorities and objectives set by the municipality. The IDPs are not only a guide for the municipality but are also expected to make recommendations to departments and provincial government on which areas are to be prioritised for development and for distribution of resources (Merrifield et. al 2008). Of particular relevance to this research is the requirement of the Municipal Systems Act of 2000, stipulating that one of the core components of a municipality's integrated development plan is a spatial development framework.

### **2.3 THE EVOLVING SPATIAL PLANNING SYSTEM IN SOUTH AFRICA**

Spatial planning during the apartheid era was guided by a range of acts like the Group Areas Act and the Native Land Act of 1913 which removed the African population from urban areas to the peripheral homelands and resulted in inefficiencies of South African urban form that are well known. These include issues such as unequal access to economic and social opportunities, poorly located lower income settlements, low densities and a fragmented spatial form. Not surprisingly, the spatial planning policy framework has undergone significant changes since 1994. The introduction of new legislation such as the Development Facilitation Act (1995) introduced important principles for spatial transformation such as discouraging urban sprawl, promoting densification and mixed use development and promoting the integration of residents and employment. This process was further advanced with the promulgation of the Municipal Planning and Performance Management Regulations in 2001 (Republic of South Africa, 2001) that also required the preparation of Spatial Development Frameworks as an instrument for giving spatial expression to the developmental vision and priorities of municipalities.

These reforms were then followed by an attempt to develop an inter-sectoral national spatial framework that can provide guidance for resource allocation referred to as the National Spatial Development Perspective (NSDP). The NSDP was perceived by many as having an urban bias and in contradiction with the national objectives for rural development as it proposes that resources should be directed to areas that have a high potential for economic development (Oranje & Huyssteen 2007; Turok & Parnel 2009).

More recently the South African government introduced the Spatial Planning and Land Use Management Act of 2013 (SPLUMA), with the aim of replacing the apartheid legislation and address the unsustainable development patterns of the former planning system. It has subsequently been followed by the development of draft regulations (Republic of South Africa, 2014) to enable its implementation. The act requires all three spheres of government to develop their own Spatial Development Frameworks (SDF) based on national spatial planning principles and long term development goals. The Department of Rural Development and Land Reform (DRDLR) has developed a set of guidelines to assist with the implementation of SPLUMA and provide clarity on the roles and responsibilities of all the spheres of government in developing SDFs. Figure 2.2 demonstrates the relationship between planning and budgeting in the different spheres of government.



Source: South Africa (Republic of) (2014:9)

Figure 2.2 Contextual framework for spatial planning

In order for the government to achieve its constitutional objectives, all spheres of government need to formulate long term, 5 year term and annual plans for spatial development. These SDFs need to provide a framework with clear objectives that can be implemented over a medium to a long term period, providing a guideline for land use management and development-related

issues. They must be flexible with a clear distinction between what is critical and non-negotiable.

#### **2.4. THE IMPLEMENTATION OF SPATIAL PLANS IN SOUTH AFRICA**

Despite all these spatial planning efforts and initiatives, the effectiveness of spatial planning in restructuring the spatial patterns of municipalities is questioned and it has been argued that South African cities and towns remain segregated and fragmented (Robins, 2002, Pieterse, 2004, Todes, 2012). The National Development Plan 2030 also expressed the opinion that little progress has been made in reversing apartheid geography (National Planning Commission, 2012).

Spatial plans have been criticised (Conyers & Hills 1984; UN-Habitat 2008; Mattingly & Winarso 2000) as being static, too broad, and non-inclusive of social and economic needs. Studies on the level of success of spatial plans found that certain municipalities were successful in implementing the vision and proposals of the spatial plan, while others showed very little progress in line with their plans (Todes 2008; du Plessis 2014). Various reasons have been identified as contributing to this lack of implementation of spatial planning proposals. One of the reasons is that SDFs are often not clear and easily understandable and contain unrealistic development proposals. The development of many SDFs by consultants without the active participation of officials (including municipal planners) and decision-makers, also resulted in the SDF contents often not being understood, internalised and implemented by the municipality (GTZ 2010). Other reasons for the inadequate performance of spatial plans include the overlapping responsibilities between provincial government and local municipalities in important elements of spatial planning such as housing and land-use management (Turok & Parnell 2009); an insufficient understanding by planners of urban economic space and mechanisms through which planning relates to markets (Todes 2009); the lack of integration of sustainability principles and limited use of environmental information in the IDP and related processes such as spatial planning (Sowman and Brown 2006); and poorly developed statistical, analytical and planning support capabilities (Van Huysteen *et al.* 2009).

## 2.5. SPATIAL PLANNING AND CAPITAL BUDGETING

The interplay of capital budgets, spatial plans and provision of infrastructure is one of the critical tools in restructuring apartheid inequalities (Laldaparsad et. al 2013). The capital budget must finance the implementation of the IDP priorities according to the recommendations of the spatial plans. Municipal capital budgets are financed through capital grants, loans, and local revenue and are used to finance infrastructure, physical development or any other capital assets. This capital budget must be aligned with the priorities of the IDP that is informed by communities and other stakeholders. Due to the extent of capital requirements, municipalities are forced to prioritise projects and programmes according to a multi-year implementation plan.

In a detailed study of fifteen South African municipal spatial plans for metropolitan and intermediate cities, du Plessis (2014) found that only six of the municipal plans have clearly demonstrated that their infrastructure projects are aligned to the SDF proposals. In another detailed study of the City of Johannesburg, City of Cape Town and Rustenburg Local Municipality to examine the overall spatial distribution of municipal budget patterns between 2007 and 2012, it was found that the capital investment patterns of these three municipalities were indeed significantly influenced by their spatial development frameworks (Laldaparsad et al, 2013). Municipalities such as eThekweni apply innovative processes to improve alignment between spatial planning and capital spending patterns. This is achieved through the use of a prioritisation decision matrix whereby budget is allocated to these priorities but weighted according to their investment benefit that can bring spatial transformation and address inequalities within the municipality (EThekweni Metropolitan Municipality 2014).

Various factors have been identified that impact negatively on the alignment of spatial planning and capital budgeting and spending patterns. One of these factors is so-called “mega-projects,” such as the 2010 soccer world cup stadiums that were not funded from municipal budgets and the development was not necessarily aligned to spatial development frameworks (Todes 2008). These types of development are usually driven by tourism events with the aim of supporting the local economy and are sometimes politically driven. A related problem is the dominant influence of public-sector driven low-income housing projects funded by the Department of

Human Settlements and the shaping of cities through up-market private-sector commercial and residential development (Harrison, Todes & Watson 2008).

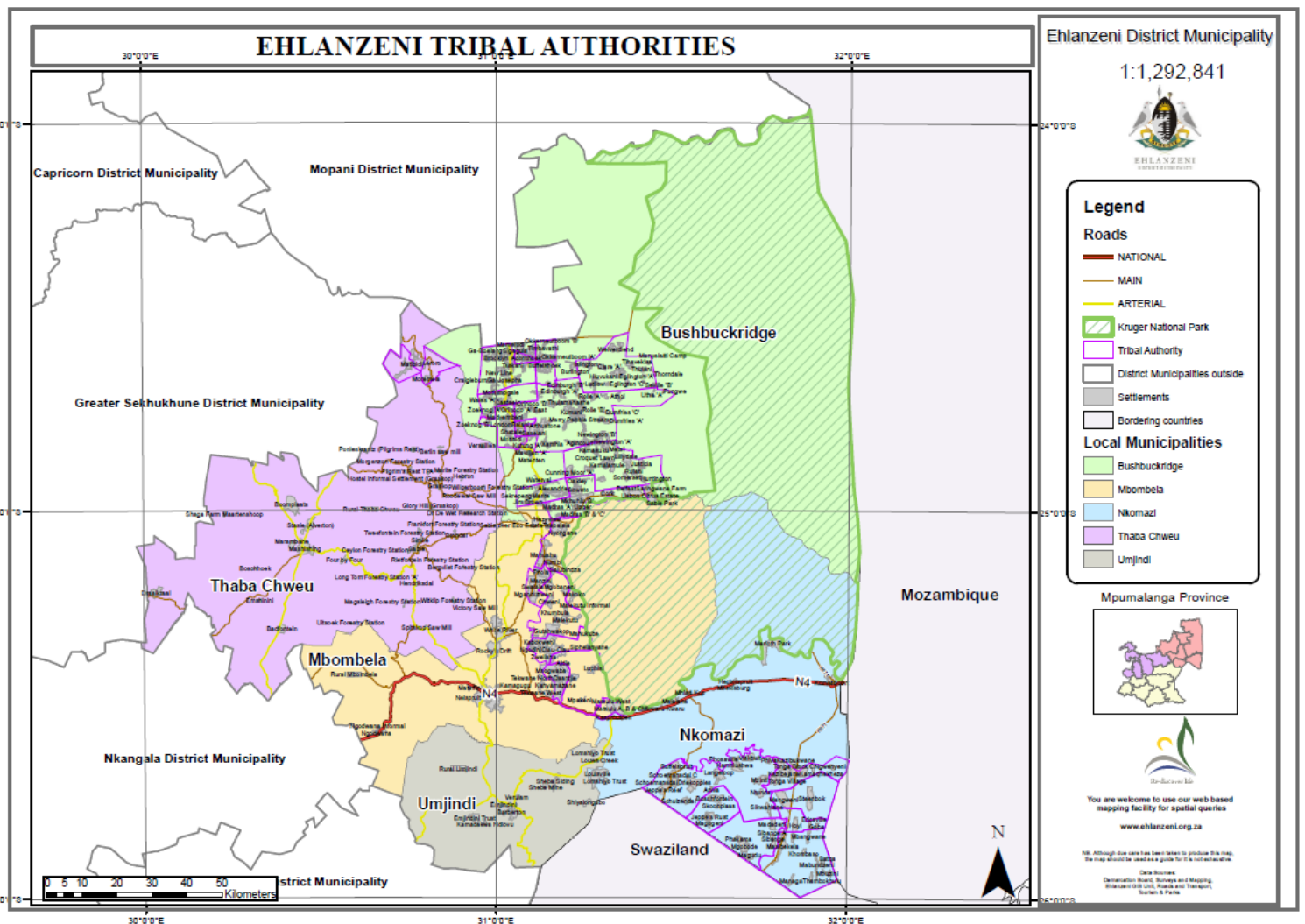
In certain cases departments within municipalities and provinces are faced with under-spending and then resort to rapid expenditure on projects towards the end of their financial year due to pressure to spend before the financial year end regardless of the location of these projects. Some of these inefficiencies are due to officials and decision-makers not understanding the role, function and value of spatial planning and spatial development frameworks, underplaying the importance of the spatial development framework, and non-usage of SDFs as the key strategic tool during the development of the IDPs (Atkinson & Marais 2006).



## **SECTION 3: DATA AND METHODOLOGY**

### **3.1 STUDY AREA**

Ehlanzeni District Municipality (EDM) is one of the three district municipalities that form part of the Mpumalanga province (see Figure 3). It covers an area of approximately 27,895.47 km<sup>2</sup> with an estimated population of 1 688 616 (Statistics South Africa, 2011). It comprises of five local municipalities: Mbombela, Umjindi, Bushbuckridge, Nkomazi and Thaba Chweu and is also home to half of the Kruger National Park (KNP). Mbombela is the capital city of the province and is located along the Maputo Development Corridor. The study area was selected based on the fact that it is one of the rural district municipalities in the country that was highly affected by previous apartheid policies. According to the Mpumalanga Spatial Development Framework (2013), 50% of black population in the province reside in former homeland areas, with many other residing in the urban fringes due to previous policies of racial segregation. According to Census 2011 statistics, the EDM is also the worst-performing district in the province in terms of the provision of piped water and sanitation. The literature also indicated no other published research on the alignment of municipal budgeting and spatial planning within the context of municipalities mostly consisting of intermediate sized cities, smaller towns and a large proportion of population residing in traditional authority areas.



Source: Ehlanzeni District Municipality (2015)

Figure 3.1 Ehlanzeni District Municipality and its constituent local municipalities

Nkomazi and Bushbuckridge are both classified as type B4 municipalities, characterised by the presence of at the most one or two small towns in their area, communal land tenure and villages or scattered groups of dwellings, and typically located in former homelands. Umjindi is a type B3 municipality described as municipalities having a relatively small population, mostly urban and based in few small towns. Rural areas are characterised by the presence of commercial farms. Mbombela is a B2 type municipality with an urban core and large urban population.

Although the original intention of the study was to analyse the capital expenditure budget for all five local municipalities of the Ehlanzeni District Municipality, Thaba Chweu does not form

part of the study area of this research. Despite various attempts during the data collection exercise it was impossible to obtain the required relevant data for the Thaba Chweu local municipality. This municipality has had a huge staff loss especially in management positions and a poor records management system which has also led to the loss of some of the key documents which were needed for the study.

### **3.2 DATA**

This study utilised secondary data that was collected from the four local municipalities under investigation as well as from other secondary data sources such as Statistics South Africa, the Demarcation Board and the Department of Water Affairs (DWA). Three key sets of interrelated data were used:

- i. Firstly, detailed information on the planned capital expenditure of municipalities over the study period (financial year 2011/12 to 2013/14) as contained in the approved IDPs of the municipalities. This includes information on individual planned capital projects such as project description, project type and category, planned year/s of expenditure; and project location. In all four municipalities the IDPs that were approved for implementation from the 2011/12 financial year were used, including the planned multi-year expenditure for 2012/13 and 2013/14.
- ii. Secondly, the key elements of the spatial development proposals as contained in the municipal SDFs with a focus on the key spatial concepts and priorities that are common between all four municipalities. The most recent SDFs were collected from the four local municipalities. Mbombela's latest available SDF was dated 2011, Nkomazi's was dated 2013, Umjindi's dated 2014 and Bushbuckridge's latest available SDF was dated 2010. The municipal SDFs were obtained in a PDF format and the spatial data representing their key priorities was acquired in a shapefile format for all four municipalities.
- iii. Thirdly, spatial and demographic data of all settlements in the study area including location, shape, size and population figures were obtained from DWA. The data was obtained as a polygon shapefile also containing attribute data such as the size of the settlement in hectares, shape of the settlement, number of households per settlement, population figures per settlement and type of settlement.

### 3.3 METHODOLOGY

The overall study methodology is based on a quantitative research method focusing on a comparative spatial and statistical analysis of the municipal capital investment patterns over a three year period between the 2011/12 to 2013/14 budgets and determined their alignment to the IDP and SDF priorities for the Nkomazi, Mbombela, Bushbuckridge, and Umjindi local municipalities. The project methodology consisted of 4 steps (Figure 2.2):

- i. An analysis and classification of the multi-year capital budgets as contained in the municipal IDPs and compilation of a detailed “planned projects” database.
- ii. Linking of this database with the settlement data (including demographic data) to enable a spatial analysis of the planned investment patterns.
- iii. An analysis of the municipal SDFs to identify the spatial development priorities of the municipalities and the key SDF concepts and proposals common between all four municipalities forming part of the study area.
- iv. Spatial and statistical analysis of planned capital investment patterns and prioritization relative to the key SDF concepts and proposals.

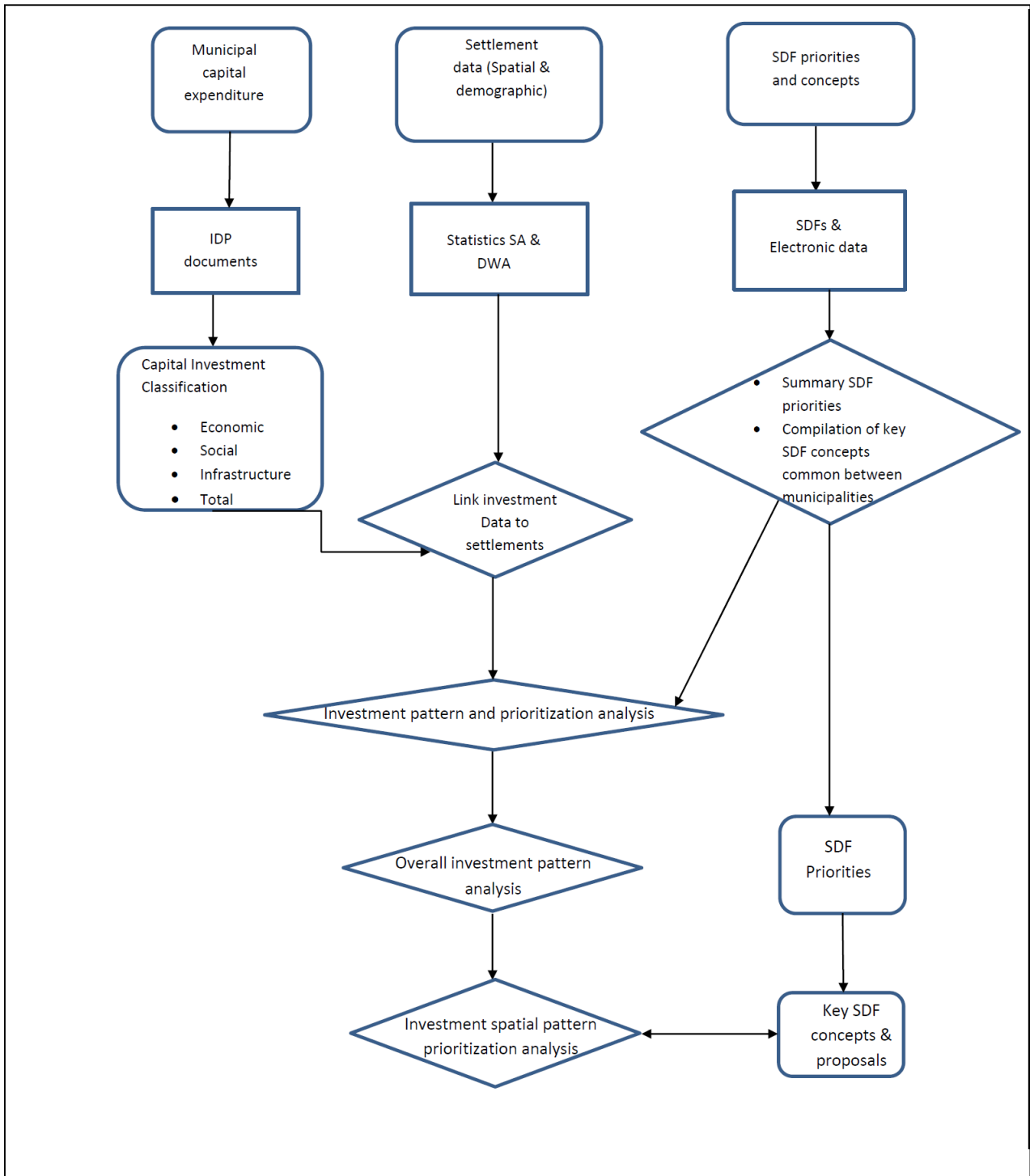


Figure 3.2: Illustration of the research methodology

### 3.3.1 Analysis and classification of the multi-year capital budgets

The analysis was conducted for each local municipality with the main focus on the capital budget. The data analysis was conducted using the gross annual budget over a period of three years, from 2011/12 to 2013/14 financial year. The capital budget was divided into three categories, namely:

**Local Economic Development and Rural Development** that includes projects earmarked for tourism and economic development such as market stalls, industrial development, rural CBDs, informal trading, land tenure upgrades and farming.

**Social Development**, including aspects such as education facilities, libraries, community halls, health facilities, sports facilities, cemeteries, recreational facilities, fire stations, police stations, post office, pay points, parks and licensing centres.

**Basic Infrastructure** such as water, sanitation, electricity, refuse removal, public transport, roads and storm water.

One of the key challenges in compiling this data is the lack of consistency and standardised format of the capital budget expenditure information in the various IDPs. The most significant challenges experienced as a result of this non-standardisation include the following:

- It was not always clear whether the projects funded by the national and provincial sector departments were included in the IDP multi-year budget or not.
- There was no clear and consistent format for reflecting budgets earmarked for subsidised housing purposes. In most cases the projects were merely listed with no expenditure amounts. Due to the inconsistency in this data category it has thus been excluded from the capital budget database
- The manner in which project locations were recorded varied substantially between the different municipalities, with some providing sub-place names whilst other only provided a settlement name. In cases where sub-place names were provided instead of settlements, the budget amount provided was equally divided between the number of settlements within the sub-place name. In some instances only one budget amount was provided for project including a number of settlements. In these cases the budgeted figure was divided equally amongst all the listed settlements.

The original capital budget data was used and not the adjusted budget due to difficulties in accessing this type of information from all municipalities. The figures thus reflect budgeted expenditure (and hence the intention to invest in certain areas and project categories) and does not reflect actual expenditure (although these figures should in practice not differ materially).

### **3.3.2 Linking of planned projects database with the settlement data**

The settlement boundaries of the Department of Water Affairs (DWA) were used as the unit of analysis and thus represent the spatial units of analysis. ESRI ArcGIS Geographic Information System (GIS) software was used to perform the spatial analysis and mapping of the capital budget.

### **3.3.3 Analysis of the municipal SDFs**

The SDFs of the local municipalities were scrutinized and all the SDF priorities and important conceptual elements such activity nodes and development corridors identified for each municipality. These SDF priorities were used as frame of reference to analyse the level of alignment between the SDF and the municipal capital budget. During the analysis of the SDF it was identified that there are various categories of nodes identified within the respective municipalities including regional, primary, secondary, and special nodes. These nodes were reflected at different levels of detail in the various SDFs ranging from broad conceptual presentations to fairly detailed demarcation of the node boundaries. For the purpose of spatial analysis it was thus necessary to undertake some form of standardization. The regional nodes were thus buffered with a 2500m radius, first order nodes were buffered within a 2000m radius, second order nodes with 1500m and special nodes with a 1000m radius.

The SDFs also included a variety of corridors such as the N4 Maputo Development Corridor, primary corridors, secondary corridors and tourism corridors. For analysis purposes the N4 corridor was buffered by 1km from the road centre line and all other corridors by 500m.

### **3.3.4 Spatial and statistical analysis of planned capital investment patterns and prioritization**

The extent of alignment between the SDF priorities and the IDP capital budget was analysed through a quantitative spatial analysis. A spatial overlay of the capital project database and SDF proposals was performed to determine the extent of the planned investment allocated to the various priority concepts as identified by the SDFs. The spatial investment analysis utilized the main elements of the SDFs common to all four municipalities including activity nodes, corridors and rural communities as well as the non-prioritised areas. The non-prioritised areas include all other remaining settlements within a municipality that do not form part of the aforementioned areas. The thematic mapping and spatial analysis was conducted for each of the three investment categories individually (infrastructure, economic- and social investment), as well as for total investment.



## **SECTION 4: SPATIAL INVESTMENT PATTERNS OF THE FOUR LOCAL MUNICIPALITIES OF THE EHLANZENI DISTRICT MUNICIPALITY**

### **4.1 SPATIAL DEVELOPMENT FRAMEWORK ANALYSIS**

The aspects summarised in Table 4.1 represent the key elements and priorities of the spatial development frameworks of the four local municipalities and their common development goals. The conceptual elements of nodes and corridors clearly play an important structuring role in the envisaged future spatial development of the study area. Figure 4.2 summarises the spatial location of the development corridors and the development nodes within the study area. The detailed SDF maps of each municipality are outlined in Appendix A to E.

Table 4.1 Spatial Development Priorities and concepts

	<b>MBOMBELA</b>	<b>BUSHBUCKRIDGE</b>	<b>NKOMAZI</b>	<b>UMJINDI</b>
<b>Nodes</b>	<p>1. Nelspruit - intensify development in the economic opportunity zone, promote high density, mixed land-use development and increase engineering- and social infrastructure.</p> <p>2. Hazyview &amp; WhiteRiver – exploit opportunities provided by Phalaborwa SDI, promote high density, mixed land-use development within the urban edges, affordable housing and increase engineering- and social infrastructure.</p> <p>3. Kanyamazane - develop into a 1st order activity node, upgrade capacity and level of engineering services and social infrastructure, encourage economic development,</p>	<p>1. Development should focus on the major investment nodes (Acornhoek, Thulamahashe and Bushbuckridge)</p> <p>2. Promote mixed land-use and densification in order to protect the environment.</p> <p>3. Provision of bulk and upgrading of infrastructure.</p> <p>4. Tourism node to complement the surrounding rural areas.</p>	<p>1. Investment in nodes with economic potential to attract investors and employment opportunities.</p>	<p>1. Industrial development north of Barberton.</p> <p>2. Integration of Emjindini &amp; Barberton into a system of supportive interactive activity nodes.</p> <p>3. Enhance mixed land-use through developing within the urban edges and densification in the activity nodes.</p> <p>4. Ensure maintenance of the existing infrastructure within the Barberton activity node.</p>

Table 4.1 continues overleaf

	<p>improve existing anchor development.</p> <p>4. Matsulu, Kabokweni &amp; Swalala- urban renewal initiatives and economic regeneration, human resources development, neighbourhood development, upgrading and restructuring of engineering and social infrastructure, urban management and transportation and roads.</p> <p>5. Rocky’s Drift – upgrading of engineering infrastructure.</p> <p>6. Expansion of tourism nodes such as Hall’s Gateway, Casterbridge and Perry’s Bridge.</p>			
<p><b>Corridors</b></p>	<p><b>1. Maputo Transport Corridor</b> – focus on the long distance haulage of goods and</p>	<p>1. Integration of the existing outlying settlements through urban infill development along corridors.</p>	<p>1. Improve rail and road linkages between previously disadvantaged areas and nodes of economic potential.</p>	<p>1. Development of activity corridor between Barberton and Emjindini.</p>

Table 4.1 continues

	<p>passengers, provide direct access to the economic nodes.</p> <p><b>2. Nelspruit – White River corridor</b>, provision of economic opportunities for previously disadvantaged and affordable housing to enable people to live nearer the workplace.</p> <p><b>3. Nsikazi Activity Corridor</b> – provision of activity centre within a corridor to integrate economic- and employment opportunities within these areas.</p> <p><b>4. Karino-KMIA-Plaston Activity Corridor</b> – protect mobility function of the R538.</p> <p>5. Provide an integrated transport system that connects the eastern communities to the economic nodes through a taxi feeder – line haul system, regional roads interventions,</p>	<p>2. Development of the tourism corridor into the Kruger National Park in order to boost the economy of the surrounding communities.</p>		
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Table 4.1 continues overleaf

Table 4.1 continues

	bus rapid transit system and commuter rail system.			
Previously Disadvantaged areas	<ol style="list-style-type: none"> <li>1. Infrastructure provision and human resource development.</li> <li>2. Land tenure reform and formalisation of settlements in the Nsikazi area, Mataffin, Matsulu and Ngodwana.</li> </ol>	<ol style="list-style-type: none"> <li>1. Provision of social services in the previously disadvantaged communities</li> </ol>	<ol style="list-style-type: none"> <li>1. Investment in human capital.</li> <li>2. Provision of poverty alleviation and upgrading security of tenure programmes.</li> <li>3. Provision of social services in the previously disadvantaged communities.</li> </ol>	<ol style="list-style-type: none"> <li>1. Focus development in the rural activity centres, Emjindini Trust, Ka-Madakwa Ndlovu, Sheba Siding and Low's Creek</li> <li>2. Human resource development</li> </ol>

## 4.2 SPATIAL PATTERNS OF PLANNED MUNICIPAL INVESTMENT

The purpose of the capital investment pattern analysis is to determine the spatial distribution of the planned capital budget expenditure across the study area in relation to the key SDF concepts and priorities. The capital budget expenditure analysis as summarised in Table 4.2 identified budgeted projects in the three investment categories with a total value of approximately R6.7 billion over the period 2011/12 to 2013/14 (excluding subsidised housing projects). A total of R4.4 billion is allocated to settlements located in the identified development corridors and R1.9 billion to settlements within the first order nodes.

Table 4.2: Distribution of planned capital expenditure within SDF priority areas (R million)

CATEGORY	CORRIDORS	NODES (TOTAL ALL CATEGORIES)	REGIONAL & FIRST ORDER NODES	SECOND ORDER NODES	SPECIAL NODES	OTHER NON PRIORITIZED AREAS	TOTAL ALL SETTLEMENTS*
Total Investment	4 404. 4	3 435. 1	1 987. 3	1 083. 8	363. 9	1 995. 01	6 723. 8
Infrastructure investment	2 942. 9	2 218. 1	1 239. 9	816. 3	161. 9	1 704. 6	4 928. 1
Social Investment	460. 2	410. 3	210. 5	160. 3	39. 5	151. 9	625. 3
Economic Investment	1 001. 2	806. 7	536. 9	107. 2	162. 5	138. 4	1 170. 4

\*Individual columns do not add up to total – some settlements form part of both identified nodes and corridors and its values are thus included in both categories.

The information depicted in Table 4.3 indicates that as much as 65.5% of the budgeted capital expenditure has been allocated to projects located within corridors, 51.1% to projects located in development nodes and only 29.7% to the non-prioritised settlements (the figures do not add up to 100% because some settlements form part of both identified nodes and corridors and its values are thus included in both categories). This pattern is further confirmed by the spatial investment pattern reflected on Figure 4.3 indicating the highest levels of planned investment

targeted to the regional and first order nodes as well as settlements along the development corridors, especially in the central and northern parts of the study area. This spatial distribution of planned total capital budget confirms some level of targeted investment along the development corridors and in the identified activity nodes in three of the four local municipalities.

Table 4.3 Distribution of capital expenditures within SDF priorities (Percentage)

CATEGORY	CORRIDORS	NODES (TOTAL ALL CATEGORIES)	REGIONAL & FIRST ORDER NODES	SECOND ORDER NODES	SPECIAL NODES	OTHER NON PRIORITIZED AREAS	TOTAL ALL SETTLEMENTS*
Total Investment	65.5	51.1	29.6	16.1	5.4	29.7	100.0
Infrastructure investment	59.7	45.0	25.2	16.6	3.3	34.6	100.0
Social Investment	73.6	65.6	33.7	25.6	6.3	24.3	100.0
Economic Investment	85.5	68.9	45.9	9.2	13.9	11.8	100.0

\*Individual columns do not add up to total – some settlements form part of both identified nodes and corridors and its values are thus included in both categories.

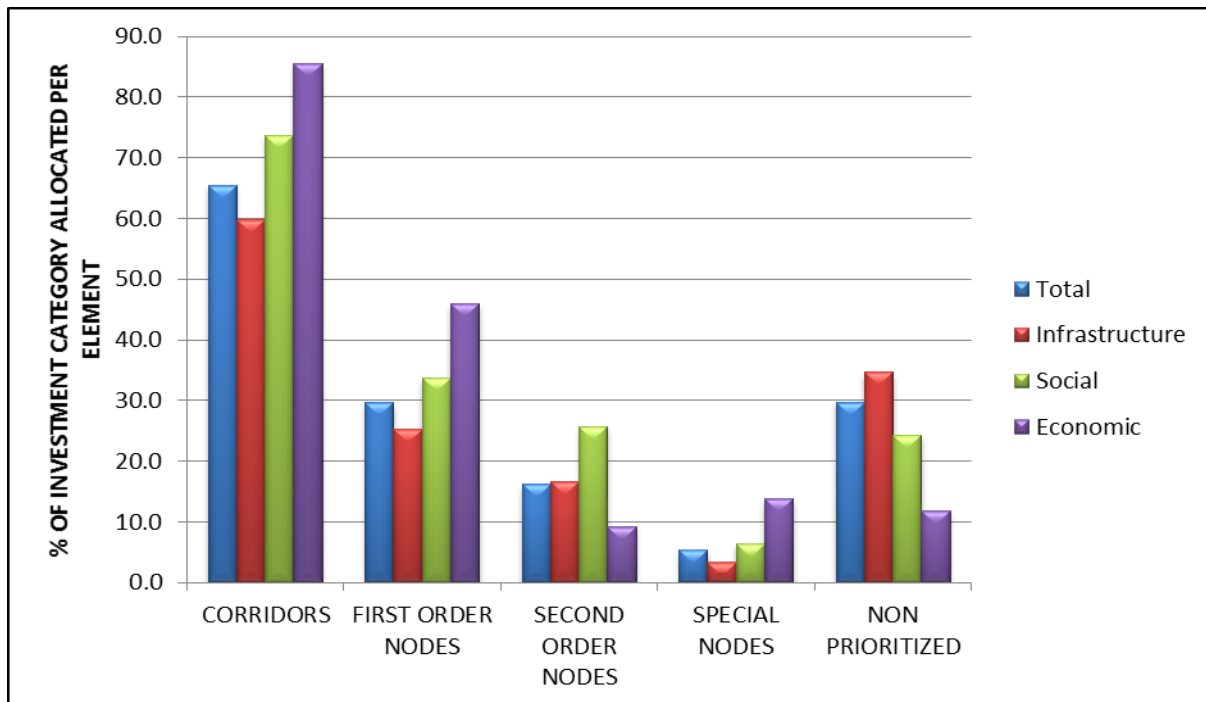


Figure 4.1 Capital Budget Investment per SDF Priority

A total of 59.7% of total planned infrastructure investment is allocated to settlements located within identified development corridors and 45% to settlements located in the SDF nodes of various categories. The spatial analysis of the infrastructure investment (Figure 4.4) clearly indicates the highest levels of investment targeted at settlements located at the intersections of nodes and development corridors. A significant proportion of the planned expenditure in the social investment and economic investment categories is allocated to settlements located within development corridors (73.6% of social investment and 85.5% of economic investment). The proportion of social and economic investment targeted to settlements located within the identified nodes is 65.6% and 68.9% respectively, with the bulk of this planned investment targeted towards the regional and first order nodes (33.7% and 45.9% of each of these investment categories respectively). The spatial analysis of planned economic investment (Figure 4.5) confirms that significant investment is only targeted to a small number of selected nodes located along the development corridors, and settlements with the highest level of planned social investment are concentrated on the higher order nodes located along the development corridors (Figure 4.6). The spatial patterns of the various investment categories also confirm that there is no apparent significant planned expenditure located in non-prioritised areas outside the focus areas identified in the spatial development frameworks.



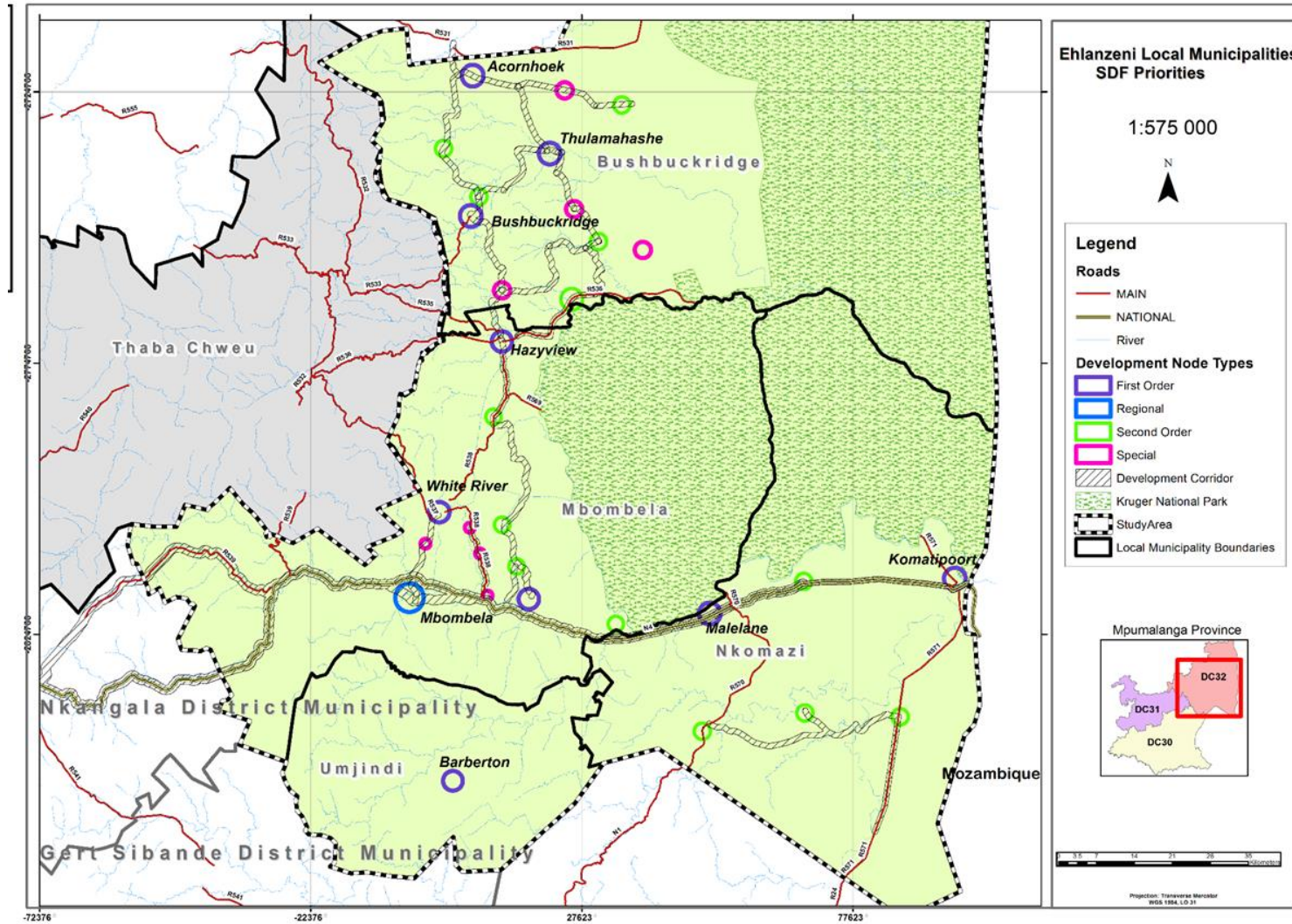


Figure 4.2 Spatial orientation of nodes and corridors in the study area

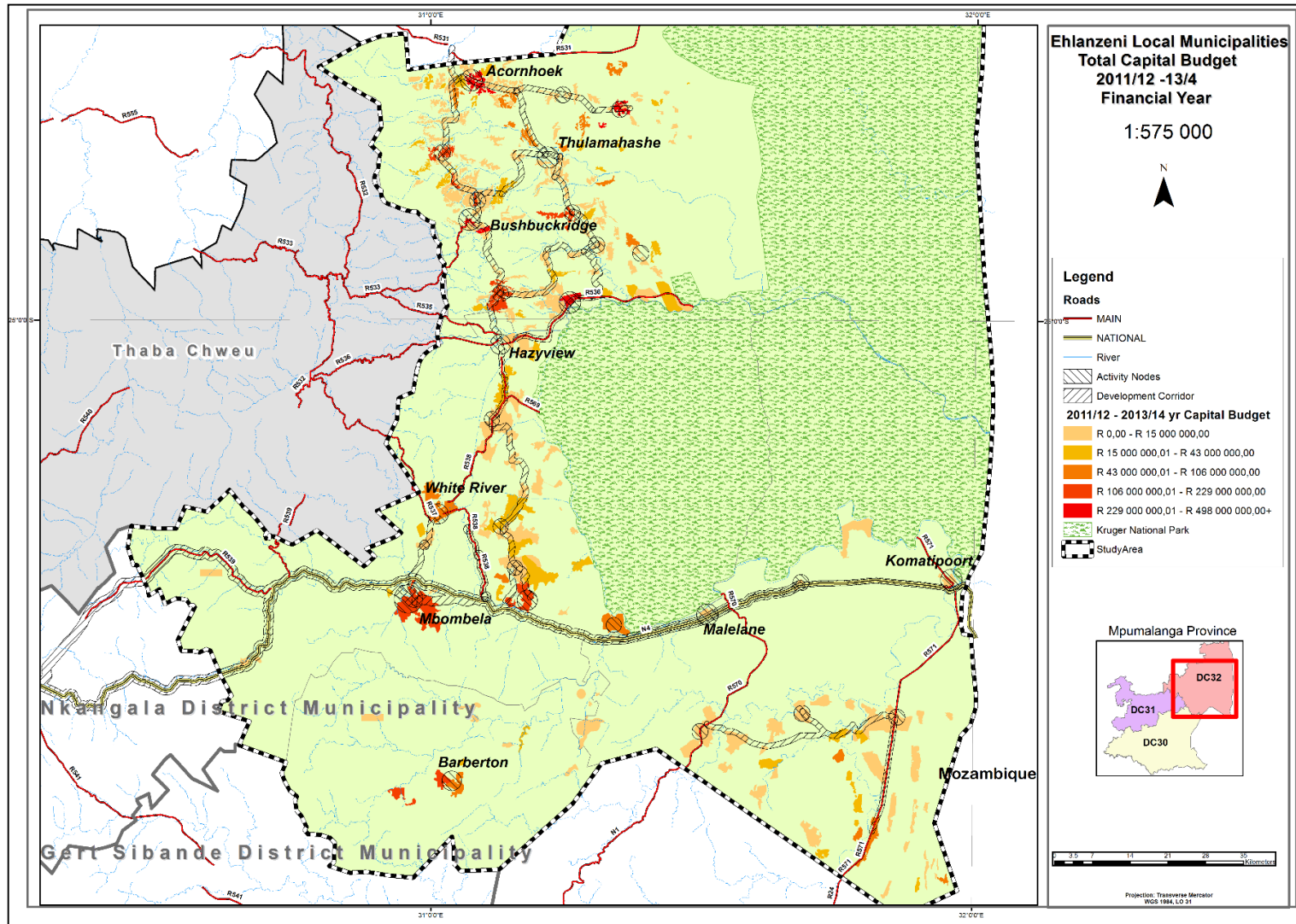


Figure 4.3 Spatial distribution of the total capital budget

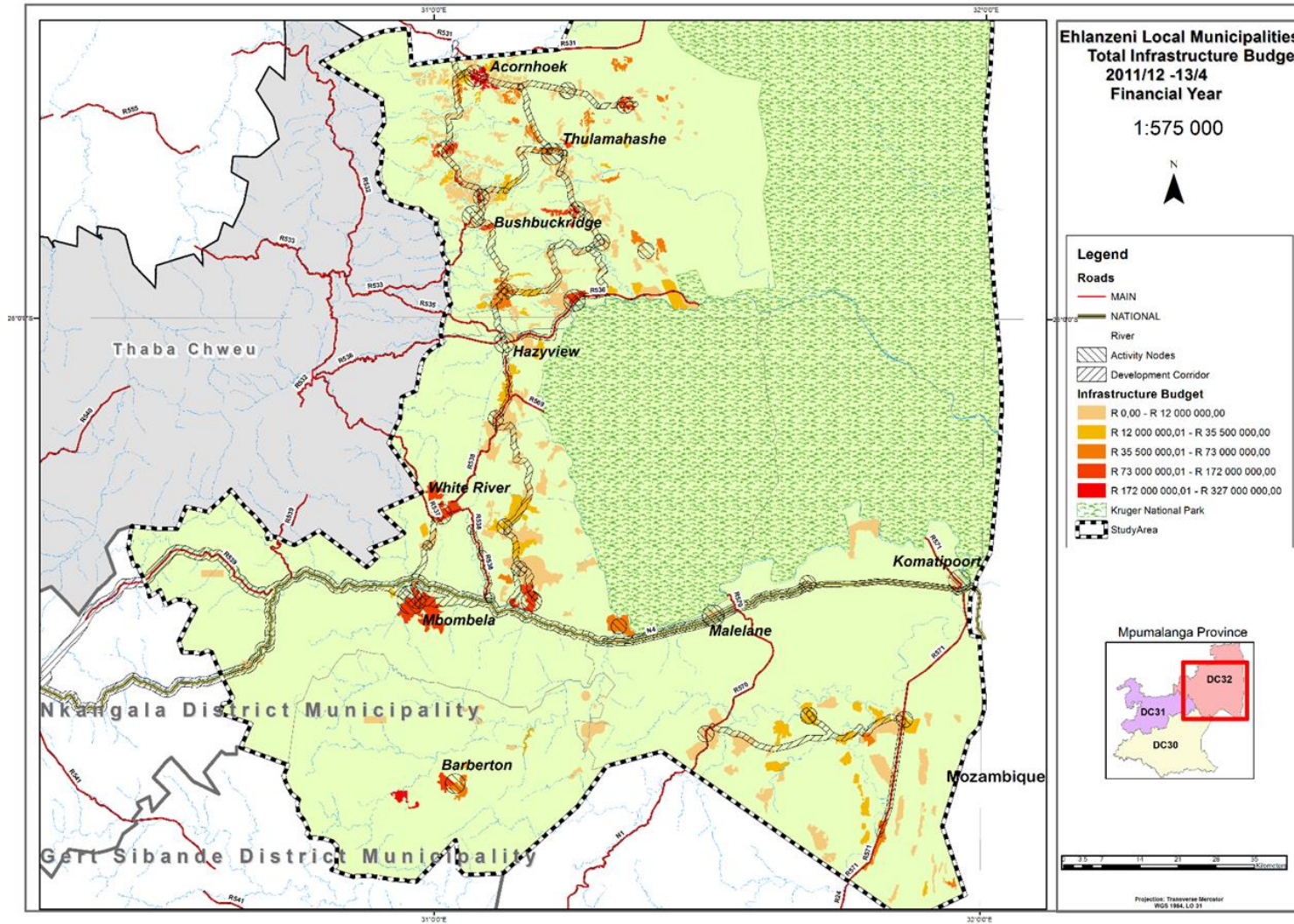


Figure 4.4 Spatial distribution of the infrastructure capital budget

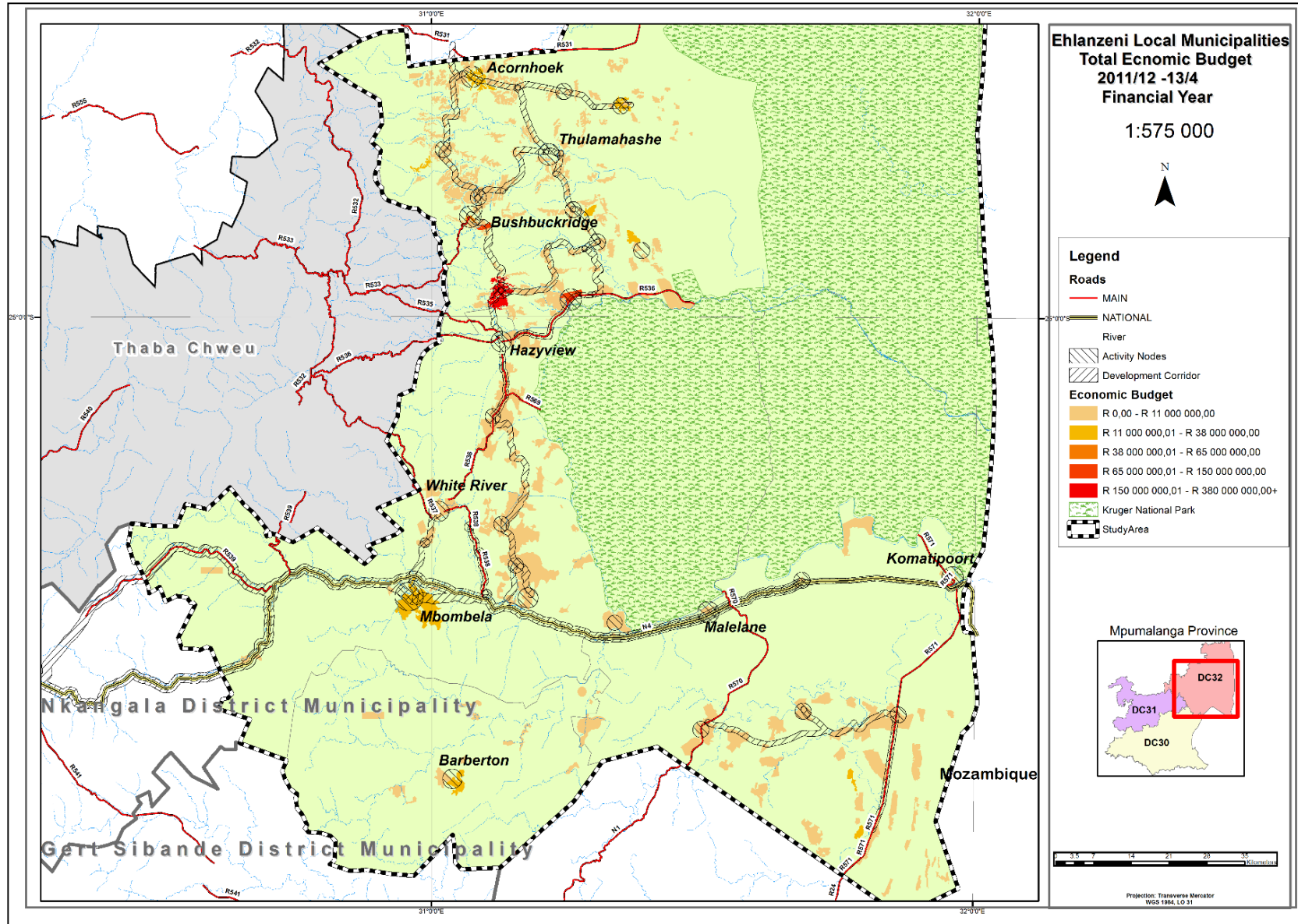


Figure 4.5 Spatial distribution of the economic capital budget

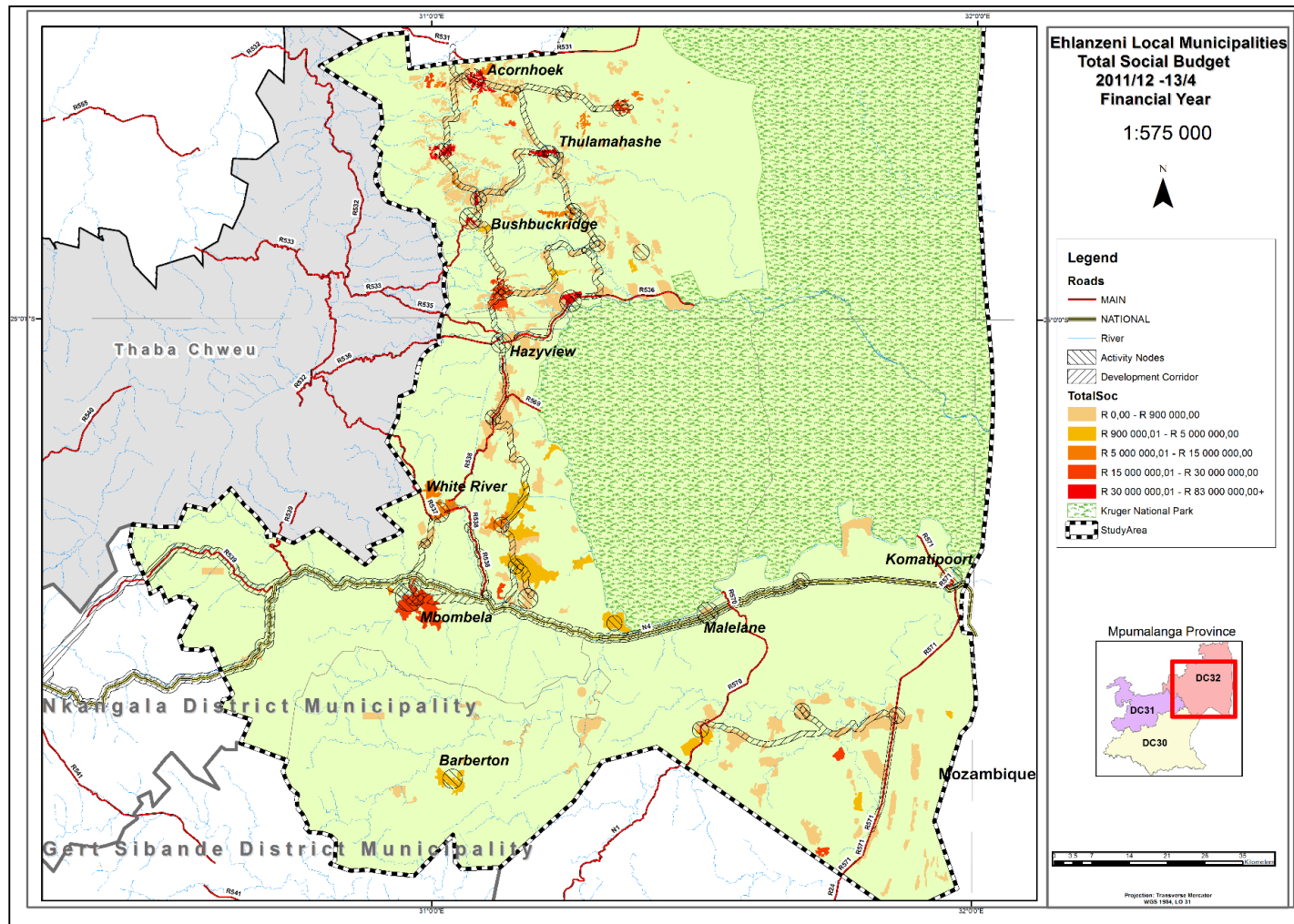


Figure 4.6 Spatial distribution of the social capital budget

### 4.3 PRIORITIZATION ANALYSIS OF PLANNED MUNICIPAL INVESTMENT RELATIVE TO SDF PRIORITIES

The spatial analysis of total planned investment as outlined in Section 4.2 provides a sound point of departure for understanding the planned regional investment patterns resulting from the municipal budgets, but does not uncover the extent of prioritization of investment to certain specific components identified in the SDFs. The figures presented in Tables 4.2 and 4.3 will necessarily reflect higher figures and proportions of investment in corridors than in nodes simply because of the larger number of settlements located in corridors compared to nodes. It does however not reflect on the potential influence of the SDF proposals in terms of targeting and prioritisation of the budget allocation. A municipality with a larger capital budget such as Mbombela will thus on a regional scale analysis also reflect higher levels of investment than in smaller municipalities such as Nkomazi. To uncover the potential underlying trends and the potential influence of the SDF proposals it was thus necessary to convert the various indicators to some standardised values.

A dual approach was adopted for this purpose. Firstly, the total investment figures for each individual settlement (see maps 4.2 to 4.6) were normalised relative to the population (investment per capita) and area of each settlement (investment per hectare) (Table 4.4 and Figures 4.7 and 4.8).

Secondly, in order to determine the levels of relative prioritization of investment within a particular SDF category, a prioritization rate (area based and population based) was calculated for each of the SDF and investment categories. The area based prioritization rate was calculated as a ratio between the percentage of total investment in a specified feature (such as first order nodes) of the total investment of all features, and the percentage of the total area of the feature relative to the total area of all features. In the case of the population based prioritization rate, area is substituted with population. The numerical notation of these two prioritization rates can be expressed by the following two equations:

$$1. \text{ APR} = \frac{\sum V_c / \sum V_a}{\sum A_c / \sum A_a}$$

$$2. \text{ PPR} = \frac{\sum V_c / \sum V_a}{\sum P_c / \sum P_a}$$

Where

APR = area based prioritization rate

PPR = population based prioritization rate

$V_c$  = investment in settlements located in the specified SDF feature category

$V_a$  = investment in all settlements across study area

$A_c$  = area of settlements located in the specified SDF feature category (ha)

$A_a$  = area of all settlements across study area (ha)

$P_c$  = population of settlements located in the specified SDF feature category

$P_a$  = population of all settlements across the study area

These prioritization rates can be interpreted as follows:

- Prioritization rate  $>1$ : This implies that the settlements in this SDF feature class in proportional terms received more investment than its proportional share of the total area or population of all features. The higher the value the higher the level of prioritization. A prioritization rate of 1.50 will imply that the feature class are allocated 50% more of the budget than its proportional share of the total population or area.
- Prioritization rate = 1 (or close to 1.0): The feature class received the same proportion of the investment as its proportional share of the total population or area of the total study area.
- Prioritization rate  $< 1$ : This implies that the feature class in proportional terms received less investment than its share of the total area or population of all features in the study area.

These normalized investment figures and prioritization rates are summarised in Table 4.4.

Table 4.4 Capital investment prioritisation rates of key SDF concepts

CATEGORY	CORRIDORS	NODES TOTAL	NODES REGIONAL & FIRST	NODES SECOND	NODES SPECIAL	NON PRIORITIZED
Investment/ha	R 75 722.01	R 98 297.42	R 146 226.17	R 63 209.77	R 86 477.07	R 54 052.11
Investment per capita	R 3 354.31	R 4 303.75	R 6 481.67	R 2 503.31	R 6 211.54	R 2 964.15
Area based prioritization rate (Total)	1.11	1.44	2.14	0.93	1.27	0.79
Population based prioritization rate (Total)	1.05	1.35	2.04	0.79	1.95	0.93
Area based prioritization rate (Infr)	1.01	1.27	1.82	0.95	0.77	0.92
Population based prioritization rate (Infr)	0.96	1.19	1.73	0.81	1.18	1.09
Area based prioritization rate (Soc)	1.25	1.85	2.44	1.47	1.48	0.65
Population based prioritization rate (Soc)	1.18	1.74	2.32	1.25	2.28	0.76
Area based prioritization rate (Econ)	1.45	1.94	3.32	0.53	3.25	0.32
Population based prioritization rate (Econ)	1.38	1.82	3.16	0.45	5.00	0.37

The information depicted in Table 4.4 and Figures 4.7 and 4.8 indicate that the highest levels of total investment per hectare is prevalent in the regional and first order nodes (R146 226), while per capita is the highest in the first order nodes (R6481) and the special nodes (R6211). All these figures are nearly double the average figure for all settlements across the study area and are indicative of high levels of prioritization in these SDF features. A further notable feature is that both the investment per hectare (R63 209) and investment per capita (R2 503) in the second order nodes are lower than the average figure for all settlements across the study area. The total prioritisation rates for both the area and population of the second order nodes are < 1, indicating that they are receiving less than their proportional share of investment. This



implies no apparent prioritisation of investment to the second order nodes. The investment per hectare (R75 722) and per capita (R3 354) for the development corridors is only slightly higher than the average figures for all settlements across the district and thus suggests only marginal levels of prioritisation of investment towards development corridors.

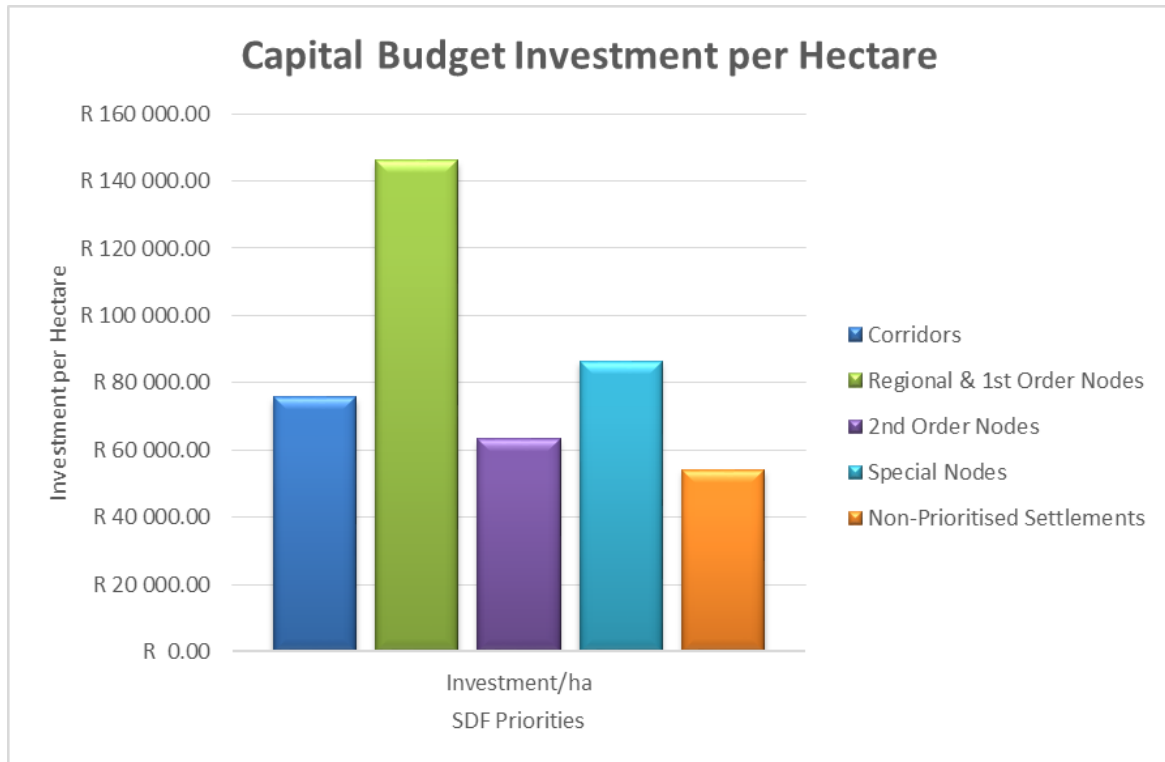


Figure 4.7 Capital Investment per hectare

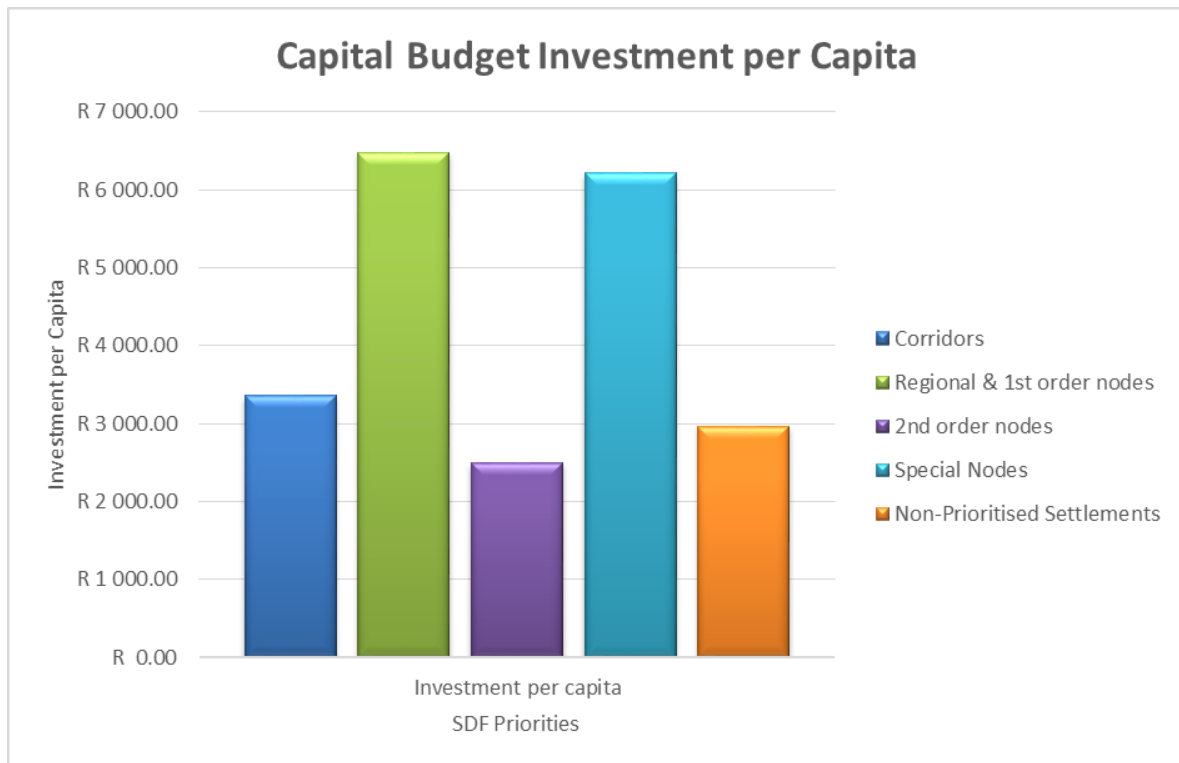


Figure 4.8 Capital Investment per Capita

The highest level of prioritisation for total planned investment is prevalent in the first order nodes with both an area and population based prioritization rate in excess of two. The prioritisation rates of total investment for the second order nodes are less than one (indicating no apparent prioritisation of investment), whereas the population based prioritisation rate for special nodes is as high as 1.95. The area based and population based prioritisation rates for corridors are both only slightly above one and thus exhibits no clear targeting of investment towards corridors.

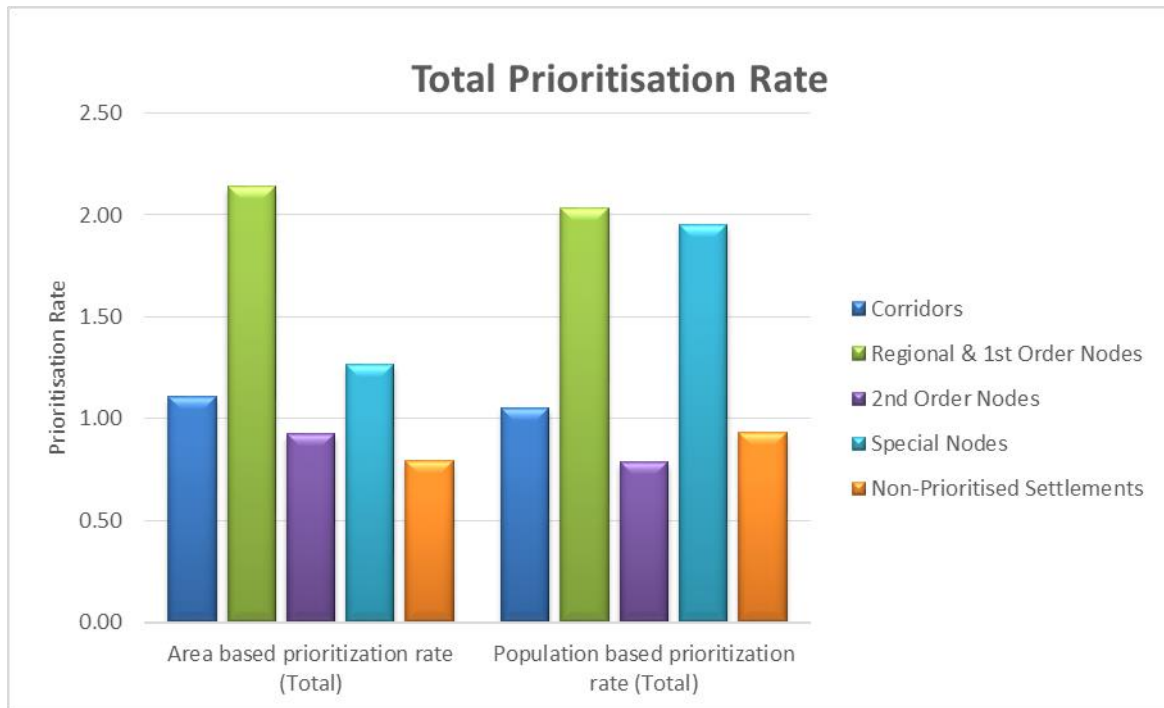


Figure 4.9 Prioritisation rate of the total capital budget

As far as the infrastructure investment prioritization rate is concerned, the highest levels of prioritization are prevalent in the first order nodes with prioritization rates of 1.82 and 1.73 respectively. The rates for the corridors are close to 1 and for special nodes 0.77 which implies lower levels of investment relative than the area and population of these areas.

Social investment is highly prioritised in the first order nodes with area and population based prioritisation rates of 2.44 and 2.32 respectively and for special nodes a population based rate of 2.28. Similar to the other investment categories there is a marginal level of prioritization in the identified corridors with a prioritization rate of 1.25. This implies levels of investment

approximately 25% in excess of proportional area of the settlements within the corridor relative to the all settlements within the study area.

Significant levels of targeting and prioritization is evident in economic investment in first order nodes (3.32. and 3.16) and especially in the special nodes with a population based prioritization rate of 5.00. This can be explained by the fact that many of the special nodes are identified for specific economic development programmes and projects targeted in the special nodes. The levels of economic investment targeted at corridors are somewhat higher than the other investment categories at prioritization levels of 1.45 and 1.38. The non-prioritized areas in relative terms clearly receive significantly lower levels of investment compared to the focus areas identified by the SDFs with prioritization rates ranging from as low as 0.3 in the case of economic investment to 0.9 in the case of infrastructure investment.

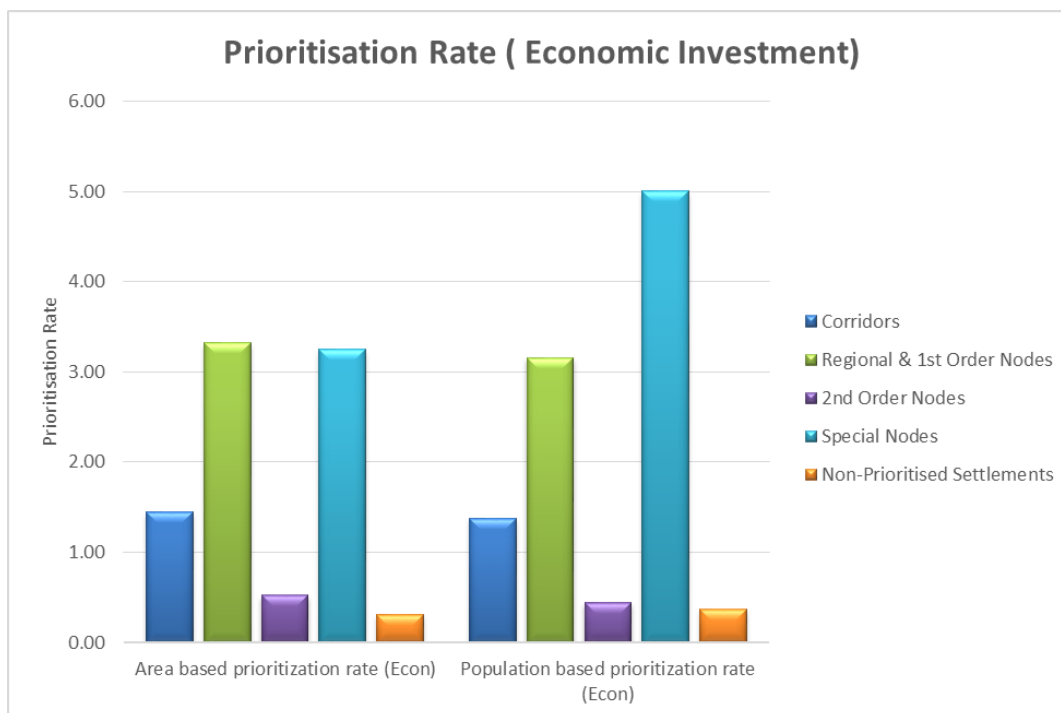


Figure 4.10 Prioritisation rate of economic investment

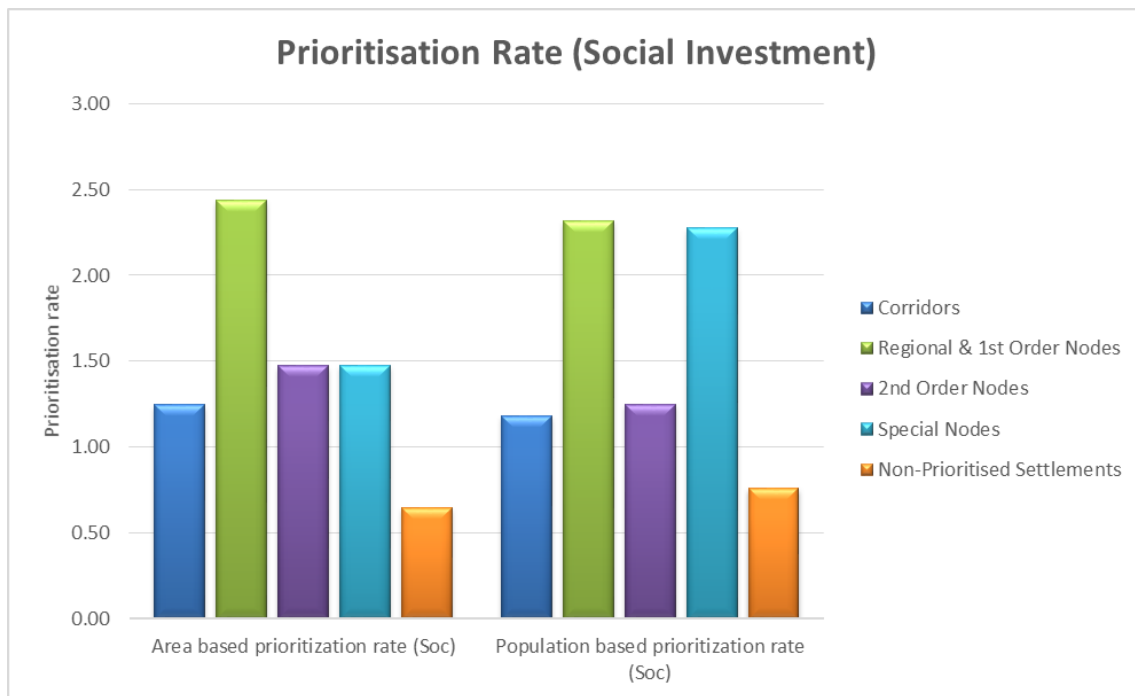


Figure 4.11 Prioritisation rate for Social Investment

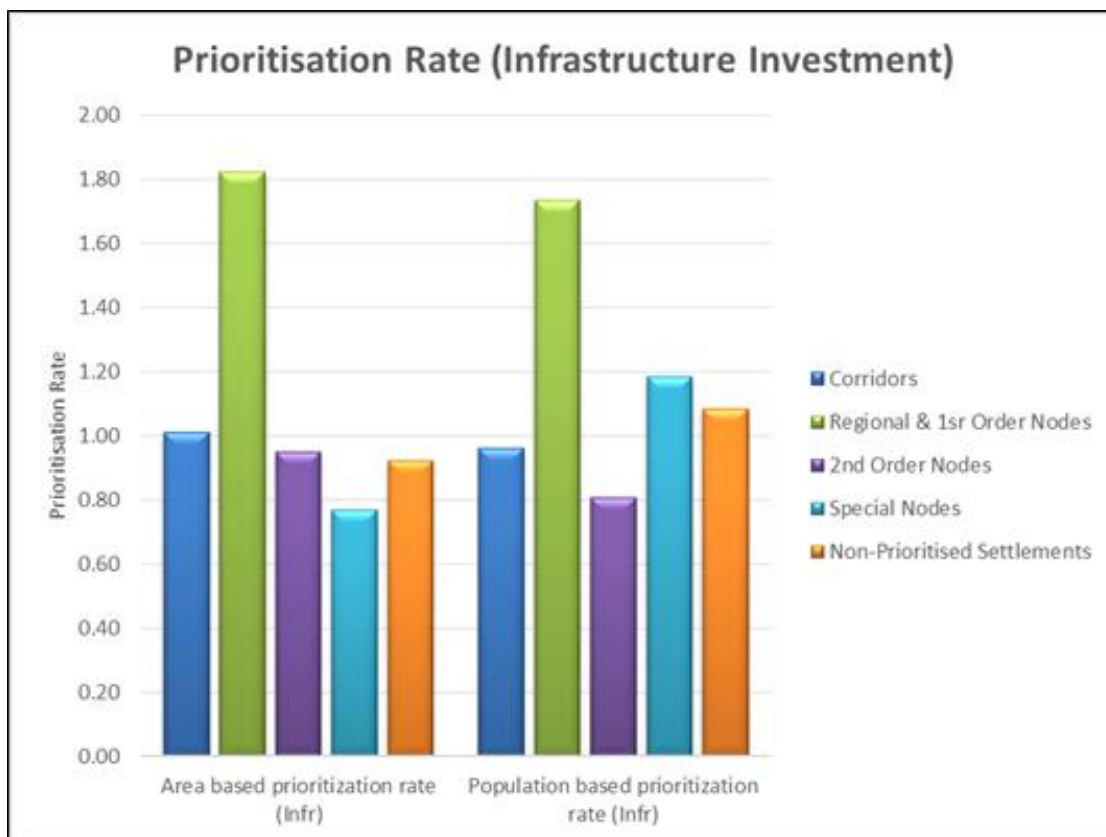


Figure 4.12 Prioritisation rate of infrastructure investment

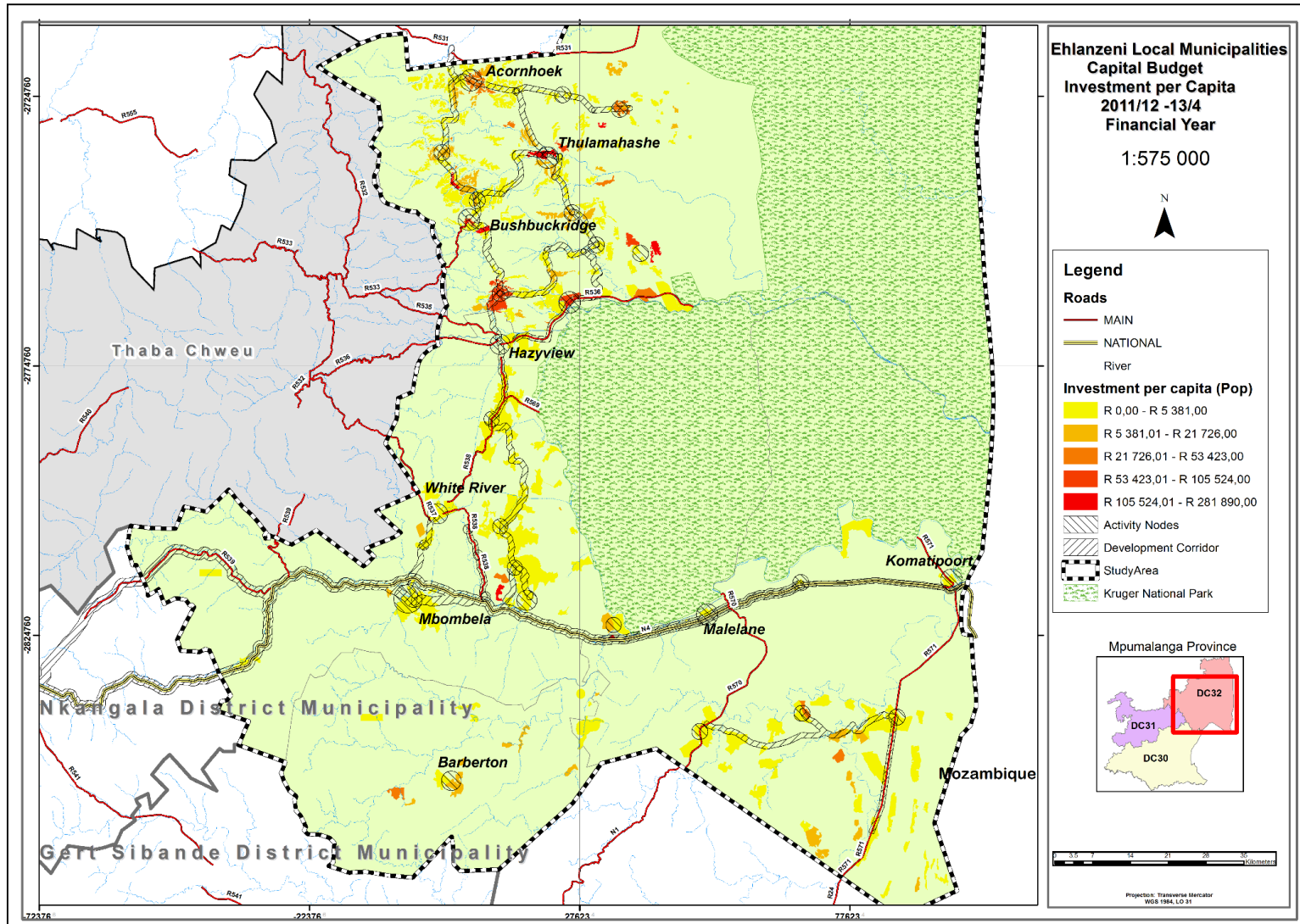


Figure 4.13 Total capital budget investment per capita

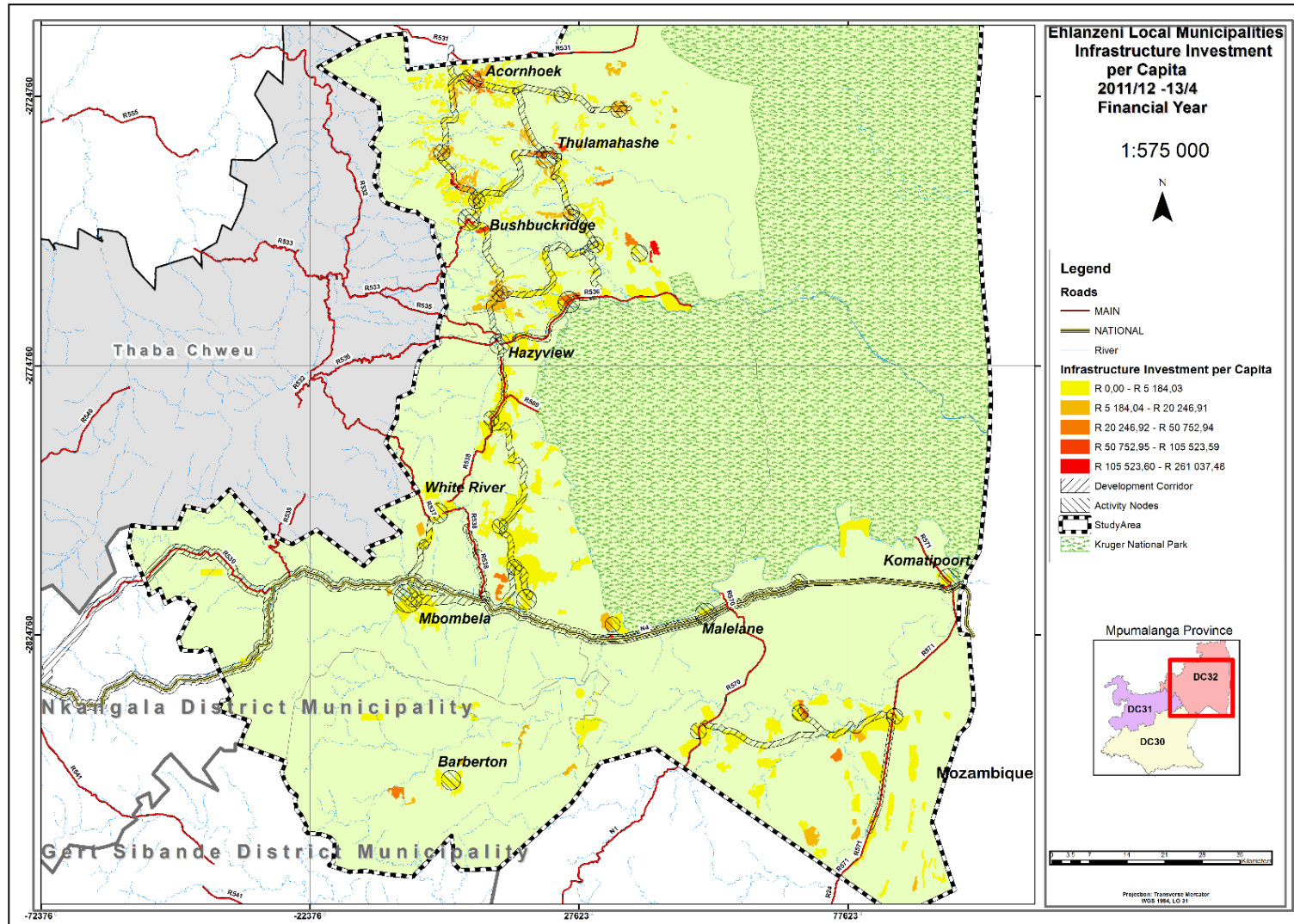


Figure 4.14 Infrastructure investment per capita

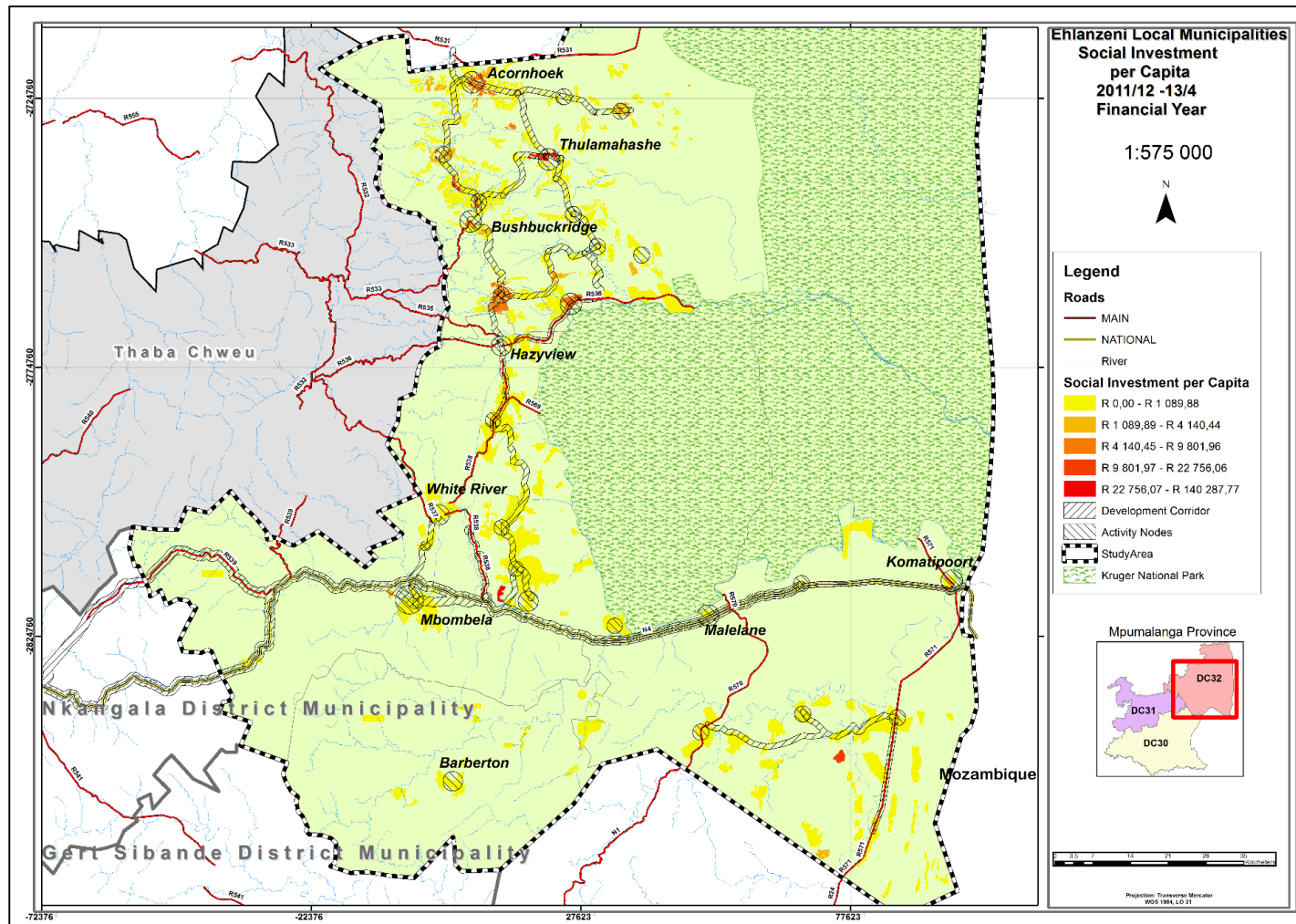


Figure 4.15 Social investment per capita



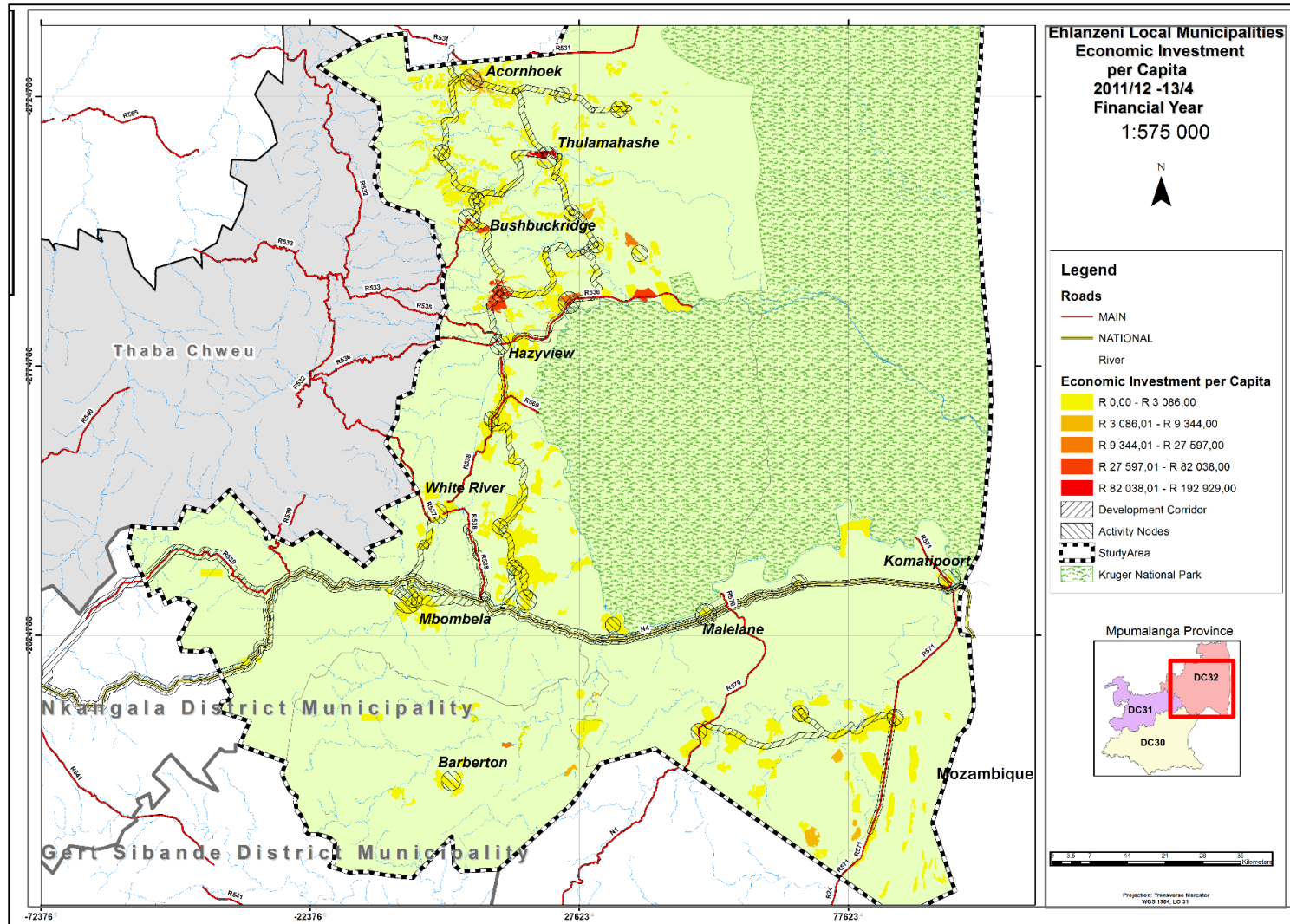


Figure 4.16 Economic investment per capita

In summary it can be stated that the regional and first order nodes are prioritized for all three investment categories, with an economic investment rate  $> 3$ , social prioritization rate  $> 2$ , and infrastructure prioritization rate  $> 1$ . The second order nodes were slightly prioritised with an area based prioritisation rate of 1.47 and population based prioritisation rate of 1.25 for the social investment and with no clear prioritisation for the other two categories (values below 1). The special nodes are highly prioritized in terms of economic investment (population based prioritization rate of 5.0) and some prioritization of social investment (1.48 area based and 2.28 population based). The identified development corridors were only marginally prioritized with a population based prioritization rate of 1.38 for economic investment and 1.18 for social investment and a value of only 0.96 for infrastructure investment. As expected the non-prioritized areas have very low prioritization rates, especially in terms economic investment.

## **SECTION 5: CONCLUSIONS AND POLICY IMPLICATIONS**

### **5.1 REVISITING THE RESEARCH OBJECTIVES**

The research aimed to identify the level of alignment between the municipal Spatial Development Frameworks and the capital budgets presented in the Integrated Development Plans for the 2011/12 to 2013/14 financial years for four local municipalities of the Ehlanzeni District Municipality.

The first objective of the study was to determine the spatial development priorities and concepts identified in the SDFs of the study area. Nodes and corridors of various orders of importance within the context of a hierarchical framework were found to represent the key spatial development priorities and concepts within the four municipalities.

The second objective was to determine if the municipal capital budget allocations reflected in the IDPs are aligned with the envisaged spatial form and spatial development priorities of the municipalities. The empirical analysis results indicated that as much as 65.5% of the total budget has been allocated to projects located within corridors, 51.1% to projects located in development nodes and only 29.7% to the non-prioritised settlements. The spatial analysis also indicated that the highest levels of planned investment was targeted to the regional and first order nodes as well as settlements along the development corridors, especially in the central and northern parts of the study area.

The third objective of the study was to determine the extent of municipal investment prioritization in the SDF focus areas. The regional and first order nodes prioritisation rates are all higher than 1 with the economic investment having the highest prioritisation rates in excess of 3. Economic investment is highly prioritised within the special nodes with the highest prioritisation rate of 5. The identified development corridors were only marginally prioritized with a population based prioritization rate of 1.38 for economic investment and 1.18 for social investment and a value of only 0.96 for infrastructure investment. As expected the non-prioritized areas have very low prioritization rates, especially in terms of economic investment.

## **5.2 VALUE OF RESEARCH AND POLICY IMPLICATIONS**

The research results can contribute towards a better understanding of the implementation of the spatial development frameworks and its alignment with public sector capital investment in rural dominated municipalities. It provides a sound methodology that can be used in other similar studies to evaluate the alignment between spatial proposals and capital investment. The research results also provide the four case study municipalities with a baseline to conduct a more in-depth assessment of their service delivery performance against spatial policies and strategies.

Overall it confirms that there are some clear signs of prioritization of municipal capital investment in line with the key spatial development concepts and priorities. Although the results confirm some alignment between certain elements of the SDFs and planned capital investment, it however does not necessarily establish causality implying that this alignment is a result of the usage or consultation of the SDFs during the planning and decision-making phases of the IDP or whether it is merely coincidental. Further qualitative research will be required to establish the level of causality.

## **5.3 LIMITATIONS OF THE STUDY**

Despite the usefulness of the research results the limitations of the study must be recognised in the interpretation of the results. Firstly, the non-uniformity in the capturing of the IDP capital projects in the IDPs of the various municipalities represented a significant challenge in compiling a reliable source of base data to work with. In some municipalities aggregate budgets were provided for a number of settlements whilst in others each settlement was allocated its own specific budget. In the case of the former the budget has been divided equally among all the settlements represented under that unit of analysis.

Secondly, the non-alignment of boundaries and the different naming conventions between the StatsSA data and the municipal IDPs necessitated the use of the Department of Water Affairs statistics and naming conversion, which is normally used for the development of Water Services Development Plans (WSDP) of municipalities.

Thirdly, housing projects funded through conditional grants from the Department of Human Settlements were not always listed as part of the municipal capital budgets in all four municipalities. In some instances the Human Settlement budget has only been provided for one of the financial years and not for the multi-year period under review in this study. Due to the potential significant influence of these budgets on the total overall investment patterns and the inconsistency of data provided, the housing investment category was excluded from the analysis.

Fourthly, as outlined in Section 4.2 the results do not necessarily establish statistically verifiable causality between the investment patterns and SDF proposals or whether this alignment is the result of the usage or consultation with the SDFs during the planning and decision-making phases of the IDPs.

#### **5.4 RECOMMENDATIONS FOR FUTURE RESEARCH**

Future research should include similar studies in other rural dominated municipalities in the country to determine whether the results of this study can be more broadly generalised across the country. It is also recommended that this research be extended to include a qualitative component during which interviews are conducted with the various planners, developers and decision-makers in order to obtain a clearer understanding of the process followed in municipalities during the project identification and prioritisation process.

Relevant organizations such as Statistics South Africa, Department of Cooperative Governance, Department of Water Affairs, the Demarcation Board and municipalities should collaborate to establish common settlement boundaries that could be officially used by the country for any surveys conducted at a settlement level or lower levels of spatial aggregation.

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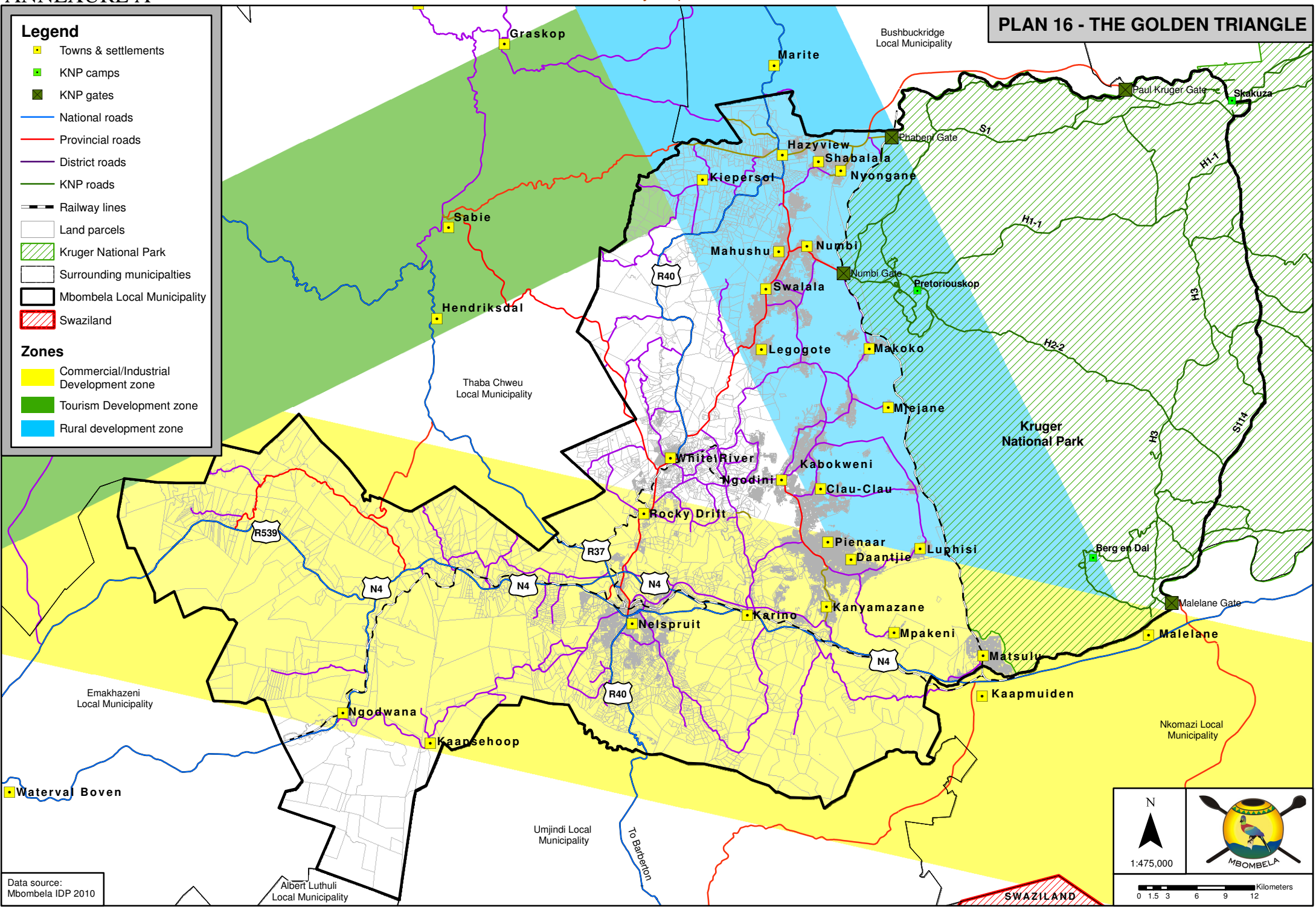
**PLAN 16 - THE GOLDEN TRIANGLE**

**Legend**

- Towns & settlements
- KNP camps
- KNP gates
- National roads
- Provincial roads
- District roads
- KNP roads
- Railway lines
- Land parcels
- Kruger National Park
- Surrounding municipalities
- Mbombela Local Municipality
- Swaziland

**Zones**

- Commercial/Industrial Development zone
- Tourism Development zone
- Rural development zone



Data source: Mbombela IDP 2010

N

1:475,000

MBOMBELA

0 1.5 3 6 9 12 Kilometers

PLAN 46 - MBOMBELA STRATEGIC SPATIAL FRAMEWORK

**LEGEND**

- Towns & settlements
- KNP gates
- KNP camps
- ✈ Airports
- Dams
- Rivers
- National roads
- Provincial roads
- District roads
- Railway line
- Local municipalities
- Mbombela Local Municipality

**Strategy 6: Direct urban growth & promote compact integrated urban development**

- Urban development
- Urban edge

**Strategy 7: Consolidate & intensify development in economic opportunity zones**

**Nodes**

- Regional activity node
- 1st order activity node
- 2nd order activity node
- Speciality node
- Rural service centres

**Corridors**

- Nzikazi activity corridor
- Tekwane/Msogwaba activity corridor
- Nelspruit/White River activity corridor
- Karino/KMIA/Plaston activity corridor
- N4 transportation corridor

**Strategy 1: Establish a Municipal Open Space System (MOSS)**

- ★ Heritage sites
- Mountainous areas  
- Slopes > 20%
- Biodiversity areas  
- Nature reserves  
- Irreplaceable areas
- River corridors

**Strategy 2: Protect prime & unique agricultural land**

- Irrigated land
- Agriculture

**Strategy 3: Focus areas for land reform**

**Tenure reform**

- A Nsikazi
- B Mataffin
- C Matsulu
- D Mataffin

**Land redistribution**

- E Commercial agriculture
- F Agri processing
- G Affordable housing
- H Food security

**Strategy 4: Develop & strengthen rural-based tourism**

**Kruger National Park**

- KNP gates
- Proposed KNP gates
- KNP tourism belt
- Rural township tourism routes
- J Sudwala caves

**Scenic areas**

- K Schoemanskloof
- L Crocodile Gorge
- M Legogote
- N Kaapsehoop
- O Da Gama - Klipkopje - Longmere tourism belt
- Sabie River - R536 tourism spine

**Cultural Centres**

- P Shangana
- Q Matsulu

**Strategy 5: Establish an integrated movement system**

**Strategy 5.2: Specific regional roads intervention projects**

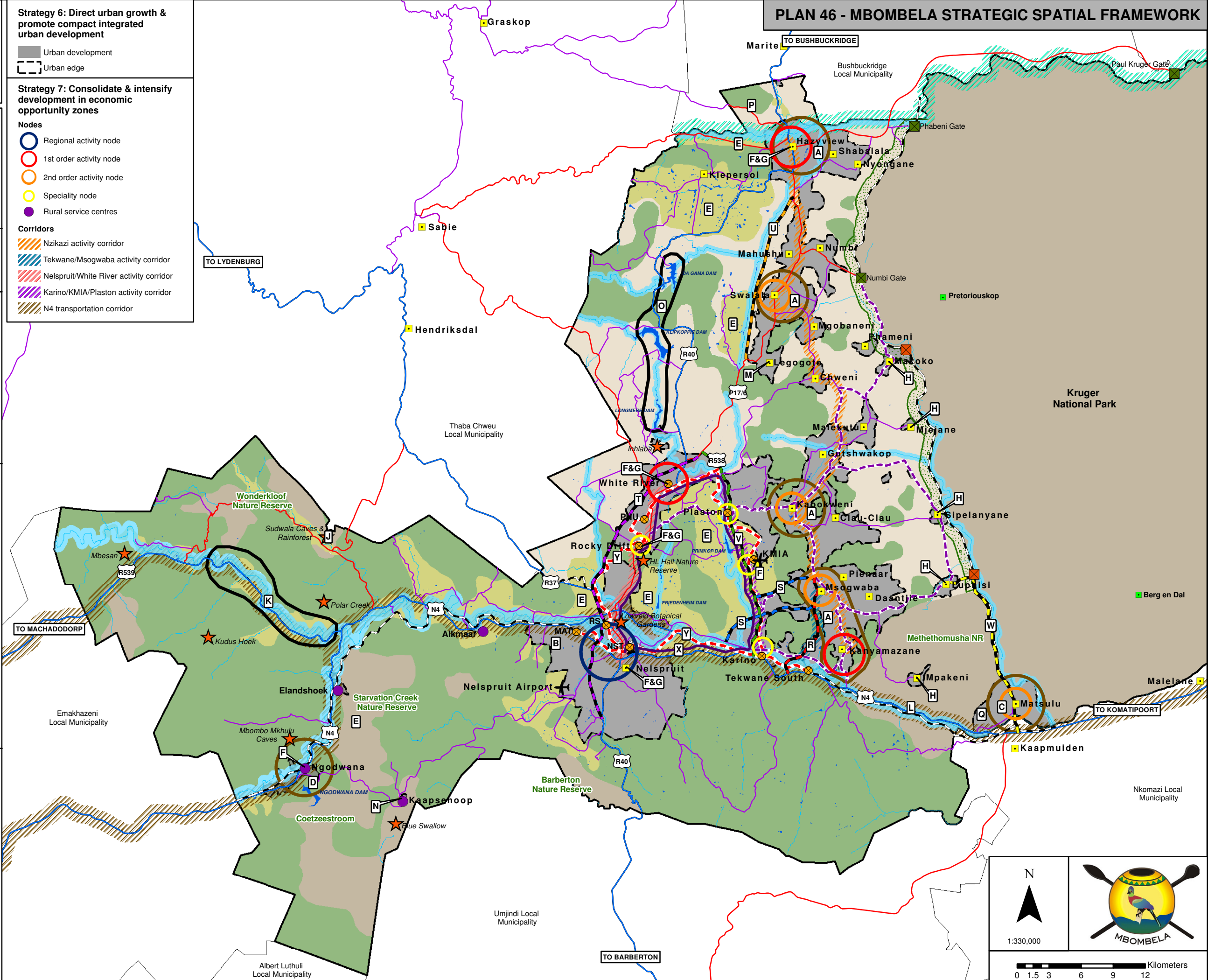
- R Proposed Kanyamazane western bypass
- S Proposed Luphisi links
- T Proposed alignment of the P166
- U Proposed re-alignment of the P17/6
- V R538 upgrade required
- W Matsulu direct link to N4 & extension to Luphisi

**Strategy 5.3: BRT service & feeders**

- X BRT services

**Strategy 5.4: Commuter rail system**

- Y Railway stations
- Z Commuter rail system

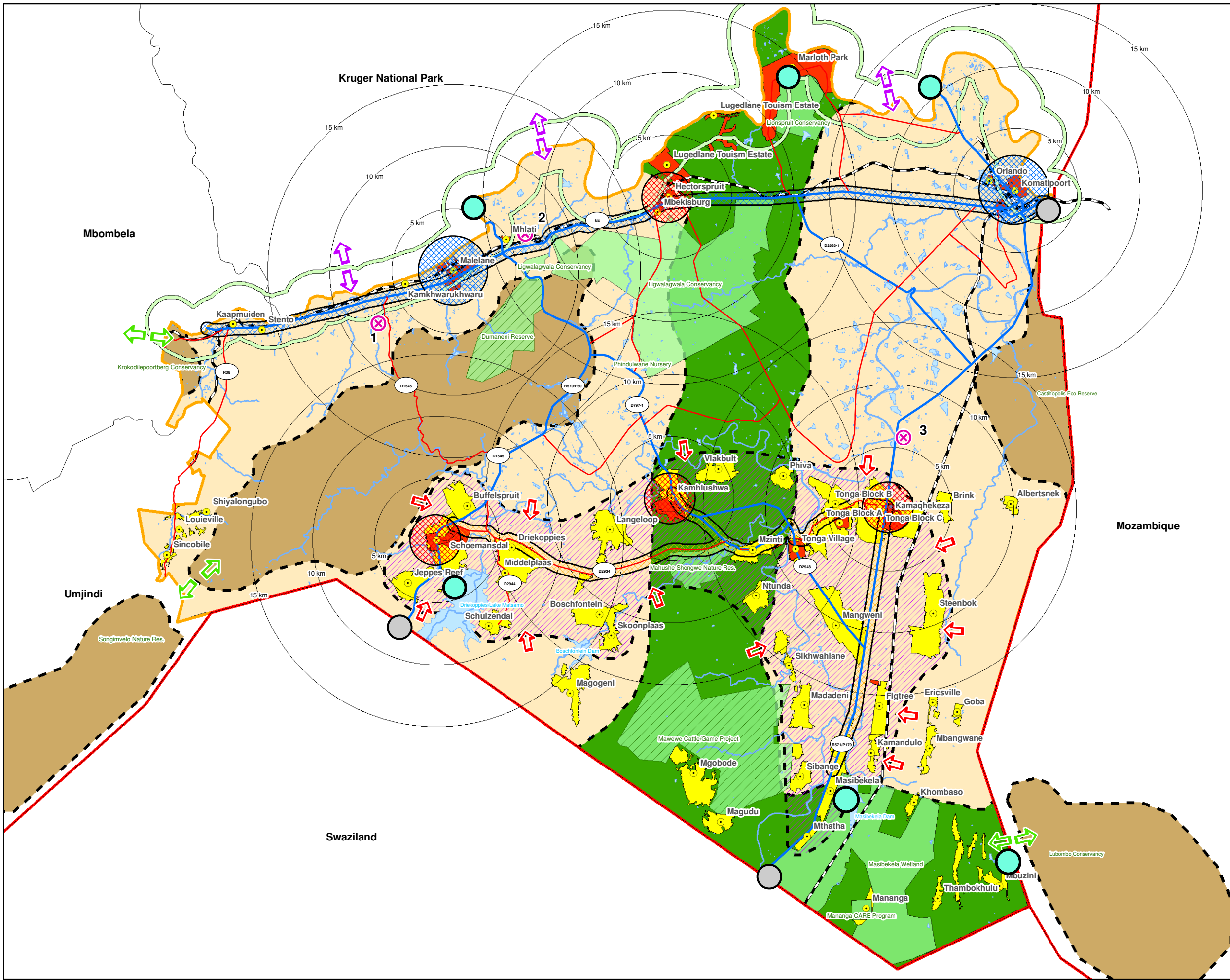


N

1:330,000

0 1.5 3 6 9 12 Kilometers

# MUNICIPALITY SPATIAL DEVELOPMENT FRAMEWORK CONCEPT



**Legend**

- Towns & settlements
- Railway lines
- National route
- Main roads
- Rivers
- Dams
- Protected Areas
- Nature reserves
- Surrounding Local Municipalities
- Township boundaries
- Nkomazi boundary
- International boundaries

**SDF Proposals**

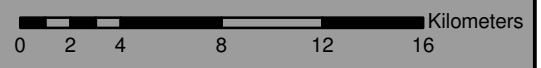
- 1. Magnesite mine
- 2. TSB (site 1)
- 3. TSB (site 2)
- Primary activity node
- Secondary activity node
- Tourism node/area
- Border posts
- Urban compaction direction
- Conservation linkages
- Kruger National Park linkages
- Agri-tourism
- Agriculture
- Central conservation zone
- Conservation & Eco-tourism
- Urban compaction zone
- Transportation corridor
- Activity corridor
- Rural settlements

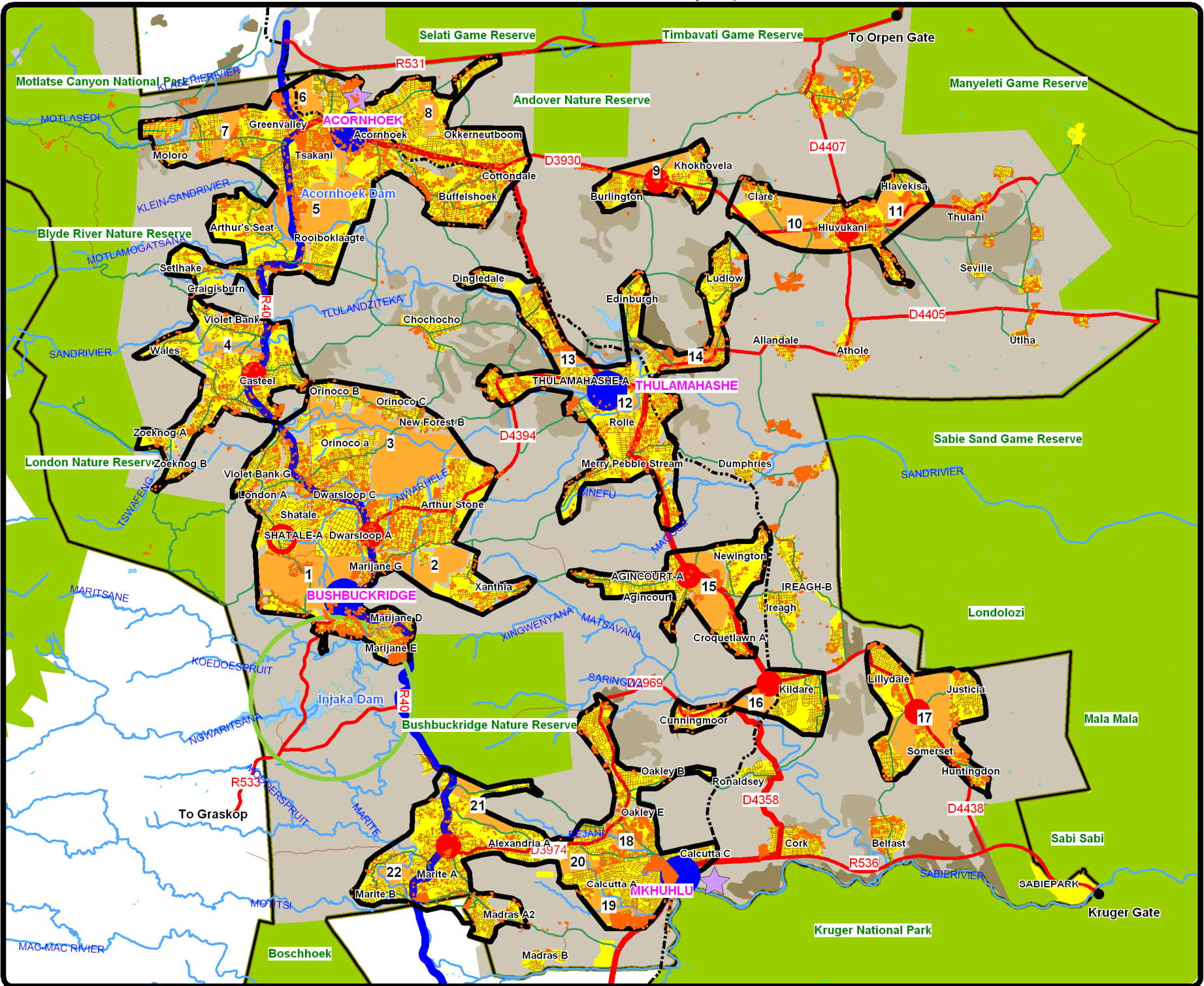
Note: The accuracy of the data contained in this map is not guaranteed.  
 Layer: Municipal Boundary, Towns & Tribal Authorities  
 Source: Ehlanzeni Local Municipality


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**BUSHBUCKRIDGE  
LOCAL  
MUNICIPALITY**



**SPATIAL  
DEVELOPMENT  
FRAMEWORK**

**River**

- Perennial center line
- Urban Node
- Rural Node / Service Delivery Node
- Primary Corridor
- Secondary Corridor
- Strategic Link Roads
- Tertiary Road Network
- Local Roads

**Railway**

- Standard
- Proposed Tourism Node
- Cultivated Land - Commercial
- Cultivated Land - Subsistence
- Grazing
- Protected Area
- Game Reserve Gate
- ★ Industrial Hub
- Strategic Development Area
- Rural Settlements

26.7

# UMJINDI SPATIAL DEVELOPMENT FRAMEWORK

