



Knysna

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KNYSNA : MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK

Draft Report
(Version 3)

January 2020

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List of Acronyms

CBA	Critical Biodiversity Area	PPTIF	Provincial Public Transport Institutional Framework
CBD	Central Business District	PSDF	Provincial Spatial Development Framework
CEF	Capital Expenditure Framework	PWC	Price Waterhouse Cooper
CML	Coastal Management Line	RDP	Rural Development Plan
DEA&DP	Department of Environmental Affairs and Development Planning	SALGA	South African Local Government Association
DHS	Department of Human Settlements	SANParks	South African National Parks
DRDLR	Department of Rural Development & Land Reform	SEA	Strategic Environment Assessment
EIA	Environmental impact assessment	SPC	Spatial Planning Category
EMF	Environmental Management Framework	SMME	Small, Medium and Micro-sized Enterprises
ESA	Ecological support area	SPLUMA	Spatial Planning Land Use Management Act
GDP	Gross Domestic Product	Stats SA	Statistics South Africa
GRNP	Garden Route National Park	STEP	Sub-tropical Thicket Ecosystem Plan
HDA	Housing Development Agency	TDM	Travel Demand Management
HSP	Human Settlement Plan	WCBSP	Western Cape Biodiversity Spatial Plan
ICM	Integrated Coastal Management	WCG	Western Cape Government
ICMA	Integrated Coastal Management Act		
IDP	Integrated Development Plan		
IUDF	Integrated Urban Development Framework		
KMA	Knysna Municipal Area		
LITP	Local Integrated Transport Plan		
LSDF	Local Spatial Development Framework		
LTFP	Long Term Financial Plan		
LUPA	Land Use Planning Act		
MPA	Marine Protected Area		
MSA	Municipal Systems Act		
MSDF	Municipal Spatial Development Framework		
MSFM	Municipal Services Financial Model		
MTREF	Medium Term Revenue and Expenditure Framework		
NEMA	National Environmental Management Act		
NMT	Non-motorised Transport		
NNAR	No Natural Area Remaining		
ONA	Other Natural Area		
PA	Protected Area		

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1 Introduction

1.1 Purpose of the Knysna Municipal Spatial Development Framework (MSDF)

The purpose of the Knysna Municipal Spatial Development Framework (MSDF) as set out in the Spatial Planning & Land Use Management Act (2013) (SPLUMA) is to:

- a) Interpret and represent the spatial development vision of the municipality – informed by a long term spatial development vision statement and plan;
- b) Represent the integration and trade-off of all relevant sector policies and plans;
- c) Guide planning and development decisions across all sectors of government and specifically the municipality and provincial government in its spatial planning and land use management decisions;
- d) Contribute to a coherent, planned approach to spatial development across the spheres of government;
- e) Provide clear and accessible information to the public and private sector and provide direction for investment purposes;
- f) Include previously disadvantaged areas, rural areas, informal settlements, slums and landholdings of state-owned enterprises and government agencies and address their inclusion and integration into the spatial, economic, social and environmental objectives of the relevant sphere;
- g) Address historical spatial imbalances in development;
- h) Identify the long term risks of particular spatial patterns of growth and development and the policies and strategies necessary to mitigate those risks;
- i) Provide direction for strategic developments, infrastructure investment, promote efficient, sustainable and planned investments by all sectors and indicate priority areas for investment in land development;

- j) Promote a rational and predictable land development environment to create trust and stimulate investment;
- k) Take cognisance of any environmental management instrument adopted by the relevant environmental management authority;
- l) Give effect to national legislation and policies on mineral resources and sustainable utilisation and protection of agricultural resources;
- m) Assist in integrating, coordinating, aligning and expressing development policies and plans emanating from the various sectors of the spheres of government as they apply within the municipal area; and
- n) Outline specific arrangements for prioritising, mobilising, sequencing and implementing public and private infrastructural and land development investment in the priority spatial structuring areas identified. (SPLUMA , 2013)

1.2 Role of the MSDF

The Knysna MSDF plays a leading role in the broader municipal planning system. A MSDF is required in terms of both SPLUMA and the Municipal Systems Act (2000) (MSA), which requires a SDF as a core component of the Municipality's Integrated Development Plan (IDP). The IDP drives budget prioritisation and allocation decisions. These decisions should be consistent with and work towards realising the vision, spatial strategies and plan set out in the MSDF. The MSDF is the spatial expression of the IDP within a long term vision at the municipal scale that must seek to drive through the vision, principles and policy directives set out in national and provincial legislation, strategies, policies and plans. Importantly, Knysna's spatial transformation vision and plan will not be realised without the close alignment of budget prioritisation and allocation decisions across the spheres of government that allocate and manage land use rights, which in turn, themselves, impact on the cost of running the Municipality.

The MSDF also leads the Municipality's policy-driven Land Use Management System. The MSDF provides the long term spatial framework for decisions made in terms of the Knysna Municipality By-Law on Municipal Land Use Planning.

These by-laws standardise land use regulations across the municipal jurisdiction aligned to the long term spatial development outcomes sought by the MSDF and its policies. It is important to note that a MSDF does not confer or take away land use rights but guides decisions associated with the management of such rights. When deciding on an application, the Municipal Planning Tribunal, or any other authority required or mandated to make a land development decision must make a decision which is consistent with the MSDF (S22 of SPLUMA, 2013).

Figure 2 illustrates key components of a municipality's policy-driven land use planning and management system assisting decision-making. Within this system the MSDF provides the overarching spatial vision, principles, structuring elements, strategies and policies within which the Municipality implements its development and service delivery agenda.

As a tool to promote the objectives of the MSDF, the draft Knysna Integrated Zoning Scheme By-Law makes provision for "overlay zones". Through the establishment of overlay zones, additional development management provisions (over and above those related to use zones) may be imposed to direct the nature and form of land use and development in a specific area in accordance with the MSDF and LSDF's.

Overlay zones could, for example, be prepared for:

- Heritage areas.
- Sensitive environmental areas such as the coastal management zone
- Significant sections along scenic routes.
- Specific local areas intended for restructuring (e.g. inclusionary housing) or accelerated development

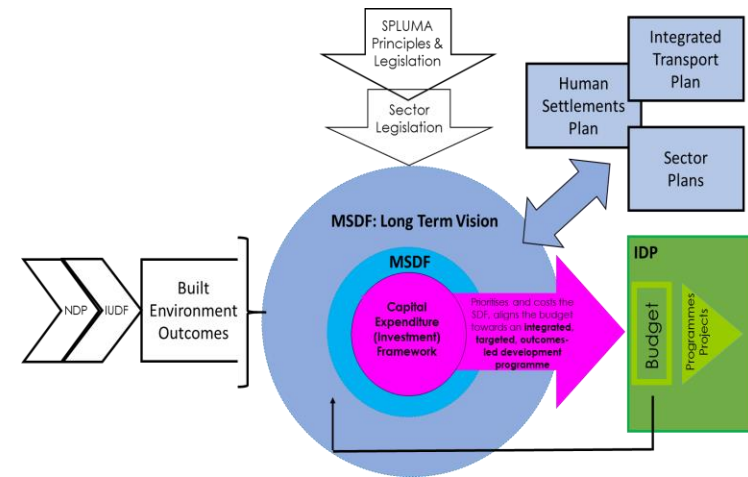


Figure 1: The Municipal Planning System

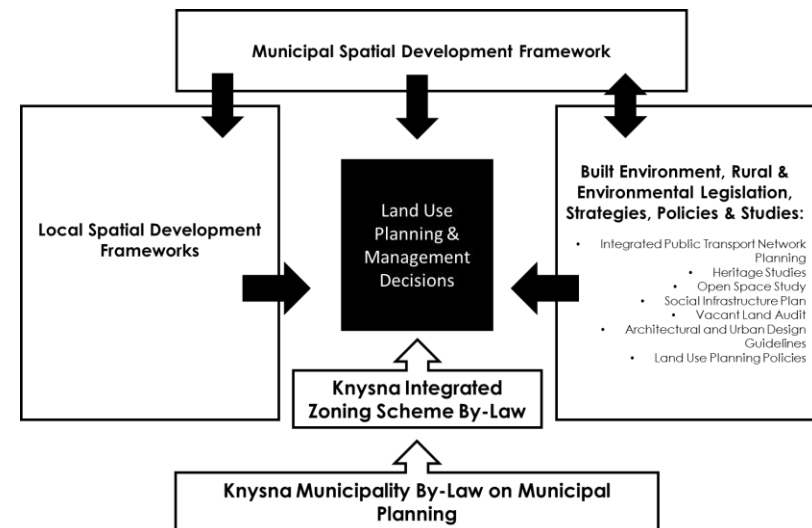


Figure 2: The Knysna Municipality's Land Use Management System

1.3 Spatial planning processes preceding this MSDF

This MSDF is a reviewed MSDF for the Knysna Municipal Area. Once approved, it will succeed the Knysna Municipality's 2017 SDF Strategic Synthesis. There have been a number of spatial planning initiatives in the intervening period, between the development of the 2008 SDF and this review. This MSDF has been informed by these processes and the public responses to these. Such processes include *inter alia*:

- the preparation of and consultation on the draft Spatial Development Framework as part of the Integrated Spatial Development Framework (2016)
- the Garden Route Rebuild Initiative (2017-18)
- the Knysna Spatial Development Framework Strategic Synthesis 2017
- the Southern Cape Corridor Development Framework

In addition, this MSDF has been informed by new and reformed national and provincial planning legislation; namely, SPLUMA and the Western Cape Government's Land Use Planning Act (2014) (LUPA) as well as the Knysna Municipality By-Law on Municipal Land Use Planning. Subsequent to 2008 the national policy environment for development planning has changed and most relevant is the National Development Plan and the Integrated Urban Development Framework published in 2016. The Provincial Spatial Development Framework also gives guidance to current municipal spatial planning. The key messages of these various legislation and policies is discussed in the Vision, Policy Directives and Status Quo report which forms an integral part of this MSDF and is presented in Annexure 1.

The MSDF sits within a system of spatial planning at different scales. Strictly speaking this is not a hierarchical system but rather one that seeks alignment in planning across scales and between the different spheres of government.

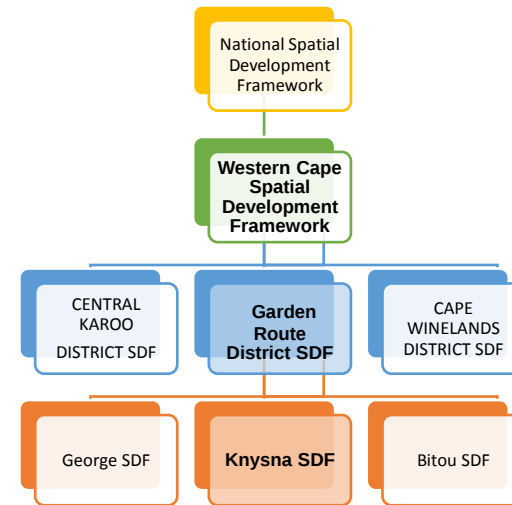


Figure 3: Spatial Plans that inform one another at different scales

In addition to understanding the directives set out by national and provincial policy and legislation as well as local leadership, the approach to the drafting process resulting in this MSDF was also informed by:

- i. new or updated spatial information
- ii. sector legislation, policy and planning
- iii. public sector budgeting and municipal long term financial planning, budgeting and associated trends
- iv. new research
- v. the Garden Route (Eden) District MSDF and the Regional Spatial Implementation Framework

Public and stakeholder input into the drafting of this MSDF through the statutory public participation process is also an important part of the preparation and finalisation of this MSDF.

1.4 Preparation process and timeframes

1.4.1 Drafting Process

This MSDF review commenced in August 2018. The following phases are being followed as per guidance given in the National Department of Rural Development and Land Affairs SDF Guidelines and SPLUMA, LUPA and Knysna Municipality By-Law on Municipal Land Use Planning:

Phase 1: Policy Context, Vision Directives and Status Quo Investigation (Report)

Phase 2: Draft Knysna MSDF

Phase 3: Public Participation

Phase 4: Final Knysna MSDF

Phase 5: Endorsement and Adoption of the Final Knysna MSDF

The Policy Context, Vision Directives and Status Quo report was finalised at the end of 2018 and adopted by the Knysna Municipal Council in March 2019.

The Policy Context, Vision Directives and Status Quo report is included as Annexure 1 to this MSDF and should be read together with this MSDF. It provides a comprehensive view of the context, informants and base information used to formulate the planning proposals and policies presented in this MSDF. In the interests of brevity and focus, as far as possible, the information is not repeated in the main body of this report.

1.4.2 Public Engagement

In 2 February 2018, the Knysna Municipality gave public notice of its intention to review the MSDF, in terms of its By-Law on Municipal Land Use Planning. Stakeholders, including the general public, were also invited to comment on the Draft Knysna Spatial Development Framework Strategic Synthesis 2017. Inputs received from the public in response to this notice were considered in the drafting of this MSDF.

Focus Group sessions were held with the public to engage with and validate the findings of the Policy Context, Vision Directives and Status Quo phase and share input into the MSDF.

A draft of the Knysna Municipal Spatial Development Framework was advertised for public and public sector stakeholder comment from 21 March to 21 May 2019. A report is available on the public and stakeholder input received and the Municipality's response as to how this input informed the revision and finalisation of the MSDF. This report is included with this final MSDF submitted to the Knysna Council for approval.

1.5 Document Structure

This report structure is broadly in alignment with the DRDLR Guidelines for Spatial Development Frameworks. It consists of six parts, each of which contain the following:

- a) An overview of the Knysna Municipal Area and its spatial assets, opportunities and challenges
- b) The **Municipal Spatial Development Framework**: This section includes the vision directives, the spatial vision and the spatial development strategies. Each of these strategies has a stated objective, a set of policies supported by policy guidelines and proposals that support the implementation of these strategies. Together, these are intended to guide land

use planning, management, regulation and investment decisions in the Knysna Municipal Area.

- c) An **Implementation Framework**, including a Capital Investment Framework and a Capital Expenditure Framework.
- d) Conclusions and recommendations associated, in particular, with the future review of this MSDF and any outstanding matters.

**In this report the “Knysna Municipal Area” of KMA refers to the whole municipal area.
“Knysna town” refers to the urban agglomeration or the regional service centre of Knysna.**

This MSDF aims to appropriately balance its attention between the urban settlements and between the urban and rural. At the same time, the clear concentration of most of the municipality’s population in Knysna town and the pressures confronted by the town, justify a focus on this area, within the context of the municipality’s obligation to govern the KMA area as a whole.

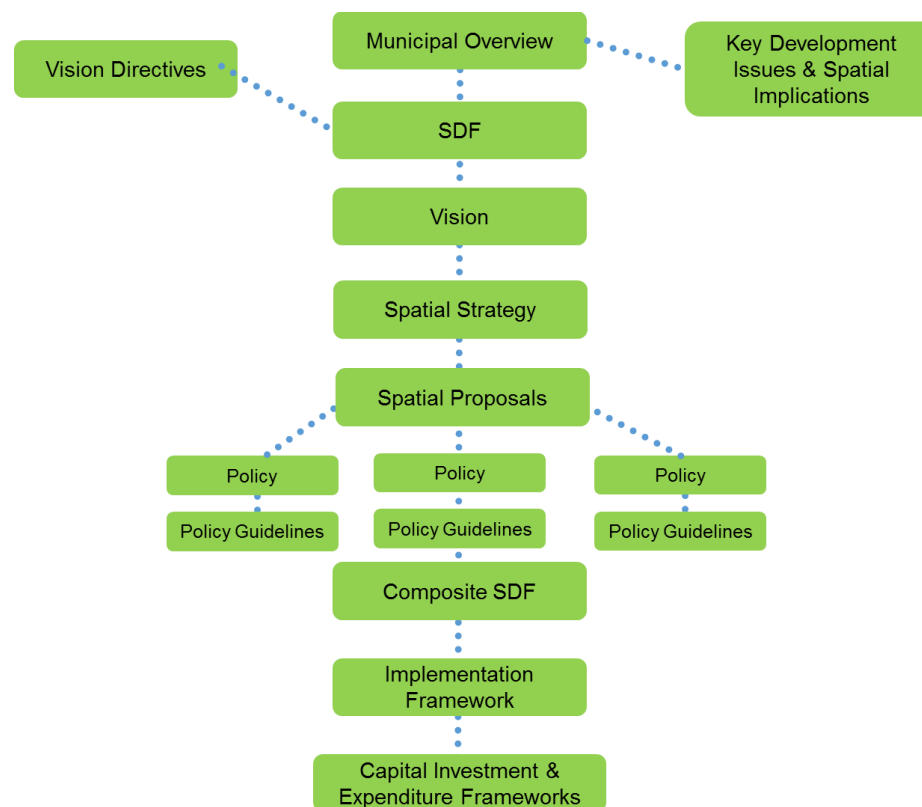


Figure 4: Document Structure

2 Overview of Knysna Municipal Area: Spatial Assets, Opportunities and Challenges

2.1 The Place

The Knysna Municipality is one of seven municipalities that form the Garden Route District of the Western Cape Province in South Africa. It is located approximately 500km from Cape Town, on the Southern Cape coastline at the heart of the Garden Route, bounded by Bitou Municipality (Plettenberg Bay) to its east and George Municipality to its north and west. The town of Knysna is the primary regional service centre and a prominent national tourist destination. However, in the context of the Garden Route and sub-region, Mossel Bay and George are likely to remain the most important economic centres.



Map 1: Locality of the Knysna Municipal Area

The KMA further includes the specialised (primarily tourist, recreational and retirement-oriented) coastal centres of Sedgefield, Buffalo Bay and Brenton on Sea; as well as the agricultural / forestry villages of Karatara, Rheenendal, and numerous smaller hamlets embedded within forestry areas.

The National Spatial Development Framework identifies Knysna town as located within a national coastal corridor – also identified as a national development corridor, as well as national eco-resource production region.

The Knysna Municipal Area (KMA) is endowed with a spectacular natural setting. The Outeniqua Mountains running parallel to the coastline form the backdrop to an undulating natural and cultivated forested landscape, drained by a number of rivers with large water bodies in the low lying areas and sandy beaches sheltered by rocky headlands and coastal dunes along the Indian Ocean coastline. This verdant landscape of outstanding scenic beauty (WCG, 2013) is of national significance and international renown and can be considered as much a national economic asset, as it is the ecological basis for settlement in the region. View sheds are spectacular, giving name to the *Garden Route*. The area is host to endemic biodiversity and acts as a nursery for aquatic species that travel further afield.

However, settlement, agricultural activity and increased temperatures and altered rainfall patterns, as a result of climate change, threaten the survival of these ecosystems, along with the growing prevalence of wild fires. The extent of critically endangered, endangered and vulnerable ecosystems in the coastal plain is alarming.

Settlement in the KMA has predominantly occurred on the narrow coastal plain squeezed between the foothills of the Outeniqua Mountains and the rivers, lakes, wetlands and coastline. However, high and low density, rich and poor settlement has also now established itself on the hilltops surrounding the Knysna Lagoon to

the north and east, along the N2 and to the south along the coastline. Coastal resort towns and forestry hamlets in the KMA, have retained their character and make their own contribution to the sense of place of the area alongside the natural and topographical splendour (Knysna Municipality, 2016). Together the natural and historical built landscape present a cultural heritage deserving of sensitive treatment.

This landscape provides resources, services, character and amenity to human settlement. It also constrains its growth by virtue of the topography and carrying capacity of the ecosystem services it provides. The sustainable management of settlement in this context, with the pressure to pursue growth to meet the needs of the poor in particular, makes managing development in this municipal area a uniquely challenging task. Settlement form impacts on social well-being and economic development. It is important that plans to cater for urban growth resist, as far as possible, to move people further and further away from economic activity and jobs, and existing facilities and services, increasing the cost of living and pushing more and more household income into transport. This will deepen the poverty trap.

The challenge of this context becomes all the more pronounced when one considers the direct and frequently felt exposure of settlement in the municipal area to climate change impacts; such as, higher temperatures, reduced rainfall, sea level rise, increasing frequency and intensity of storms and storm surges, wildfires, high winds, droughts, impermeable surfaces as a result of droughts increasing flooding of estuaries and floodplains; etc. As more knowledge, experience and data has been accumulated, the MSDP can promote the mitigation of the impacts of climate change more effectively and specifically through its spatial policies, in particular, for example, associated with integrated coastal management, and veld fire management.

2.2 The People

The population of the KMA in 2018 is estimated at 75,286 people (Stats SA/ Western Cape Government, 2018) made up of approximately 25,877 households (Knysna Municipality, 2017). Between 2011 and 2016 the population grew at 1.1%. In the next five years the population is estimated to grow at 1.6% and thereafter at 2%. This is a higher growth rate than is estimated for the district, the province and the Cape Town metropole (Stats SA/ Western Cape Government, 2018).

In five years' time the population is estimated to be 80,867 people and in 10 years' time, 89,185 people (Stats SA/ Western Cape Government, 2018).

Household sizes have gradually been reducing and at 2016 were an average of 2.9 persons, with larger households in Rheenendal and Karatara as opposed to the Knysna town area (Stats SA/ Western Cape Government, 2018). Natural population growth coupled with smaller household sizes and the ongoing trend of urbanisation increases pressure on space for accommodation. This means standard approaches to providing a free-standing family home may not be suitable nor sustainable.

The Knysna town area makes up 75% of the population of the KMA. Sedgefield is the second largest settlement in the KMA with 12,9% of the population (Stats SA/ Western Cape Government, 2018). The KMA population is very much urbanised. 80% of future households living in Knysna will need to be accommodated in Knysna town and 10% in Sedgefield.

Knysna is no different from most South African municipalities in the disparities between rich and poor it is faced with. It has a responsibility to address backlogs in service delivery (including housing provision), maintain service delivery to its existing serviced

population while meeting the needs of new in-migrants and stimulate economic growth to create jobs for its residents.

This has to happen on the back of a struggling economy with weak growth which limits scope for improving employment prospects. Without more economic investment and in particular, job generating economic activity it will be difficult for the Municipality to maintain a sustainable revenue base and raise sufficient revenue to subsidise a growing poor population. Knysna Municipality is considered to have reached the limit of the burden it can place on existing ratepayers (Knysna Municipality, 2017).

Projections suggest that economic growth may reach 2% - just matching the population growth and better than many other neighbouring municipalities. However, the current economy and projected economic growth favours a sector that requires higher levels of skills. Skills that are not currently produced by the education facilities in Knysna. Knysna's population is young and low or unskilled, with 51% of its population under 40 years of age, the scope for frustration and discontent is significant.

Knysna's economic assets do however provide opportunity for the economy to grow, both for skilled and semi-skilled labour. What is important is that this growth is promoted in such a way that it doesn't undermine the very basis of the economy. An important sector of the economy remains the agricultural sector, in particular the forestry sub-sector, which in turn feeds into its manufacturing sector. Beneficiation of timber particularly in niche areas, many of which are already present in Knysna, is identified in the Integrated Urban Development Framework as an important economic strategy. Niche activities that sustainably cultivate and exploit the region's biodiversity are also emerging.

Be that as it may, Knysna's economy is predominantly a service economy - driven by tourism and the services needed by those attracted to living in Knysna. Both the tourists and residents live in Knysna because of the quality of life it offers thanks to its unique environment.



Figure 5: Knysna Municipal Area's Population Age Profile (Knysna Municipality, 2018)

SECTOR	LEVEL OF IMPORTANCE		NET SECTORAL IMPORTANCE
	GDP-R Analysis	Employment Analysis	
Agriculture	Low	Medium	Low to Medium
Mining	Low	High	Low
Manufacturing	Medium	Low	Low to Medium
Utilities	Low	Low	Low
Construction	Medium	Medium	Medium to High
Trade	High	Medium	Medium to High
Catering and Accommodation Services	High	Medium	Medium to High
Transport and Communication	Low	Low	Low
Finance and Business Services	Medium	Medium	Medium
Community Services	Medium	Medium	Medium
Government Services	Medium	Low	Low to Medium

Table 1: Importance of Sectors to the Greater KMA's Economy (Knysna Municipality)

Looking forward, agriculture, manufacturing and tourism are the economic sectors with the greatest comparative advantage in Knysna. The development of these sectors and the overall performance of the economy will stimulate growth in the performance of other derived demand sectors such as finance and business services. The improvement of transport linkages and communication systems and technology are identified as playing an important enabling role in the economy (Urban Econ, 2018). To keep this

competitive edge it is imperative that the tourism offering in particular remains authentic, that the sense of place, and the experience of a small town embedded in its natural and forest environment is retained.

All of this points to the inter-related nature of the different sectors in the economy notwithstanding the stark predominance of one, and the importance of protecting the integrity of the environmental, forestry and agricultural resources as the economic foundation. These sectors are also most likely to provide much needed un- and semi-skilled jobs. Good infrastructure networks are not only important for economic development but also social services and development, and not least disaster risk management.

Alongside employment opportunities, affordable, adequate housing opportunities for the poor residents of Knysna is probably the main public sector concern. Backlog figures vary substantially and are not verified, but are significant – as evidenced by the extent of informal settlement (20% of households in 2016, over 5,000 urban households). In addition, only 17% of new households living in Knysna in 10 years' time are estimated to be able to afford houses procured through the private market (Demacon, 2018).

2.3 The Infrastructure

Infrastructure can be understood to include water, wastewater, electrical bulk facilities and reticulation networks as well as road and non-motorised transport movement networks, broadband networks and social services infrastructure; such as, sport, civic, education, health, policing facilities; etc. Ecological systems are also an integral, inseparable part of the infrastructure system that services settlement in the KMA.

The rivers supply settlements in the KMA with water. They also transport away the treated wastewater. As does the sea eventually, which also is a source of water in some instances where desalination is or could be done. The health of the rivers and ocean is key to the security of supply of these services to settlements in the KMA. This is also key to the functionality of the wetlands and estuaries that also provide ecosystem services and significantly escalate land values and thereby revenue generated by the Municipality (refer to the Status Quo report for further discussion in this regard).

Security of water supply to settlements in the KMA is a significant concern and the Knysna Municipality is considering increasing its water storage capacity in the upper Knysna River. Improving the capacity of the Knysna town and Sedgfield waste water treatment works is a main priority.

Given the dispersed settlements located in unique topography – aside from electricity and waste, most settlements are serviced independently of one another making for very little redundancy in the system when considering the impact of disasters. This also means that a number of dispersed bulk infrastructure installations must be maintained and upgraded as growing populations and improved services to these households increases demand for water and wastewater volumes. As forestry hamlet residents are given tenure

by forestry companies, the demand for municipal services to these dispersed communities is also a challenge.

The maintenance of bulk infrastructure is critical to ensuring that the environmental systems are not compromised and in turn the economy is not threatened. For example, if a wastewater treatment plant breaks down, untreated wastewater will flow into the river and into the wetland, or into the sea and into an estuary. Similarly, poor maintenance of roads and associated storm water infrastructure could mean that polluted run-off flows directly into estuaries, compromising ecosystems and amenity. Backlogs in servicing informal settlements present the same risks. There are significant backlogs in the rehabilitation and upgrade (increasing capacity) of the roads and storm water systems in Knysna, particularly in Knysna CBD, which is directly leading to pollution of the Knysna estuary and the consequent negative ecosystem impacts. These impacts on not only environmental they are also impact on the economy of Knysna.

Enforcement of regulation requiring the removal of alien vegetation and regular alien clearing is also key to mitigating risks associated with the performance of ecosystems services. Presently, alien vegetation infestations reduce run off into the rivers, contribute to the siltation and clogging up of rivers and wetlands, and exacerbate the impact of wildfires while leaving behind destabilised slopes that add to the problems and threaten the security of water supply to settlements.

Movement of people and goods within and across the KMA is primarily reliant on the N2 national highway supported by a number of local passes, such as the R339 or Prince Albert Pass to Uniondale, the Rheenendal / Seven Passes Roads to Rheenendal and Karatara, the Karatara Road from the N2 to Karatara and the road to Goukamma and Buffalo Bay. The current route of the N2 is confronting significant conflicts, reducing speeds and compromising its role as a mobility route, which necessitates considering the implementation of a long term plan for its re-alignment or a bypass.

The mobility function of the R339 is also compromised by the inappropriate management of land use along it as the route draws close to the Knysna town area.

While the rail system may be revitalised between Sedgefield and Knysna town, resulting from the recent award of a concession, this will not serve a public transport, mobility or freight movement purpose. The closest national airport is located in George, 70 km away. There are no public transport services, aside from privately run bus and mini-bus taxi operations.

The primacy of the N2 as a single entry and exit route and the resulting congestion getting on and off it particularly in season, challenges the performance of Knysna town in particular and is a serious risk to Knysna at the time of a disaster. The mobility orientation of it also makes integrating the north and south of Knysna town difficult. Resolving the functionality of the N2 is a short term priority for the South African National Road Agency and requires the cooperation of the Knysna Municipality and its people.

Social infrastructure is critical to the well-being of Knysna's people and economy. Key shortages exist in education facilities in Knysna town in particular. Space is a significant constraint and it will be difficult to apply normal space standards. Innovative ways of using space to provide adequate facilities is needed. However, developments such as Heidevallei will need to make a significant allowance for social facility provision in a way that is accessible to the surrounding areas as much as it is to the local households taking up residence in this development in future. Technology also presents an opportunity to provide services to remote communities.

2.4 Governance

Public finances are an important consideration for the MSDF, from the point of view of making practical proposals as well as their being the means to implement many of the MSDF proposals.

The guidance the MSDF gives to the future development of urban areas in the Knysna Municipal Area can have a direct impact on the future costs to the municipality of meeting its service delivery obligations. The extent to which the MSDF and subsequent investment and land use management decision-making directs the form and location of new development can also impact on the costs to households of living and working in the KMA and the quality of settlements such that it can influence whether households that do not currently pay rates may in future be able to do so. Currently;

- Public finances are not able to keep up with current infrastructure needs. This is demonstrated further in the Capital Expenditure Framework report in Annexure 2.
- Operating costs are being managed but possibly at the expense of the optimum operation of infrastructure systems.
- Insufficient funds are available for upgrading and maintenance of infrastructure.
- An increasing number of households are defaulting on their rates and service charges, pointing to affordability thresholds. This may however improve as Knysna recovers from the 2017 fire disaster. Having said that, the projections relating to the proportion of new households that will require state assistance to secure affordable housing does not bode well.

Nevertheless, a key concern for the Municipality's Long Term Financial Planning (LTFP) is that the population is growing faster than the economy measured by Gross Value Add (GVA). If population growth is predominantly driven from the segment of the population that is too poor to pay rates and services and high rates

of unemployment (26.7% in 2016) amongst a significant working age population persist, this will compromise the financial viability of the municipality. New businesses and households' contribution to municipal revenue will expand the rates base and reduce the pressure on existing ratepayers to shoulder higher and higher costs. However, it is important not to assume that high income residential development in particular is revenue generating without testing the impact of location and density on the operational costs to be set against that revenue.

Nevertheless, economic growth that generates employment is therefore critical to a secure financial future for the Municipality, alongside the importance of a streamlined, efficient municipality and enhanced asset management - reinforcing the importance of the emphasis placed in the current medium-term budget of investing in existing infrastructure. Consolidating efficiencies and productive investments that build on what we have is going to be critical.

While the pressure to invest in infrastructure will erode the Municipality's Capital Replacement Reserves in the short term, this will need to become a priority for budgeting in the medium term to retain the Municipality's ability to fund the safeguarding of its assets. The LTFFP identifies the potential for the Knysna Municipality to borrow more.

3 Knysna Municipal Spatial Development Framework

3.1 Vision Directives

SPLUMA states that all spatial development should conform to the following normative principles:

- spatial justice,
- spatial sustainability,
- spatial resilience,
- efficiency, and
- good administration

The Policy Context, Vision Directives and Status Quo Report captured in Annexure 2 of this document unpacks where challenges are faced in the application of these principles in the KMA.

Municipalities have a strengthened mandate from SPLUMA to be bold and brave in managing growth and have an obligation to heal the spatial apartheid legacy. In Knysna this is coupled with the fact that human settlement and its economy is starkly and inextricably dependent on the natural environment.

A review of the national, provincial and district policies suggests clearly that:

- Knysna must seek sustainability and resilience in the face of limited resources and vulnerability to climate change impacts and disaster
- Growth must be smart, productive – it must be focussed – building on existing investments and not impinging on the resources that make possible and attract economic activity

- Plans must be evidence based, achievable and affordable in an institutional environment of increasing fiscal pressure
- Plans and their implementation must be inclusive and transformative – making lives better for the poor

The levers for spatial planning to promote better performance of the systems that support the well-being of the environment, people and economy of the KMA include:

- Integrated planning
- Public transport, mobility and supporting road infrastructure
- Adequate, integrated infrastructure (electricity, water and sanitation as well as social infrastructure)
- Integrated, sustainable human settlements
- Efficient land governance and management; specifically, careful growth management – compact urban form
- Understanding the space economy and building an inclusive economy
- Sustainable public finances
- Effective urban governance including policy-consistent decision-making in resource allocation and development management (COGTA, 2016)

3.2 Spatial development vision

In response to the expectations of national and provincial legislation and policy; the challenges and opportunities outlined above and set out in more detail in Annexure 1; and building on the Knysna Municipality's integrated development vision to be *Inclusive, Innovative and Inspired*, the complementary spatial planning vision leading the Knysna MSDF is to:

Establish Knysna as an authentic place that works for all of its residents and continues to attract visitors. Build an equitable and inclusive society within a sustainable and resilient ecosystem.

The KMA faces very significant spatial and ecological limits to spatial growth, which, if overstepped will become counter-productive to its very survival and prosperity. This MSDF needs to advocate smart growth, seeking synergy between its people, their needs and the environment. This is at the centre of its ability to support the many role players and stakeholders to achieve sustainability, resilience and realise sufficient opportunity and resources for all of Knysna's people.

The 10 Principles for Smart Growth provided a very useful reference point for formulating a spatial vision, strategies, proposals and policies in this MSDF.



10 PRINCIPLES OF SMART GROWTH

- Mix land uses
- Take advantage of compact building design
- Create a range of housing opportunities and choices
- Create walkable neighborhoods
- Foster distinctive, attractive communities with a strong sense of place
- Preserve open space, farmland, natural beauty, and critical environmental areas
- Strengthen and direct development towards existing communities
- Provide a variety of transportation choices
- Make development decisions predictable, fair, and cost effective
- Encourage community and stakeholder collaboration in development decisions

SMART GROWTH NETWORK, 1996

Figure 6: Smart Growth Principles (Smart Growth Network, 1996)

3.3 Spatial development strategies

To implement the vision, there are two spatial strategies that frame the approach to the spatial planning, policies for development and land use management and proposals for investment which collectively make up the MSDF:

I. **Manage risk, safeguard resilience: The integrity of Knysna's environmental and economic assets must be central to a secure future for all.**

The **objective** of this strategy is to ensure that land use and settlement growth is directed and managed to protect and rehabilitate the functionality of Knysna's environmental services and systems - natural assets. These support life and livelihoods, offer the potential for further prosperity, as well as buffer the impacts of climate change and extreme events to life and property. In other words, the intention is to secure a sustainable and resilient base for Knysna to function and prosper.

II. **Drive inclusivity for economic and social well-being: Access to opportunity for all**

The three objectives of this strategy are to:

- to promote development that is inclusive, integrated and efficient, located in the right place and of a high urban design quality
- to ensure that opportunities, services and amenities are accessible to all in an equitable manner
- to recognise limited resources must be shared in a strategic manner, where they are leveraged effectively for the benefit of as many people in need as possible, while basic needs are met.

It should be noted that there is resilience in a strategy to drive inclusivity too. The more people and households participating in the economy and integrated into the infrastructure and social services systems in the settlements, the more resilient they will be to environmental and economic shocks.

These strategies align with the Garden Route (Eden) District SDF's Strategic Drivers of Change:

- The Economy is the Environment in Eden – a sustainable environment is an economy positioned for growth
- Regional accessibility for inclusive and equitable growth - In Eden improved regional and local accessibility is essential to achieving inclusive growth
- Coordinated Growth Management for Financial Sustainability – we have to manage growth and meet needs holistically, to do more with less

3.4 Spatial Development Framework: Applying these strategies in space

There are three key elements that structure activity in space in the Knysna Municipal Area, both at the scale of the Knysna Municipal Area and Knysna town. These are what the MSDF works with to spatialise the three strategies in order to shape the future development path of the KMA towards a sustainable, resilient and inclusive future.

The first relates to the environmental systems and the services these provide which must be protected and managed to ensure they are able to function optimally as a basis for supporting and nourishing prosperous and resilient settlement and economic activity in the KMA.

3.4.1 *Manage risk, safeguard resilience: The integrity of Knysna's environmental and economic assets must be central to a secure future for all.*

The **objective** of this strategy is to ensure that land use and settlement growth is directed and managed to protect and rehabilitate the functionality of Knysna's environmental services and systems - natural assets. These support life and livelihoods, offer the potential for further prosperity, as well as buffer the impacts of climate change and extreme events to life and property. In other words, the intention is to secure a sustainable and resilient base for Knysna to function and prosper.

3.4.1.1 *Spatial Structuring Elements*

In addition to the topography, the coastal systems, hydrological systems (rivers, estuaries, wetlands) and critical biodiversity assets provide the primary structure guiding where settlement can take place and grow in the KMA. These biophysical structuring elements are as follows:

- **Coastal systems:** A Coastal Management Line (CML) (a development limitation) as well as a Coastal Protection Zone (a planning and management zone) is delineated for the KMA in this MSDF, based on a coastal risk assessment for 20 (high risk), 50 (medium risk) and 100 (low risk) year horizons. (WCG, 2017a)
- **Hydrological systems:** River corridors and catchments, wetlands, estuaries, and floodplains
- **Biodiversity:** The "Conservation Estate" is the GRNP and the "Conservation Agreement Area" including National Nature Reserves, areas under Voluntary Stewardship Agreements, Protected Environments, Biodiversity

Agreements and Voluntary Agreements; as well as Critical Biodiversity Areas 1 and 2 that fall outside of these areas

- **Scenic Routes**

These elements represent systems that provide resources needed to live, act as a buffer against the impacts of climate change and provide economic opportunity - provided they are able to retain their functionality and integrity. For these reasons, the planning principle is to allow these systems to function as naturally as possible, to restore their functionality where needed and to apply the precautionary principle to any proposed development in or adjacent to these areas. Given the severity of threatened ecosystems, and their importance to the overall functionality of the KMA, this MSDF also supports efforts to expand areas under protection. This does not mean that these are no go areas, they present economic opportunities associated with tourism and sustainable niche cultivation. It is also important that managed public access to these areas for educational and recreational purposes is secured in particular where the property is state-owned. Where development already exists or is taking place in these areas, this MSDF advocates firm and proactive land use management to minimise impact, manage risk and public liability.

3.4.1.2 *Spatial Proposals*

a Catchment Area Rehabilitation

Prioritise the rehabilitation of the catchment areas of the following rivers:

- Knysna River (immediate priority) (supplies water to Knysna town)
- Gouna River (immediate priority) (supplies water to Knysna town)
- Salt, Bigai and Bongani Rivers (immediate priority)
- Hoogekraal

- Karatara (supplies water to Karatara and Sedgefield)
- Homtini / Goukamma

b Conservation Estate Expansion

The objective of the GRNP expansion plan is to conserve the diverse terrestrial and aquatic ecosystems of the GRNP on a landscape scale through adaptive, collaborative and innovative management approaches. Specifically, the identified priority expansion areas are aimed at conserving the endemic, critically endangered and listed threatened Knysna Sand Fynbos and Garden Route Shale Fynbos ecosystems. These areas are identified from a biodiversity conservation, social, economic, tourism and/or a management perspective that would need to be managed as part of the National Park in order to ensure the long term viability of the park. This zone aims to ensure the long-term persistence of biodiversity, within and around the park, on which the long-term survival of the park depends. This includes areas important to both biodiversity pattern (especially reasonably intact high priority natural habitats) and processes (ecological linkages, catchments, intact hydrological systems (surface and groundwater)). These are identified in Map 3.

The 10-year GRNP expansion focus areas are as follows (SANPARKS, 2018):

I. Contractual National Park

- Knysna Sand Fynbos (Western Heads)
- Gouna and Gouna River
- Knysna River

II. Knysna Protected Environment (PE) - revise regulations and include:

- Garden Route Shale Fynbos
- Gouna River MTO Plantations

- Salt River Development Control Area
- Bongani Development Control Area
- Bigai Development Control Area
- Eastern Heads to Noetzie Coastal Corridor
- Steenbok Nature Reserve

III. River restoration in expansion footprint as per the prioritised catchment areas identified above.

IV. Conservation agreements

- Bracken Hill-Parkes Conservation Corridor
- Homtini – Goukamma Corridor

Marine buffer 500 m from Noetzie to Sinclair/ Harkerville: 3 km (adjacent to GRNP past Noetzie). This zone aims to buffer the existing Marine Protected Area (MPA) and other areas where no MPA exists to maintain functionality and diversity of coastal and marine ecosystems by minimising impacts on natural processes and appropriately responding to climate change. Pollution from land based sources (agriculture runoff, plastics, sewerage) are current pressures whilst increased interest in offshore oil and gas exploration raises the threat of potential new sources of pollution.

The Marine buffer area can cover activities below the high water mark (marine) as well as the shoreline immediately above the high water mark (coastal). Equitable access to and sustainable benefit sharing from coastal and marine ecosystem services are supported. Development should support only climate resilient development. Engagement is needed with stakeholders to prevent pollution of coastal and marine resources. Marine resource use should only be allowed within the constraints of relevant legislation.

- I. Wildlife movement corridors (and safe areas) – this aspect will be dealt with on a case-by-case basis.

The commercial plantations have Forestry Stewardship Council (FSC) grading that includes conservation areas and management according to conservation principles. Where the expansion footprint overlaps with plantations, landscape functionality to include alien clearing, wetland rehabilitation and wildlife corridors, across boundaries is to be promoted. The role of forestry in the economy will not be affected.



Figure 7: Garden Route National Park Conservation Estate Expansion (SANParks, 2019)

c Urban Edge and Coastal Management Line

The urban edge has been reviewed and revised. The urban edge includes space for contiguous outward growth of all of the settlements where appropriate. The urban edge is a growth management tool aimed at facilitating sustainable growth and preventing uncontrolled, low density sprawl that undermines ecosystem functioning, compromises sensitive environmental areas and challenges sustainable and resilient municipal service delivery that is already overwhelmed – all of which contribute to perpetuating the Apartheid spatial structure of our settlements. While the urban edge allows for limited outward growth opportunities, its intention is to rather direct greater focus on spatially transformative, inclusive infill development at densities that can create opportunities for public transport services, small businesses, affordable housing and NMT access to facilities, services and opportunities.

The delineation of the CML in the Knysna area was primarily informed by the extent of the Protected Area (Knysna National Lake Area), sensitive biodiversity (WCBSP), steep coastal cliffs/primary dunes and the 5m amsl contour.

The delineation of the CML (as per the Integrated Coastal Management Act 24 of 2008) requires the Department and MEC to consider more than just coastal erosion risk and sea level rise information. The aesthetic values of the coast, aspects consistent with the purpose of the coastal protection zone as well as the protection of coastal public property, private property and public safety must also be considered. The delineation of the CML along the cliffs in the Knysna area aims at attaining connectivity of ecological process along the coast, for aesthetic purposes as well as safety considerations.

The CML was delineated in collaboration with municipal officials and other organs of state. The CML will be subjected to further stakeholder engagement in order to allow the MEC to establish the

CML in terms of the ICM Act and/or NEMA. However, the CML holds policy status in this MSDF.

Every effort has been made to align the urban edge with the CML along the coastline. However, there are instances where there are settled areas of an urban nature which are delineated by an urban edge and fall on the coastal side of the CML. In this case these areas' existing development rights are not compromised. Detailed research and planning will need to consider appropriate building location and design to mitigate flooding risks on a case by case basis. The conversion of rights to more intense urban development uses or the expansion of these settlements is not supported as this will exacerbate the risk faced by these settlements to the impacts of climate change.

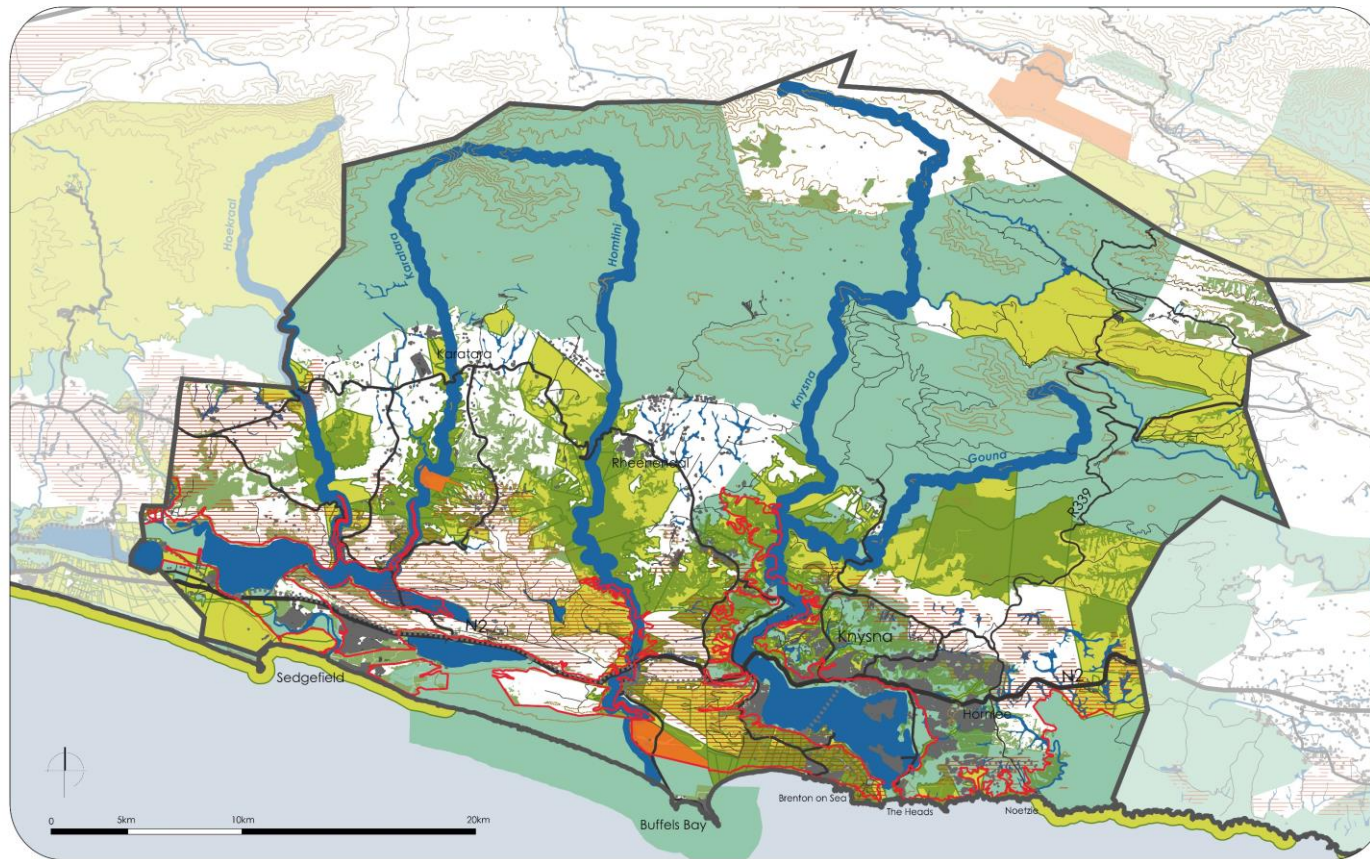
d Municipal Open Space Network

A municipal Open Space Network should be identified on the basis of a more detailed study that seeks to identify and protect a network

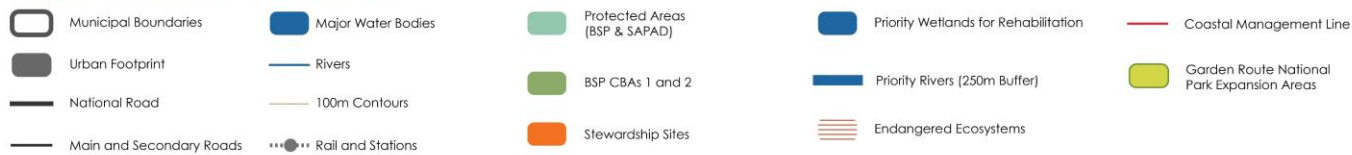
of green open spaces that threads through the urban fabric of Knysna town. This network should:

- integrate with a non-motorised transport network
- connecting communities
- connect ecosystems
- include active and passive recreational spaces
- connect conservation areas to allow for the movement of species

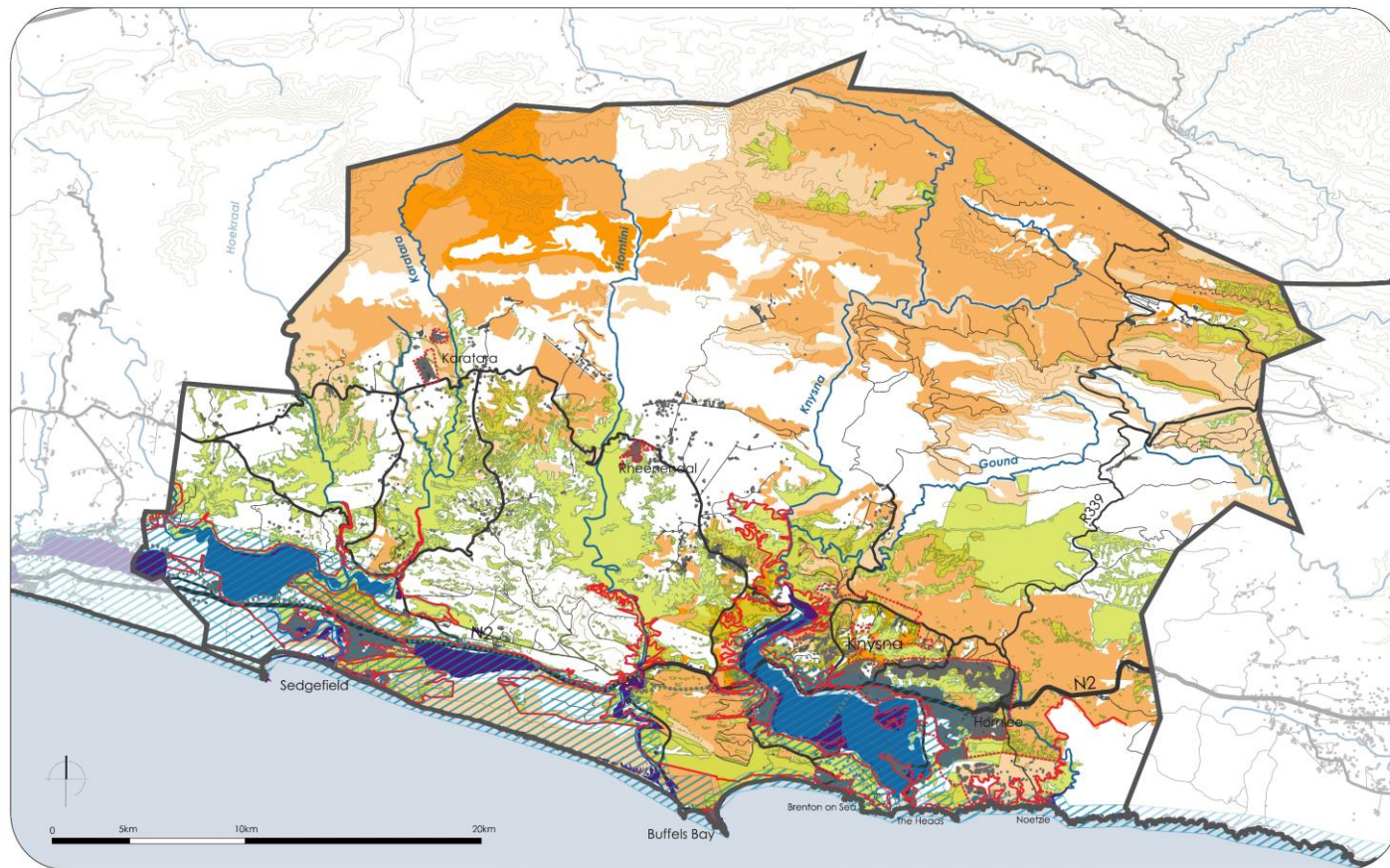
The proposed Central Park is at the heart of this system in the centre of town and presents a significant opportunity to use nature to pull communities together and enhance citizen's sense of inclusion and dignity. This space should be protected for as long as it takes to establish this park.



Knysna Municipal Biophysical Framework



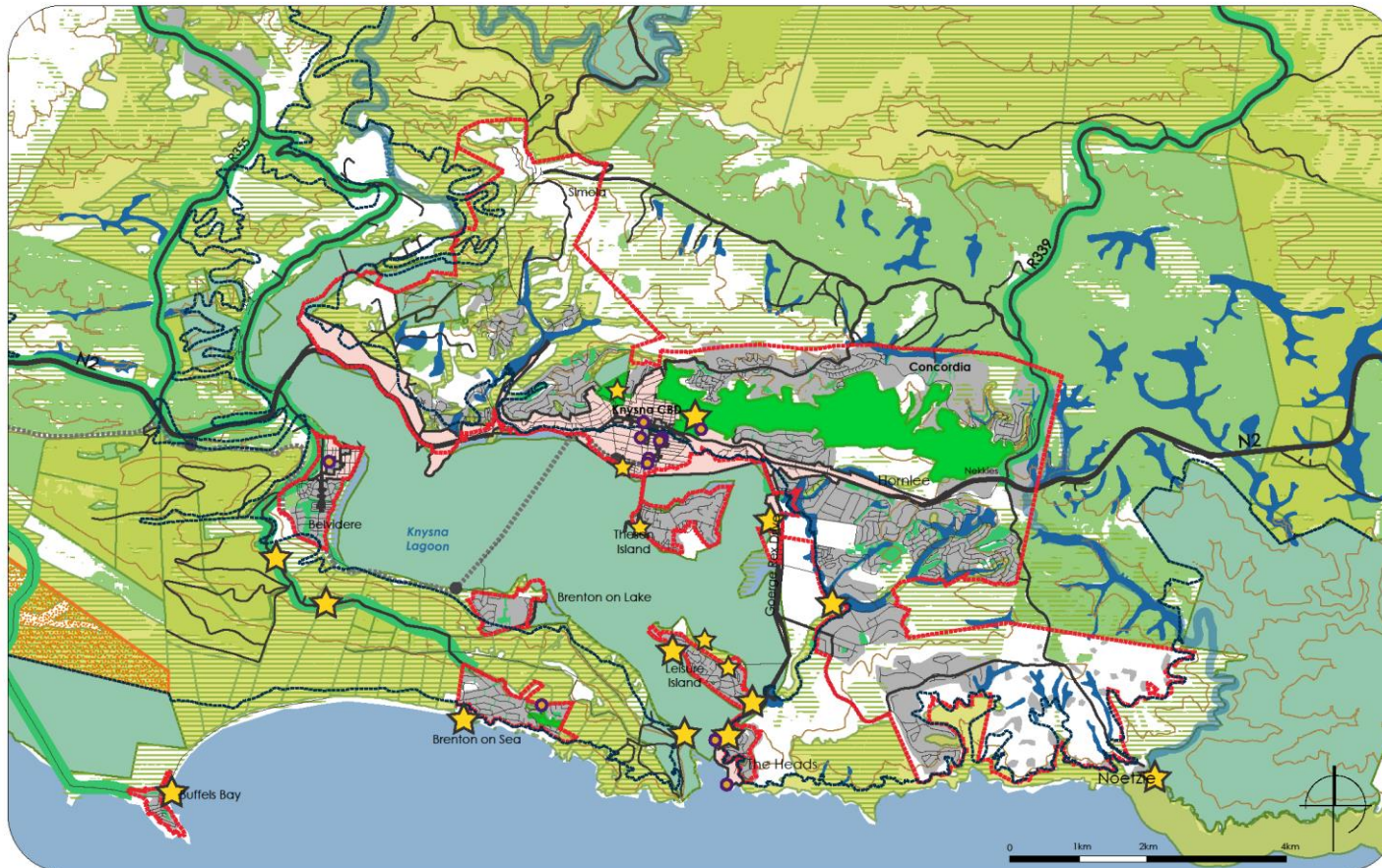
Map 3: Knysna Municipal Area Biophysical Framework



Environmental (Fire and Coastal) Hazards/Risks



Map 4: Environmental (Fire and Coastal) Hazards/ Risks



Knysna Town Public Assets and Resources



Map 5: Knysna town Public Assets and Resources

3.4.1.3 Spatial policies and policy guidelines

The policies tabulated in this section should guide decision-making on resource allocation, sector planning, land use management and land development programmes. Each policy is supported by policy guidelines.

Policy No	Policy		
A	In coastal zones, river- wetland-estuary catchments, critical biodiversity areas and veld fire risk areas, land use must be effectively managed to secure environmental resources, systems and ecosystem services, mitigate the risk of natural disasters to life and property and improve climate resilience		
		Policy Guideline	
A1	Rehabilitate and protect rivers, estuaries, wetlands and their catchments (Knysna's hydrological systems) - from pollution, increased surface run-off and siltation, unmanaged extraction and the impact of reduced run-off and/or clogging as a result of alien vegetation infestation	i.	A precautionary approach supported by strong land use management and enforcement should be applied to activity and development within the catchments of the following priority water resource units:

		v.	The hardening of surfaces within catchments should be minimised.
		vi.	Public land owners must allocate sufficient resources to ensure the management of their land to remove and prevent alien vegetation infestation
		vii.	Estuary Management Plans are in place for the Knysna and Swartvlei estuaries and are in draft form for the Goukamma and Noetzie estuaries. These plans are a reference when making decisions within the catchments of these estuaries.
A2	Protect and maintain the functionality of biodiversity areas	i.	Actively support the Garden Route National Park (GRNP) Landscape Functionality Programme and Cape Nature's stewardship programme to expand the conservation estate in the Garden Route, to promote a functional landscape (ecological processes), avoid further loss of critical biodiversity and promote the rehabilitation of degraded areas where this supports landscape functionality.
		ii.	Support consistent and pro-active cross-municipal boundary land use, management and conservation initiatives.
		iii.	Use the latest landscape-wide Western Cape Biodiversity Spatial Plan 2017 Critical Biodiversity Area data and mapping as a primary informant in determining suitability for new development and appropriate development. In the rural context, this should be considered alongside the Spatial Planning Categories presented in the WCG's Rural Development Guidelines. <i>Refer to Figure 8 and Figure 9 for a summary of the Critical Biodiversity categories and associated land use management objectives.</i>
		iv.	Advocate for "ground-truthing" of this data set to better inform land use decision-making in areas under critical pressure from competing conservation and development interests.
		v.	Encourage and support reasonable, manageable public access to nature areas for all citizens and visitors through the identification, protection and maintenance of a municipal open space system that integrates, where possible, natural, formal and informal recreation areas on open spaces.
		vi.	There is valuable biodiversity embedded within the urban footprints of Knysna town and Sedgefield – this should be integrated into a municipal open space network that allows for the protection and sustainable enjoyment of open spaces in close proximity to residential areas.
A3	Manage land use and development along the coastline in a sustainable and precautionary manner.	i.	Coastal sensitivities must be integrated into all applicable planning decisions within the coastal region, in order to protect existing property, infrastructure and ecology and ensure that only responsible and sustainable development takes place in areas with a high risk of inundation, coastal erosion and destructive storm surges.

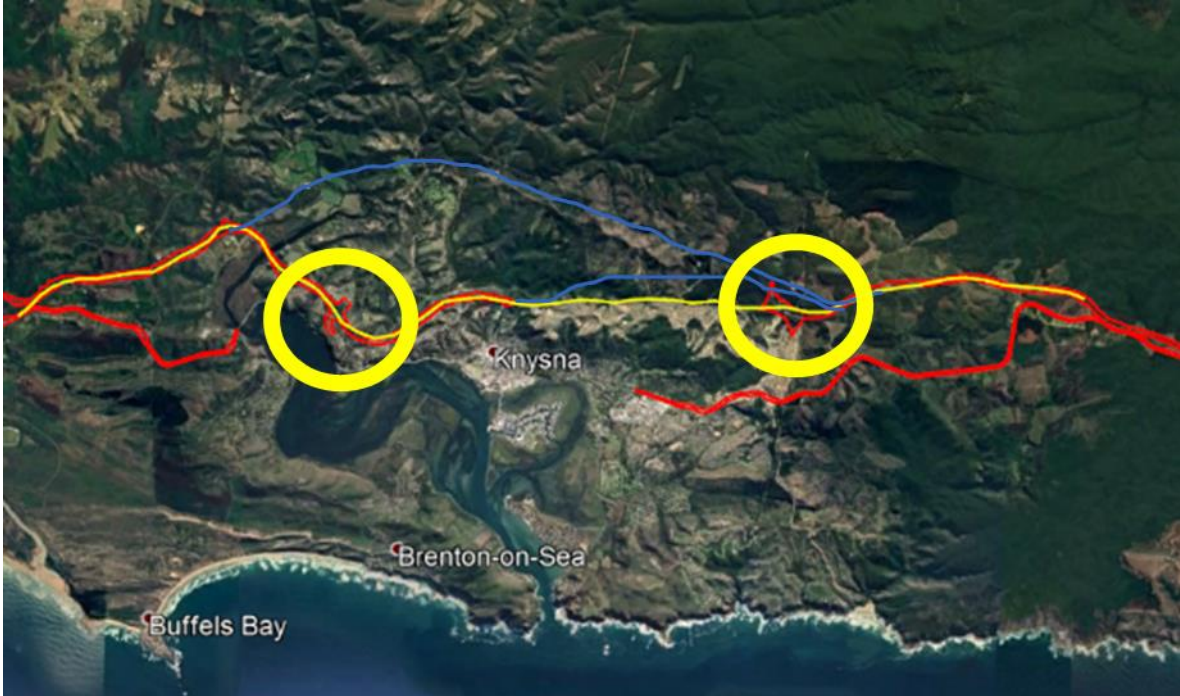
No further development should take place seaward of the Coastal Management Line (setback line) as demarcated in this MSDF and delineated by the Protected Areas, sensitive biodiversity in terms of the Western Cape Biodiversity Spatial Plan, 2017), steep coastal cliffs/ primary dunes and a 5 amsl contour. Where existing rights are to be exercised on the seaward side of the Coastal Management Line, the state is not responsible for the risk incurred by property owners.	ii.	Development along the coast must be managed in terms of a set of development parameters set out in a risk-based overlay zone.
	iii.	Land uses must be managed to reduce the risk of flooding and/or to protect life and property in the case of extreme flooding.
	iv.	To prevent flooding of vulnerable coastal properties, natural defences in the form of primary dune systems, estuarine mudflats and sand dunes will be safeguarded from further conversion through urban development or agricultural practices.
	v.	The resilience of settlements in the instance of extreme events is compromised where critical infrastructure serving the settlements is located within flood risk areas and areas at risk of storm surges associated with extreme events: i. The planning and design of new infrastructure, in particular storm water systems, should consider the higher frequency of flooding associated with extreme weather conditions. ii. The retreat of at risk infrastructure should be considered in high hazard zones.
	vi.	No new development rights are to be allowed below the 5m contour line around estuaries. This contour encapsulates the most dynamic areas influenced by long term estuarine sedimentary processes. It should provide a buffer zone that can allow the estuary to retreat in the event of sea level rise due to climate change. It also allows for the inclusion of some terrestrial fringe vegetation that contributes to the system and refuge areas for many animal species during floods.
	vii.	Natural systems that play a role in mitigating the impacts of sea level rise and the increased frequency and intensity of storms should be rehabilitated.
	viii.	There should be no development of new hard protective structures along the coastline and freshwater systems, adaptation is preferred.
	ix.	Further coastal, estuarine residential development which is not integrated within existing settlements is not supported.
	x.	Infill development of coastal settlements where there are existing land use rights should be carefully managed to ensure that roads and utility infrastructure are able to adequately meet the demand and performance standards in order not to compromise the sensitive host environment. The necessity for overlay zones should be considered to set additional parameters for development and land use in particularly sensitive and unique environments such as Noetzie which falls on the seaward side of the Coastal Management Line, falls within a Garden Route National Park marine buffer area identified to protect and support the Marine Protected Area; <i>inter alia</i> to prevent pollution of ecosystems and support the movement of wildlife. Existing unique development parameters for these very sensitive settlements should be carried over into the Knysna Municipal Zoning Scheme Bylaw.

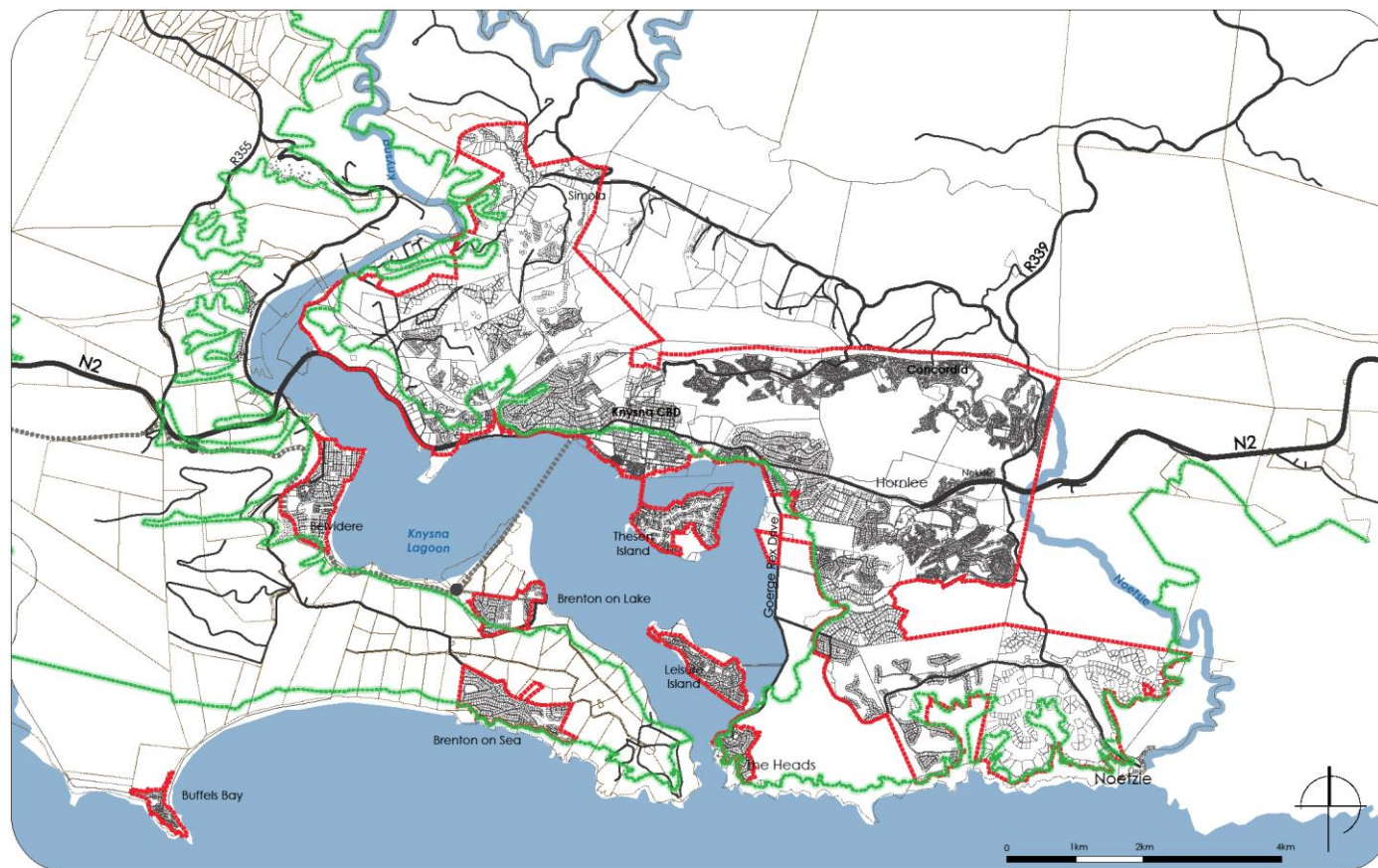
A4	Use land use management mechanisms to mitigate wildfire risk and impact	i.	Identify Fire Management Areas (areas where wild fires are likely to spread into protected areas or settled areas), in particular along the urban edges
		ii.	Consider applying an overlay zone in the Knysna Municipality's Zoning Scheme By-Law, where appropriate, to the zone between the area at risk and the hazard area, to effectively manage land use, vegetation planting and mitigate risk.
		iii.	Compel landowners in Fire Management Areas, including all eco-estates, to join the Southern Cape Fire Protection Association to ensure Active Fire Management Units are in place and landowners are legally compliant.
		iv.	Identify and put in place measures to enhance the management of vacant properties which are poorly managed and present a fire risk.
		v.	Building and infrastructure design must consider the risk of wildfire associated with more frequent extreme storms, higher wind speeds, dryer conditions and higher temperatures
		vi.	Initiate and support alien vegetation eradication programmes on the urban periphery, in river catchment areas and Fire Management Areas.
		vii.	Forestry exit areas should be included in Fire Management Areas and require dedicated management to prevent the re-growth of invasive plants and excessive fuel loads from building up. Without this the conditions for another category 1 fire will develop in the short term.
A5	Maintain the integrity of the Garden Route landscape. View sheds over scenic landscapes and features must be safeguarded.	i.	Valuable view corridors and vistas, undeveloped ridge lines and cultural landscapes should not be compromised by development or the cumulative impact of development that detracts from the public experience of viewing these assets.
		ii.	Employ the guidelines for managing visually sensitive landscapes set-out in the Garden Route Environmental Management Framework (EMF)
		iii.	Development should not be located on prominent ridgelines or promontories.
		iv.	Scenic routes provide public access to the enjoyment of these landscapes. The routes and the land use alongside these routes should be managed in such a way as to not compromise the views offered but to mark and celebrate the landscapes and the origins or nature of their significance. Significant scenic routes in the Knysna Municipal Area are as follows: • The N2 • the Seven Passes between Knysna and George • Prince Alfred Mountain Pass between Knysna and Avontuur • Garden of Eden Pass / Uniondale Road between Knysna and Uniondale • Homtini Pass between Rheenendal and Barrington/ Karatara • Phantom Pass between Knysna and Rheenendal

			• George Rex Drive • The link between Knysna Heads and Noetzie via Pezula Way – Blue Crane Way - Hornlee Road • The CR Swart Drive from the N2 intersection to Brenton-on-Sea • The road to Rheenendal from the N2 intersection • The Gouna Road from the intersection with the Ridge Road to the Gouna Farms
		v.	The rural landscape running along the N2 corridor and other scenic routes running between settlements is considered to be significant, its rural character should be preserved to maintain the green backdrop and Garden Route trademark.
		vi.	Suitable development <i>en route</i> to or adjacent to the GRNP and scenic routes should be carefully screened. Dwelling houses with restricted outbuildings should be allowed in sensitively placed areas on individual properties. Guesthouses which are run from existing dwellings can also be considered. Low lighting should be promoted.
		vii.	The proportion of urban development up the slope of a prominent hill or mountain should not degrade its aesthetic / visual value. Prevent development higher than the 280m contour line or on slopes steeper than 1:4.
		viii.	Gateway precincts on the eastern end of Sedgefield and the eastern and western ends of Knysna town on the N2 must be developed in a visually sound way that acknowledges and celebrates the particular green natural and forested Garden Route landscape within which these settlements sit.
B	<i>Manage the growth of urban settlement in Knysna to ensure the optimum and efficient use of existing infrastructure and resources and in turn, secure the Municipality's fiscal sustainability and resilience, while preventing further loss of natural and agricultural assets and functional ecosystems services.</i>		
		Policy Guideline	
B1	Hold the urban edge as the development boundary as identified for settlements in the Knysna Municipal Area	i.	In the short term, direct new development to vacant, underutilised or recycled land within the urban edge as defined in this MSDF for Knysna town, Sedgefield, the specialised coastal centres and villages
		ii.	In the short to medium term, urban growth should be absorbed through densification of low density suburbs surrounding the Knysna CBD.
		iii.	Promote densification and infill on land within the identified urban area for Knysna town.
		iv.	The urban edge should only be reviewed by the Knysna Municipality in the next 5 year review of the MSDF based on: - The Municipality's fiscal sustainability and Long Term Financial Plan

			- The Municipality's Human Settlements Plan - The Municipality's capital infrastructure investment programme - Development trends and the associated rate of consumption of vacant and under-utilised land within the urban edge - The performance and forecasted performance of the national, regional and local economy
		v.	Where the urban edge delineation serves to protect natural resources and mitigate risk associated with natural hazards, this should not be amended.
		vi.	The urban edge services to maintain a clear "green" edge around all settlements – large and small – in the municipal area in keeping with the historical landscape pattern and the garden-like character of the Garden Route
B2	Direct the long term growth of Knysna town, when necessary, contiguous to the existing urban footprint in a manner that reinforces existing accessibility and infrastructure networks and minimises impact on natural landscapes and agricultural resources	i.	In the medium to long term urban growth should be directed to the area to the east of Knysna Town along the N2 and to the north of the Northern Areas (inland from Concordia), with the Windheuwel site being a short to medium term area for expanded utility infrastructure. A local area development framework and fiscal impact assessment should be developed by the Municipality for these growth areas prior to the development of public and or privately led development proposals. These medium – to long term growth areas are considered to have the least impact on biodiversity assets and offer the best topographical and infrastructure network extension suitability. However this land is currently primarily forestry land and the future of the forestry industry and its requirement for this land will need to be determined. The disadvantage is the risk of perpetuating apartheid settlement patterns of class and race division. Development along the N2 will also need to carefully consider and minimise impact on the particular scenic, garden route quality of the N2 and its contribution to the particular quality of entering Knysna from the east. Careful attention will need to be paid to accessibility of households to Knysna town, given that they will predominantly be reliant on travelling by foot, and the layout, setbacks, design and landscaping of developments along this route.

C	<i>Manage the Municipal area in a manner that supports sustainable resource use</i>	
		Policy Guideline
		i. Site based rainwater harvesting tanks should be done on all properties with sufficient space to accommodate this.
		ii. Urban development must take place in a manner that does not increase demand for water that is otherwise required for human consumption purposes. Further low density suburban development should be limited.
		iii. Support rural development that improves food, water and energy (e.g. solar and wind powered) security, and restores natural capital by removing alien plant infestation and adopting conservation oriented farming methods

D	Support investigation into long term planning options for the N2 bypass to secure an alternative entry and exit into Knysna town Area to improve its resilience in case of disaster. There is no present declared road reserve to the north of Knysna town.	
		Policy Guideline
		i. Proactively plan and manage land uses in areas where the new N2 will intersect with the existing N2 where the R339 (Uniondale Road) will intersect with the N2 to the east and a possible intersection in the Welbedacht area, with due consideration for securing the implementation of the N2 bypass highlighted in the picture below.  Map 6: Approximate locations of N2 bypass intersections in the Knysna town area
		Consider what long term opportunities may be possible to open land for development north of the Northern Areas aligned with the implementation of the N2 bypass, informed by the future of the forestry sector and growth patterns and projections.



Knysna Town Urban Edge and Coastal Management Line

- | | |
|-------------------------|--------------------------|
| Urban Edge | National Road |
| Major Water Bodies | Main and Secondary Roads |
| Rivers | Other Roads |
| Coastal Management Line | Streets |
| | Rail and Stations |

Map 7: Knysna Town urban edge and coastal management line



Map 8: Karatara Urban Edge



Map 9: Rheenendal Urban Edge



Map 10: Buffels Bay Urban Edge



Map 11: Brenton on Sea Urban Edge



Map 12: Sedgefield Urban Edge

3.4.1.4 Decision-making tools

a Western Cape Land Use Planning Guidelines: Rural Areas

The purpose of this Guideline is to:

- Promote sustainable development in appropriate rural locations throughout the Western Cape, and ensure the inclusive growth of the rural economy.
- Safeguard priority biodiversity areas and the functionality of the Province's life supporting ecological infrastructure and ecosystem services (i.e. environmental goods and services).
- Maintain the integrity, authenticity and accessibility of the Western Cape's significant farming, ecological, coastal, cultural and scenic rural landscapes, and natural resources.
- Assist Western Cape municipalities to plan and manage their rural areas more effectively, and to inform the principles of their zoning schemes and spatial development frameworks in a pro-active manner.
- Provide clarity to all role players and partners (public and private) on the type of development that is appropriate beyond the current built-up areas, suitable locations where it could take place, and the desirable form and scale of such development.
- Be viewed as a gender mainstreaming tool which will move the Western Cape further along the trajectory towards the achievement of equality, particularly the youth and gender equality imperatives in rural land use planning

https://www.westerncape.gov.za/eadp/files/atoms/files/Rural%20Areas%20Guideline_web_0.pdf

b Spatial Planning Categories and Critical Biodiversity Areas

In line with the Provincial Spatial Development Framework (PSDF), the rural component of the Knysna Municipal Area is delineated into Spatial Planning Categories (SPCs). These SPCs are not development proposals and do not confer or take away development rights. They are based on identified Critical Biodiversity Areas, and they clarify the inherent land use suitability of different landscapes, defined in terms of the categories of Core, Buffer, Agriculture and Settlement. As such, SPCs are a tool that the Municipality and the Western Cape Government use to assess the suitability of alternative rural land uses in the different SPCs, as well as the appropriate location, form and scale of these activities.

The alignment of Spatial Planning Categories with the Critical Biodiversity Areas Map is summarised in Figure 8.

BIOSPHERE RESERVE ZONES	Protected Areas	CBA 1 (terrestrial, forest, aquatic)	CBA 2 (degraded)	ESA 1	ESA 2	ONA (natural, near-natural)	ONA (degraded)	NNR
Core								
Buffer								
Transition								

Figure 8: Categories on the Biodiversity Spatial Plan Map and their recommended corresponding Spatial Planning Category (Cape Nature, 2017)

The Western Cape Biodiversity Spatial Plan (WCBSP) is a province-wide biodiversity spatial plan endorsed by government. It is considered the best available science to inform planning and decision-making. This enables all agencies to work to the same set of spatial biodiversity priorities and land use guidelines, thus promoting more strategic and coordinated action in the Western Cape. It should be noted that a draft Western Cape Biodiversity Bill, which has direct implications for the WCSBP and its adoption (in its current iteration) is in process.

The WCBSP is a provincial plan as contemplated in sections 25(1)(e), 26(d), 27(2)(a) and 29(1)(c) of the Local Government: Municipal Systems Act and sections 12(4), 15(3)(b) and 16(c) of the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013); as well as section 4(3)(c)(ii) and (iii) of the Western Cape Land Use Planning Act, 2014 (Act 3 of 2014), that establishes the priorities, objectives and strategies for biodiversity, ecological resources and related climate change adaptation.

It is important to state that a Critical Biodiversity Area or Ecological Support Area is identified using a systematic conservation planning methodology. It cannot be queried or determined ad hoc. Only the informants can be queried, which would most often be related to the condition of the habitat i.e. intact, degraded or transformed, although it may also be incorrect mapping of the habitat type or another variable. This is the basis of the BSP verification protocol.

The presence of CBA on a property does not trigger a listing notice activity in terms of NEMA, but endorsement means that the WCBSP must be used as an informant for land use and considered as the best available science for specialists. As with the MSDF, the WCBSP Map does not grant or take away any existing land use rights or authorisations. The WCBSP Map is intended to inform whether proposed land use changes are desirable or not, where authorisation is required.

There are instances when a property is located within a CBA but a site visit reveals that the site is degraded or that no natural habitat occurs on the site. This can be explained as follows:

- The site, although degraded, is still contributing to the biodiversity of the area and has thus been correctly classified as a CBA. In such instances, the site should have been classified as degraded and the management guideline should be to rehabilitate if possible, and to discourage land use activities that have any future impact on biodiversity and ecological processes. This is most likely to be the case in Critically Endangered or Endangered vegetation units (such as those that surround Knysna) as even highly degraded, but restorable habitat, is required in order to meet conservation targets; or
- Disturbance to, or transformation of the site has occurred subsequent to the production of the land cover data that informed the WCBSP Map. If this is the case, it is possible that the site should not have been classified as a CBA. In such instances however, the site needs to be assessed for its potential to be rehabilitated and/or its role as part of a corridor. In the case of the latter, ecological processes must be maintained or restored. An investigation will need to be undertaken as to whether the activities which resulted in the disturbance took place with the necessary authorisations. A suitably qualified specialist is needed to interpret the site in relation to the WCBSP Map. Confirmation through a site visit, i.e. ground-truthing, is essential in all cases.

Refer to the steps in Section 4.7 of the WCBSP Land Use Handbook for guidance on this matter.

https://www.capenature.co.za/wp-content/uploads/2017/12/DEADP_CN_WCBSP_Handbook_2017.compressed-ilovepdf-compressed.pdf

c Coastal Management

Detailed research reports are available on the determination of the coastal management line and coastal access in the Garden Route (Eden) District.

<https://www.westerncape.gov.za/eadp/about-us/meet-chief-directorates/environmental-sustainability/biodiversity-and-coastal-management>

The Western Cape Government's Department of Environmental Affairs and Development Planning have commenced with an exercise to refine the Coastal Access Audit in 2017 and to prioritise areas where the Municipality may need to facilitate public access to the coast.

d Garden Route Environmental Management Framework (EMF), 2010

The purpose of the Garden Route EMF is to establish a framework and mechanism to support informed environmental decision-making for the purposes of environmental impact management.

Management guidelines are provided for ecologically sensitive geographical areas, conservation and protected areas, topographically sensitive geographical areas and visually sensitive landscape geographical areas.

This document is available here:

https://www.environment.gov.za/sites/default/files/docs/gardenroute_finalreport.pdf

e Climate Change

The CSIR have published a temporally dynamic composite risk profile for each municipality and its settlements in South Africa, detailing vulnerability profiling, population projections, exposure to climate hazards and the impacts of climatic changes on some of our key resources.

This is available here:

<https://greenbook.co.za/>

MAP CATEGORY	DEFINITION	DESIRED MANAGEMENT OBJECTIVE	SUB-CATEGORY
Protected Area	Areas that are proclaimed as protected areas under national or provincial legislation.	Must be kept in a natural state, with a management plan focused on maintaining or improving the state of biodiversity. A benchmark for biodiversity.	n/a
Critical Biodiversity Area 1	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.	CBA: River CBA: Estuary CBA: Wetland CBA: Forest CBA: Terrestrial
Critical Biodiversity Area 2	Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a functional, natural or near-natural state, with no further loss of natural habitat. These areas should be rehabilitated.	CBA: Degraded
Ecological Support Area 1	Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services.	Maintain in a functional, near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised.	ESA: Foredune ESA: Forest ESA: Climate Adaptation Corridor ESA: Coastal Resource Protection ESA: Endangered Ecosystem ESA: River ESA: Estuary ESA: Wetland ESA: Watercourse Protection ESA: Water Source Protection ESA: Water Recharge Protection
Ecological Support Area 2	Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services.	Restore and/or manage to minimise impact on ecological infrastructure functioning, especially soil and water-related services.	ESA: Restore from NIN
ONA: Natural to Near-Natural	Areas that have not been identified as a priority in the current systematic biodiversity plan, but retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions. Although they have not been prioritised for biodiversity, they are still an important part of the natural ecosystem.	Minimise habitat and species loss and ensure ecosystem functionality through strategic landscape planning. Offers flexibility in permissible land uses, but some authorisation may still be required for high-impact land uses.	ONA: Natural to Near-Natural ONA: Degraded
No Natural Remaining	Areas that have been modified by human activity to the extent that they are no longer natural, and do not contribute to biodiversity targets. These areas may still provide limited biodiversity and ecological infrastructure functions, even if they are never prioritised for conservation action.	Manage in a biodiversity-sensitive manner, aiming to maximise ecological functionality. Offers the most flexibility regarding potential land uses, but some authorisation may still be required for high-impact land uses.	No Natural Remaining

Figure 9: Summary of the WCBSP map categories and their meanings and management objectives (Berg River Municipality, 2019)

3.4.1.5 How will we measure our success?

Indicators to be identified to be used to ascertain whether Knysna is making progress towards this objective, will be identified on the basis of the finalisation and acceptance of this MSDF.

3.4.2 *Drive inclusivity for economic and social well-being: Access to opportunity for all*

This strategy has three **objectives**:

- to promote development that is inclusive, integrated and efficient, located in the right place and of a high urban design quality
- to ensure that opportunities, services and amenities are accessible to all in an equitable manner
- to recognise that there are limited resources and there will be in the long term. These resources must be shared in a strategic manner, where they are leveraged effectively for the benefit of as many people in need as possible, while basic needs are met.

3.4.2.1 *Spatial Structuring Elements*

The built environment elements can be leveraged to support more inclusive, integrated and efficient development to catalyse change in the urban form of the settlements in the KMA and the movement infrastructure that connects them. In the KMA these structuring elements are as follows:

- **Settlement Hierarchy** in the KMA
- The **hierarchy of nodes or centres** and activity within Knysna town and the public realm within them

- **Accessibility and Mobility Network; including:**
 - An integrated public space and non-motorised transport network
 - Special public coastal access and recreational destinations
- **Vacant and under-utilised land within the settlements that can be leveraged and development programme.**
- **Social facilities**

These elements can be organised and adjusted to change the way in which development happens in the settlements of the KMA to effect improved and more equitable access to and enjoyment of the resources and opportunities the KMA has to offer.

3.4.2.2 Spatial Proposals

a Settlement Hierarchy

The KMA hosts a number of settlements (defined to include a residential component), each of which play their own distinctive role in the regional economy summarised in Table 3.

Land uses within these settlements should be managed with due respect for their role in the system of settlements in the KMA and their local economy, as set out in Table 4 below

SETTLEMENT TYPE	FUNCTION / ROLE	SETTLEMENTS
Regional (Services) Centre	Main urban centre in terms of location of new housing, jobs, services and facilities with a focus on development and densification. The centre hosts main health, education, cultural facilities as well as government services. As an economic hub it contains industry, services sector and Innovative business environments.	Knysna town
Secondary Regional Service Centre	Urban centres with a special function (often tourism related) as well as a role in terms of servicing the surrounding areas and containing a mix of economic activities and services.	Sedgefield
Rural/ Tourism Settlement	A rural or recreational nodal point characterised by community functions, as well as a state of permanence (settled population). Such settlements function as agri-service centres, tourism centres, educational centres, individually or providing a combination thereof.	Rural: Rheenendal Karatara
Rural (including "bosdorpies") / Coastal Hamlets	Small residential clusters without commercial or business uses. Populations range from 30 to 200 people and up to 40 erven.	Rural: Bergvallei, Bibby's Hoek; Kraaibosch, Springfield, Middelerf, Brackenhill, Farleigh, Goudveld, Windheuwels, Vrystaat, Swaneberg Coastal: Buffalo Bay Brenton on Sea Noetzie

Table 3: Settlement Hierarchy in the KMA

SETTLEMENT		APPROPRIATE DEVELOPMENT	
Regional (Services) Centre:			
Main urban centres in terms of location of new housing, jobs, services and facilities with a focus on development and densification. The urban centres accommodate main health, education, cultural facilities as well as government services. These economic hubs contain industry, services sector and Innovative business environments.			
1	Knysna town (including Northern Areas and Industrial Area)	This MSDF provides extensive direction for appropriate development in Knysna town. Low density development and/or “eco-estates” are not supported. Developable land is scarce and must be optimally utilised to meet the demand for housing (across all income groups) and economic development.	
Secondary Regional Services Centre:			
Urban centres with a special function (often tourism related) as well as a role in terms of servicing the surrounding areas and containing a mix of economic activities and services			
2	Sedgefield	General	Development must be in keeping with guidelines as set in the 2013 PSDF study Scenic and Cultural Resources Study and Local Spatial Development / Urban Design Frameworks.
		Private residential	Within urban edge only and keeping in character with a walkable, compact urban environment.
		Subsidised residential	Informal settlement upgrading should be a priority. Housing development should be limited to responding to existing need with clearly communicated/ explained limits to growth and growth management mechanisms. Under-utilised sites, not limited to public land, should be identified throughout the settlement which could be acquired and formally developed for affordable housing based on a detailed survey of housing need and affordability parameters.
		Services & facilities	Promote and cluster facilities to support resident and visitor convenience. A suitably located truck stop is needed in Sedgefield.
		Economic activities	Within the urban edge, focus on activities that support the local tourism and surrounding rural economy.
Rural/ Tourism Settlement:			
Permanent residential settlement, meeting the local convenience needs with basic social facilities for the surrounding rural communities			
3	Rheenendal	General	There are severe bulk services constraints in these settlements. Development should be located where there are existing services that can be upgraded. Municipal reticulation networks or infrastructure extensions to accommodate existing need within the urban edge only. Development must be in keeping with guidelines as set in the 2013 PSDF study Scenic and Cultural Resources Study. Addressing basic needs, development of social facilities, economic opportunities for the local community and local conveniences is supported and should be prioritised above extensive housing development projects. Limited development permitted under condition that it creates long-term economic activities and promotes a walkable, compact urban environment. <i>Refer to Policy E3, Policy Guideline b).</i> Informal settlement upgrading should be a priority. Residential development should be limited to meeting existing demand. Attracting economic investment that creates job opportunities for existing residents should be the focus pf public sector attention in these villages. Potential for tourism attractions linked to agricultural activity and surrounding natural landscape should be explored. Agri-processing and cottage industries should be supported. Suitable remaining land within the urban edge should be prioritised for these uses. Sustainable leveraging of biodiversity for economic development is strongly supported.
4	Karatara	Private residential	
		Subsidised residential	
		Economic activities	
Rural and Coastal Hamlets:			
Small remote residential clusters without commercial or business uses embedded in forestry or agricultural areas or on the coastline			
5	Rural: Bergvallei, Bibby's Hoek; Kraaibosch,	General	No extension of municipal reticulation networks or infrastructure. There are severe bulk services constraints in these settlements. Development must be within the carrying capacity of this infrastructure or sustainably off-grid and should not

	Springfield, Middelerf, Brackenhill, Farleigh, Goudveld, Windheuwels, Vrystaat, Swaneberg		place a risk or not increase the risks of infrastructure failure and/or the burden/ impact of this on natural ecosystem services and local economies. Development must be in keeping with guidelines as set in the 2013 PSDF study Scenic and Cultural Resources Study Infill development within the existing footprint should be of public benefit and linked to economic activity in the area (for example, local agriculture, biodiversity, recreational activity).
6	Coastal: Buffalo Bay Brenton on Sea Noetzie	Private residential	No new residential development permitted outside of existing land use rights provided that these are permitted in terms of all relevant legislation.
		Subsidised residential	Only farmworkers employed in the area or existing residents with tenure who are qualifying beneficiaries
		Services and facilities	Promote connectivity and provision of remote or mobile services as well as self-sustainable facilities.
		Economic activities	If it supports/diversifies agriculture, supports tourism or broadens the value chain creating linked employment opportunities.

Table 4: Settlement Hierarchy and Appropriate Development

b Integrated centres and accessibility network in Knysna town

Within Knysna town, a network of existing and proposed mixed use centres is identified in this MSDF, identified in Table 5. These are strategically located, serving as points of high accessibility and opportunity for local communities. These centres and the activity corridors that connect them are the points of investment priority, where higher order facilities and business activities should be concentrated and supported by a high quality public realm. A public transport network should seek to connect these centres along the accessibility routes identified that support them.

These are the locations where the quality of the public realm must be outstanding. A well-structured, safe and high quality built environment in central locations where people meet and where all are welcome, is a product of both the public environment and the buildings that define it, as well as its management. The urban quality in these locations must build an identity for Knysna that links it to its environment and heritage but in a progressive, distinctive, and democratic way - generating opportunity at the scale of people and not, in particular, cars. The transformation of the urban landscape will itself serve as an attractor for economic investment. In other words, defined, designed and managed centres and activity corridors with a high quality urban environment is an explicit economic development strategy. The quality of the urban public realm and urban amenities matters to the services sector.

CENTRE & ACCESSIBILITY NETWORK TYPE	NAME/ LOCATION	FUNCTION / ROLE
Primary	Knysna CBD	Core centre of Knysna town to be maintained and improved to accommodate a vibrant mix of residential, commercial, office and public facilities knitted together by a high quality public realm of complete streets and public spaces connecting with and pulling through the blue and green natural assets. Building heights to a maximum of four storeys (12m) are allowed in terms of the Municipal Zoning Scheme By-law for business premises. This should be allowed for residential purposes too and linked to planning gains associated with public realm improvements, active frontages and inclusionary housing for example. This is a priority area for more detailed planning with particular consideration of the future rail concession, the optimum future of the taxi rank and under-utilised land; as well as, the streetscape.
Secondary: Neighbourhood Centres (Transit interchanges)	Masifunde	Centrally located to serve the Northern Areas, higher order public facilities and a high quality public transport interchange should be located here supported by a public realm of design excellence and a further clustering of urban activities.
	Hornlee	A civic precinct serving the Hornlee area and surrounds. Higher order public facilities and a high quality public transport interchange should be located here supported by a public realm of design excellence and a further clustering of urban activities.
Activity Streets	Main Road, Northern Corridors (Concordia Road to Chungwa Street)	The Business Plan for the Neighbourhood Partnership Development Grant developed for this area should be implemented. Walkability is a priority along this route.
	Gray Street	A primary activity street in the CBD hosting a mix of land uses. The Urban Design Framework for Gray Street should be implemented. This should be transformed into a complete street. Walkability is a key priority along this street. The Gray Street transformation should be the pilot for the improvement of other activity streets in the Knysna CBD.
	Long Street	A primary activity street in the CBD. Walkability is a priority along this route
Activity Corridors	N2 through Knysna town between the Waterfront Drive intersections	A high order corridor with concentrations of activity along it. Walkability should be secured along this route in areas of high concentration of activity.
Secondary: Gateway Activity and Transit Nodes	Nekkies	The Eastern Gateway into Knysna and into the Northern Areas –this should be upgraded and maintained to give dignity and pride to this gateway to Knysna with improved services, facilities and high density of mixed uses that serves several surrounding communities in an integrated way to a high design and maintenance standard.
	N2/ Heidevallei/ Industrial Area	A potential new gateway to the Industrial Area and a significant new mixed use and mixed income development at Heidevallei

Proposed future Neighbourhood Centre	Intersection of George Rex Drive and Vigilance Drive	The precinct where the African Craft market is currently located. Currently no public infrastructure in place. The property should be treated as a strategic municipal investment property - its economic value addition is not currently realised. The site is located along a tourism, community, industry and residential activity corridor (Industrial/Hornlee access + Leisure Isle/Heads/Pezula) and is within a wetland area. There is a need to improve the ecological services provided by the Bongani wetlands bordering the African Craft Market. Currently the level of pollution entering the estuary from the Bongani river system is unacceptably high. A rehabilitated wetland and riparian zone will improve flood mitigation and reduce the pollutants entering the estuary while creating an opportunity for the development of an urban wetland park. The centre should be developed around low impact economic opportunities that draw benefits from being located in a natural, highly visible and aesthetically pleasing site. This precinct should cater for economic possibilities such as a multi-purpose events/business tourism facility with low environmental impact, a more formalised micro-enterprise space/facility but allow for balance with regard to community/green/public open space system. A public slipway has been identified as a key need by the boat building industry and this location has been identified as ideal. This should be explored further as potential economic infrastructure.
	Old Cape Road (Salt River node)	The location of this centre should be considered alongside the possible location of an N2 bypass/ old N2 intersection in this area and what that might mean for land uses, as well as providing convenience for current and future residents of this area stretching to Blaricum Heights
Tertiary: Crossroads (Transit points)	Various	Points at which commuters need to change direction and change mode of transport to access areas separated from the Knysna town. Small scale convenience related land uses should be permitted at these intersections as well as dignified public space and transport infrastructure.

Table 5: Centre Hierarchy in Knysna town

c Accessibility and Mobility Network

Accessibility Network

How easily, safely and affordably citizens of and visitors to Knysna are able to move around to access the opportunities, services and amenities it offers impacts on the economy and the well-being of households.

The MSDF must promote an effective, efficient and affordable ease of access through a functional network of roads for cars and public transport infrastructure and an accompanying non-motorised transport infrastructure at the settlement scale. This accessibility network must support a productive interaction between the urban (settlement and service centres) and rural environments, and within the settlements – between residential areas and centres, between centres and between centres, residential areas and recreational destination locations. In the case of Knysna, the network also has to be thought about in terms of dealing with a major seasonal increase in traffic and demand for significant destination places. In this regard temporary public transport shuttle services should be considered and may indeed be financially viable. Precedent exists for this as close to home as Mossel Bay.

Motor vehicle ownership in Knysna is low, the ease and dignity with which people can walk, cycle and/or use public transport services is central to an inclusive accessibility network. The topography of Knysna town and the town's own Apartheid spatial legacy that exploited this topography, means that most of the lower income households are separated from the higher income households and main economic activities by a steep ridge. This makes the role of public transport, in this case, mini-bus taxis, very important to accessibility in the town. As such, both non-motorised and public transport infrastructure is a significant lever for spatial justice. Investing in public transport services and infrastructure and

walkability is also an economic development strategy, increasing footfall to enhance the viability of street level commercial activity and reducing movement costs to increase disposable income. And it is a resilience strategy, aiding the reduction of Knysna's carbon footprint and the resulting contribution to climate change.

While the centres do have NMT and public transport infrastructure, this can be significantly improved alongside the extension of this infrastructure into the residential areas and to recreational destinations. In Knysna town, principal public transport/ activity routes, together with a town-wide open space system, should form the basis of the NMT network. An integrated network is identified in this MSDF.

Priority new and improved connections are as follows:

- A series of high quality connections running down the slope from the Northern Areas to the main Knysna town area. The planned development of the Heidevallei site is a key catalyst to implementing these connections and should be bold in its pursuit of this transformative investment. A funicular system should be considered and could be catalytic of tourism to the Northern Areas in addition to the convenience and accessibility it will bring to the community of the Northern Areas and the symbolic role it could play in valuing these communities as part of the landscape and social fabric of Knysna. This will also offer a safe public accessibility service, which may be more challenging if a traditional approach is taken to the routes.
- Upgrading of George Rex Drive and extension of the cycle path along George Rex Drive towards The Heads. The existing path is commonly used by recreational cyclists but ends shortly after Vigilance Drive.
- The informal settlements of Hornlee and Concordia are within walking and cycling distance from Knysna city centre.

Sidewalks should be constructed and maintained to facilitate NMT

- Due the steep incline on the way to Hornlee and Concordia it is suggested that the possibility of using the abandoned rail reserve as a cycle route be explored.



Figure 10: Funicular in Medellin, Colombia enabling access by the poor to the city (dreamstime, 2019)

This MSDF identifies the activity streets and corridors and a non-motorised transport network for Knysna town. The upgrading or replacement of existing roads should be planned and designed to achieve the quality of complete streets, providing a high quality of non-motorised transport infrastructure designed to be part of a broader public realm network linking open spaces and destinations to centres, streets and corridors.

The penetration and legibility of the network impacts on the convenience of pedestrian and car users alike. Interruptions in this network impact most on pedestrians but impact on choice for all

residents of Knysna. It can also impact on the ability of emergency services and disaster risk management to function properly. The

What is a “complete street”?

“Streets are a vital part of liveable, attractive communities. Everyone, regardless of age, ability, income, race, or ethnicity, ought to have safe, comfortable, and convenient access to community destinations and public places—whether walking, driving, bicycling, or taking public transportation. But too many of our streets are designed only for speeding cars or creeping traffic jams.

A Complete Streets approach integrates people and place in the planning, design, construction, operation, and maintenance of our transportation networks. This helps to ensure streets are safe for people of all ages and abilities, balance the needs of different modes, and support local land uses, economies, cultures, and natural environments.” (National Complete Streets Coalition, 2019)

opening of the Pezula Way – Blue Crane Way – Hornlee Road connection for permanent public access to Noetzie is a priority. Where single access and egress is the only option, as in the case of Leisure Isle, this road/ bridge must be proactively maintained. Similarly, the maintenance of Hornlee Road (linking the N2 to Pezula and Noetzie) is important.

Consideration should also be given to whether a seasonal public transport system could operate between destinations in high demand and main locations where tourist and holiday makers stay, to reduce the pressure on these destinations to accommodate parking (formal and informal) and the impact this has on the host environment, as well as the road infrastructure leading to these destinations. A partnership with GoGeorge may warrant exploration.

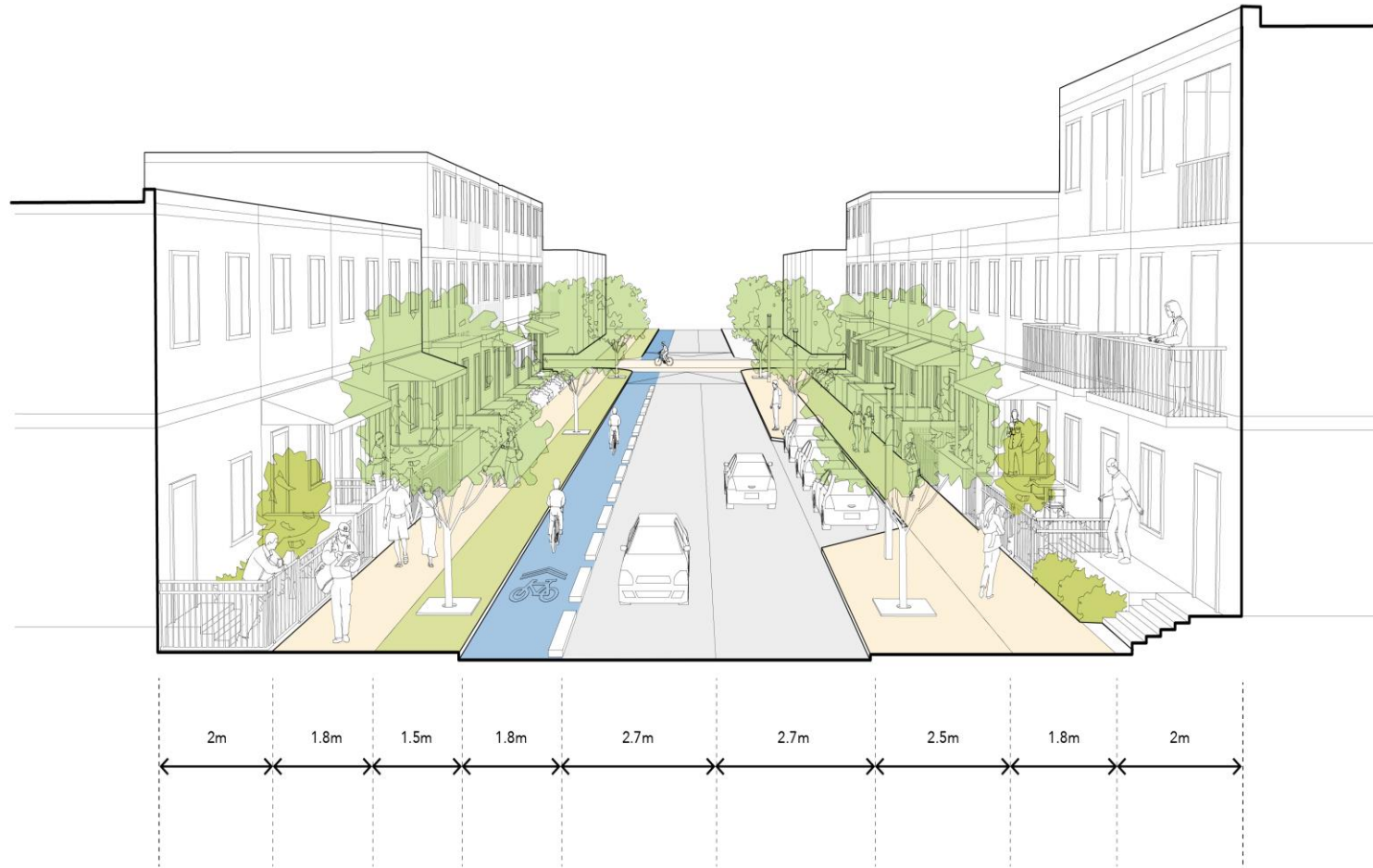


Figure 11: Cross-section of a complete street

Public Space System and Non-motorised transport network

In all of the settlements in the KMA but in particular, Knysna town, this MSDF promotes linking the public coastal recreational destinations and biodiversity corridors with the non-motorised transport network and formal and informal (active and passive), hard and soft recreation spaces, to form a public open space system that knits the surrounding natural environment with an urban green network that flows through the town linking it to its surroundings. This will contribute to Knysna town's sense of place.

There is a real opportunity to integrate the open space network and the non-motorised transport network in Knysna. The continuity and connectivity of the green and the NMT network can be enhanced through their connections to the principal public transport/ activity corridors and the landscaping of these as complete streets for pedestrians, cyclists, buses and cars alike. The upgrading of George Rex Drive is an important contribution to building this system.

The existing plan to transform the green forested area on the slope between the Northern Areas and Knysna CBD and surrounds into a Central Park should be pursued along with the proposed NMT/ public transport connections. The catalytic role that the Heidevallei development can play in this regards should not be missed. The Northern Edge of this proposed park should be carefully considered for the economic opportunities it may offer to the Northern Areas communities. Safety is a key consideration in the detailed design of this park and the NMT / public transport routes.

Special public coastal access and recreational destinations

The open space and accessibility system should come together to support public access at special public coastal access points identified in Table 6 below. These are significant destinations in the Knysna landscape that should be celebrated. Public access to them must be preserved into perpetuity but for this to be possible

investment in infrastructure and maintenance is important. It is also important to cultivate formal, constructive working relations with resident communities, as partners, in these areas to support the efforts of the municipality.

Public access must be protected at these points into perpetuity.

Coastal Access Point	Action required
Buffalo Bay	Maintenance
- road access - wooden ramp access - (North) public access ramp - Caravan park - Paragliding launch	Enforce by-laws
New launch site	Formalise
Old Boat launch site	Maintenance
Brenton-On-Sea	Maintenance
Millionaire's Beach	Maintenance
The Southern Right	Enforce maintenance arrangements
Jaap se Baai	Maintenance
Sedgefield	Maintenance
Myoli Beach	Maintenance required – linked to desalination plant
Swartvlei	Maintenance
Brenton paragliding	Enforce by-laws
Leisure Isle	Maintenance
The Heads	Maintenance
Thesen Island	Enforce public access arrangements
Coney Glen	Maintenance
Eastern Head	Maintenance
Noetzie	Enforce management and maintenance arrangements

Table 6: Knysna Public Coastal Access Points (WCG, 2018)

Mobility Network

For the Knysna Municipal Area, the regional movement network support the efficient movement of freight and people. The N2 as the main mobility route plays a significant role in the national network. This requires ensuring a clear primary and secondary regional route hierarchy that defines the role of the route and its investment priority and therefore guides how potentially conflicting uses of the route and the land use alongside it are managed to secure efficient mobility. A resilient system requires that there are clear alternative routes that are able to perform the same functions when another route is disrupted. This same network must support the ability of rural dwellers and workers, and those living in smaller rural settlements to be able to access services and amenities within a reasonable time and distance.

In the case of Knysna, alongside the resolution of the future of the N2 bypass, the upgrading of a number of important regional routes supporting the villages in particular is important. Namely, the following routes require upgrading:

- R339 / Prince Albert Pass to Uniondale
- Seven Passes Road between Karatara and Rheenendal

In Sedgefield, there is a problem with trucks overnighing. An overnight truck facility could be introduced at the Market area which is held west of the town. This will support the idea of introducing overnight facilities along the N2 for trucks to make use of as there is currently located at The Craggs in Bitou and Albertinia in Kannaland.

d Accommodating Urban Growth

Using the Western Cape Government's population projections, Table 7: Urban land and housing projections for the next ten years Table 7 presents an estimate of how many new households there will be in 10 years' time in each settlement based on current household sizes, how many new houses would be needed per annum and what the estimated land requirement would be working on a density of 25 du/ha. How many of these households are likely to need some form of state assistance is also estimated. An estimate of backlogs is also given. Backlogs are currently driving the municipal, provincial and national government's housing delivery programme in the KMA. This will have a very big impact on the spatial and financial future of the Knysna Municipality. It is critical that these figures are properly validated.

Table 7: Urban land and housing projections for the next ten years Table 7 then provides broad indications of residential development opportunities in the pipeline, both in terms of upgrading and new sites. This information is prepared on the best available data but is always an estimate as this is a very dynamic environment. Housing projects are subject to feasibility studies.

When comparing the overall demand (new and backlog) with the potential pipeline, within the next 10 years space for an additional 2,664 state-assisted units needs to be found. It is important to note that:

- The pipeline estimates do not include a number of infill sites identified in Knysna town owned by the Municipality that can be developed, nor all the land within the urban edge –
- Long term urban growth is indicated in the direction of the area to the north of the northern areas and to the east of

Knysna Town. These areas would have the least impact on biodiversity areas. These areas are long term and are not included in land availability projections.

- The scope for densification on existing properties; for example, second dwellings are permitted in terms of the draft Zoning Scheme By-Law.
- Smaller household sizes, limited land and the need for labour mobility in the current economic climate emphasize the importance of higher density modes of affordable housing delivery, in particular social rental housing.

It is also important to note that the state-assisted housing delivery will, going forward, be focussed on upgrading informal settlements to ensure sufficient access to basic services in particular and entering into partnerships with the private sector to provide gap/ affordable (including rental) housing opportunities. Subsidized, completed free-standing houses will be limited to the most deserving within the limited resources available.

It is estimated that new demand for private sector provided units will be 81 units per annum over the next 10 years, 810 units in total requiring the equivalent of 32 ha at a density of 25 du/ha. It is likely that this demand will primarily be felt in Knysna town, with some demand in Sedgefield. Infill development and densification should be encouraged for this market too. Ideally, land identified for state-assisted development in Knysna town must accommodate demand to be met by the private sector to promote integration.

It is beyond the scope of this MSDF to resolve these demand projections and land requirements compared with a detailed inventory of developable land and scope for sustainable and appropriate densification. It is important that this is done to inform the next 5 year review of the MSDF, within the ambit of a Human Settlements Plan.

URBAN HOUSING AND LAND NEED PROJECTIONS 2018 - 2028							Delivery Pipeline	
Settlement	Total new households between 2018 - 2028	2016 Average Household Size	Total Land Required by 2028 for New Households (@ 25 du/ha)	New houses needed per annum 2018 - 2028	Households likely to need state assistance per annum (83%)	Backlog (IDP Review 2018/19)	Informal Settlement Upgrading in the pipeline (Est)	Existing potential for new state-assisted units to be developed (Est)
Knysna	3728	2,8	149	373	309	7466	3102	4876
Sedgefield	749	2,4	30	75	62	393	TBC	385
Karatara	56	3,7	2	6	5	275		754
Rheenendal	228	3,2	9	23	19	705		1324
Buffelsbaai	4	3,2	0	0	0	0	0	0
Barrington						272	0	0
Other						40	0	0
TOTAL	4764	2,9	191	476	395	9151	3102	7339
Total state-assisted demand incl backlog vs delivery pipeline by 2028				13105			10441	

Table 7: Urban land and housing projections for the next ten years

The urban edges around settlements in the Knysna Municipal Area have been reviewed. There are opportunities for growth within these urban edges, catering to all residential markets. At this stage, limited expansion of the Knysna town as identified in this MSDP, while using the existing serviced urban areas more efficiently, should adequately accommodate its growth projected over the next 10 years.

The numbers do suggest that Sedgefield is under the most pressure to source additional land for the provision of state-assisted housing opportunities in particular, but options are seriously limited by

topography, coastal dune systems and wetlands. At the same time, it could be argued that its strong beach town character is its economic base that needs to be protected and could be undermined by unmanaged sprawl. A detailed study is needed to plan holistically for Sedgefield's future and to put in place a medium to long term programme. While meeting the needs of existing households in respect of secure tenure and adequate services is a crucial priority, this should be done in such a way as to not promote the residential growth of Sedgefield beyond its existing urban footprint and its ability to generate employment opportunities. An inclusionary housing

requirement should be applied in terms of the Municipality's Land Use Scheme in Sedgefield, as provided for by SPLUMA, to undeveloped land within the urban edge in Sedgefield and any redevelopment of land for multiple housing units.

Sufficient opportunities exist to deal with housing backlogs and future growth within the smaller settlements of Karatara and Rheenendal. Again human settlement improvement programmes in these settlements should be limited to responding to the needs of existing populations and should not promote the residential growth. Additional land within the urban edges should be protected for social facilities and job-generating, economic land uses.

The hamlets with their origins in forestry or small scale farming, are asking for improved infrastructure and housing and it is the intention of forestry companies, in a number of instances, to hand over tenure to existing occupants of land in these settlements. While being sensitive to the needs of rural dwellers to live a dignified, secure life in a rural environment and in harmony with the rural and agricultural economy and landscape; careful consideration needs to be given to the struggling forestry economy that supported these settlements and its uncertain future. The resources available to the Municipality to subsidise servicing these settlements is very constrained and it is not likely to be a revenue source going forward. The Municipality will need to be pragmatic about the means and tools with which the municipality and other organs of state can assist these households and wary of any possible exploitation of the needs of these households by private property development interests that would require significant public subsidisation. Secure tenure for these communities is supported, as is appropriate economic development initiatives. Social services would need to be of a mobile nature to these communities. It is important that development in these settlements is done in such a way to mitigate fire risks.

It is noted that Knysna Municipality is in discussions regarding the Swaneberg, Brackenhill, Middelerf and Springfield forestry hamlets, where tenure is to be given to residents and services are required. These settlements are located along the N2 between Knysna town and Plettenberg Bay, a stretch of the N2 which has a particularly 'garden-like' feel. Possibly these settlements could be better integrated into the tourism corridor that stretches to Plettenberg Bay. However, if these settlements are expanded to become sprawling suburbs of Knysna town insensitively, the economic opportunity could be lost. Guidance in this regard is set out in Policy I3 in the tables below. These settlements and their future need to be thought about in the planning and design as beads along a string that provides robust connections between the hamlets and Knysna town.

e Inclusive infill development

This MSDF supports a concerted effort to open up development opportunities addressing the need for housing in a way that does not perpetuate the current apartheid pattern of segregation of class and race, and increased distance between low income residential areas and social facilities, amenities and economic opportunities.

A number of municipal and private sites for mixed income, inclusive residential development with some supporting mixed land uses have been identified and their acquisition and preparation should be prioritised. Individual site-based opportunities for infill are also possible and initiatives are underway in Hornlee.

Land	Buildings
Heidevallei	Protea terrace
Lagoon View 2	Melkhout Flats
Melkhout Flats	Westview Courts
Lagoon View 2 (private)	Lagoon View 2 (private)
	Curlew Court

Table 8: Examples of potential sites for the development of social rental housing (Knysna Municipality, 2016) (this list is not exhaustive)

This MSDF identifies an expanded Restructuring Zone that accommodates public sector initiatives and does not preclude private sector initiative, while still keeping with the spirit of a restructuring zone. A Restructuring Zone, identified in terms of the Social Housing Policy, the Guidelines and the Social Housing Act, 2008, is aimed at promoting spatial transformation; i.e. creating affordable housing opportunities within close proximity to jobs and services. This expanded area is identified in Map 16. This is subject to the approval of the competent authority. The restructuring zone should be the beneficiary of incentives geared at making inclusive development a viable proposition for the private sector and reducing development costs to optimise the affordability of the end product. Incentives could include expedited development permissions, additional development bulk allowances or financial incentives associated with development contributions for example.

An inclusionary housing requirement should be applied in terms of the Municipality's Land Use Scheme, as expected by SPLUMA, to the restructuring zone but should also be tested for application more widely in the Knysna Town Area where undeveloped land within the urban edge is proposed or and any redevelopment of land for multiple housing units.

Many of Knysna town's neighbourhoods are very low density. While this MSDF encourages general densification to increase the supply

of well-located land and building stock into the market at more affordable prices (and sizes), more detailed local densification studies should be done. These should consider the environmental, heritage, visual and infrastructure capacity impact informants to appropriate densities and the priority areas for densification within the individual settlements or neighbourhoods of Knysna town, along with context specific urban design guidelines where necessary.

f A considered housing delivery programme

There is limited scope for outward growth of the KMA's settlements. There are significant direct and indirect costs that accompany opening up new land in this region for urban development adjacent to the urban settlements, and the economy is vulnerable, tending towards seasonal labour and jobless growth in the services sector. Careful consideration should be given to the trade-offs made between driving an aggressive housing delivery programme aimed at awarding ownership and making the same resources available to improve the viability of social rental housing development. Both receive extensive subsidisation by national, provincial and local government. Social rental housing is able to reach better densities, allows for better urban management and social support and recognises that some people in Knysna may be transient and may need to move in search of better economic opportunities. In light of the limited economic opportunities in Knysna, housing delivery programmes should consider housing options that allow for households to move on to better opportunities in the George and Mossel Bay growth nodes, and housing stock to be recycled.

g Adequate provision of facilities

The pressure on social facilities is felt most keenly in Knysna town and in the education sector. Three schools in Knysna town are considered to be over-utilised. Eight schools do not have a library,

two of these do not have access to any library. At least one additional high school is needed to serve the existing population. This is important to combat the declining matric pass rates and address the need for skilled labour. Large tracts of land identified for housing such as Heidevallei will need to accommodate the need for social facilities too. Infill development should seek to design additional social facilities requirements into the development schemes.

While one of the primary schools in Sedgefield is considered to be over-utilised there is another primary school in Sedgefield. The population is considered too small to justify a high school in Sedgefield. This places more pressure on high schools in Knysna town and poor families having to transport their children. The affordability of regional transport services becomes a key developmental concern in this regard.

Based on CSIR Facilities Provision Toolkit and the Western Cape Government's Facilities Development Parameters Guideline which help to model future facilities needed to serve population growth, it is estimated that over the next 10 years:

- 3,728 additional households in the Knysna town area will require up to 4 additional early childhood development centres, 3-4 primary schools, 1 – 2 secondary schools, up to 2 community sports fields, up to 1 local library, a community hall/ centre and up to 45 additional community parks.
- The 749 additional households in Sedgefield will not trigger the need for any more facilities.
- In Rheenendal, 228 additional households will also not trigger a need for additional facilities

It is noted that this does not consider existing backlogs in facility provision. It is clear that the Knysna town area has limited scope for outward growth to accommodate additional households and the related facilities and amenities. Innovative approaches will need to

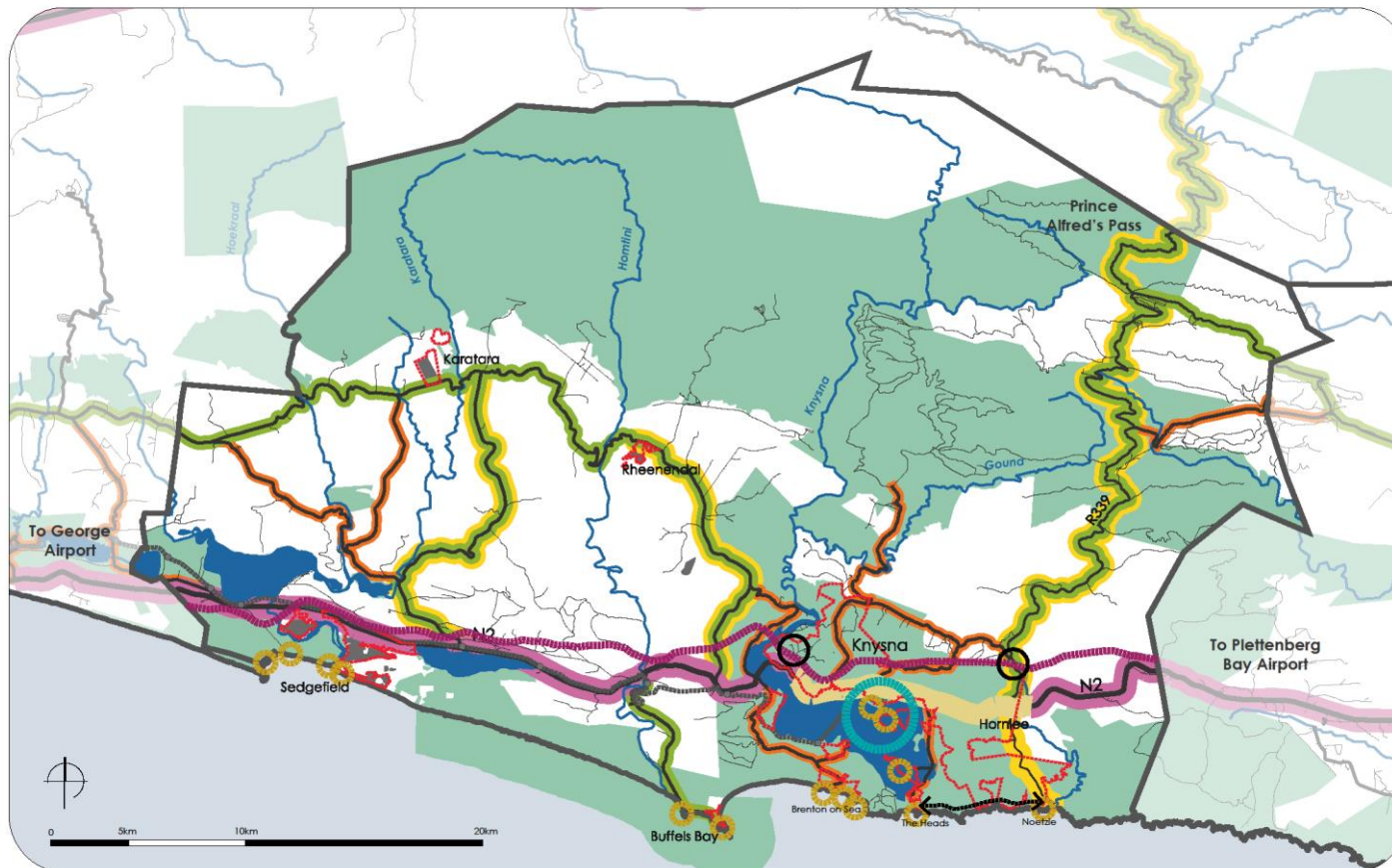
be found that use space efficiently and vertically to meet this demand for facilities. Under-utilised facilities will need to be shared and optimised. Facilities will need to be re-purposed. An affordable and convenient public transport system will also assist to enable access to facilities with capacity within a reasonable distance of households needing to be served.

A pressing need is vocational and technical education and training and a tertiary education facility. A tertiary education facility need not be reliant on public land and is unlikely to be a public facility given Knysna's position in the broader, regional settlement system, so it will require a concerted public-private partnership to unlock land and/or buildings and attract an institution to host an appropriate facility. The facility will generate demand for affordable student/ social housing and will generate footfall conducive to local economic development. To minimise pressure on the movement system and in the absence of a true public transport system, such a facility should be located in walking distance of most of the population in Knysna town and should therefore be located in or as close as possible to the CBD. Such a facility should consider the skills needs of the Knysna economy and be able to take on students that may not have completed school. There is an opportunity for partnership with SANPARKS to provide training in conservation and tourism.

Finding a suitable site for a future cemetery is also a short term priority. The opportunity cost of using land in close proximity to the urban area for a cemetery as opposed to residential use is significant. Investigation needs to be done as to how space used for burial could find synergy with other more rural land uses or biodiversity conservation. While the cultural preferences are acknowledged, the competition for urban land is also very serious in the constrained landscape of Knysna town. Innovative thought and well planned consultation with communities is needed to discuss the trade-offs. Careful demand analysis and projections should also be done noting that burial is not the first choice of everyone and burial in Knysna may

also not be the preferred option for residents with familial connections to the Eastern Cape, for example. Consideration should be given to passing on the true costs of providing burial space to users in light of the opportunity cost of using well located, scarce urban land for this

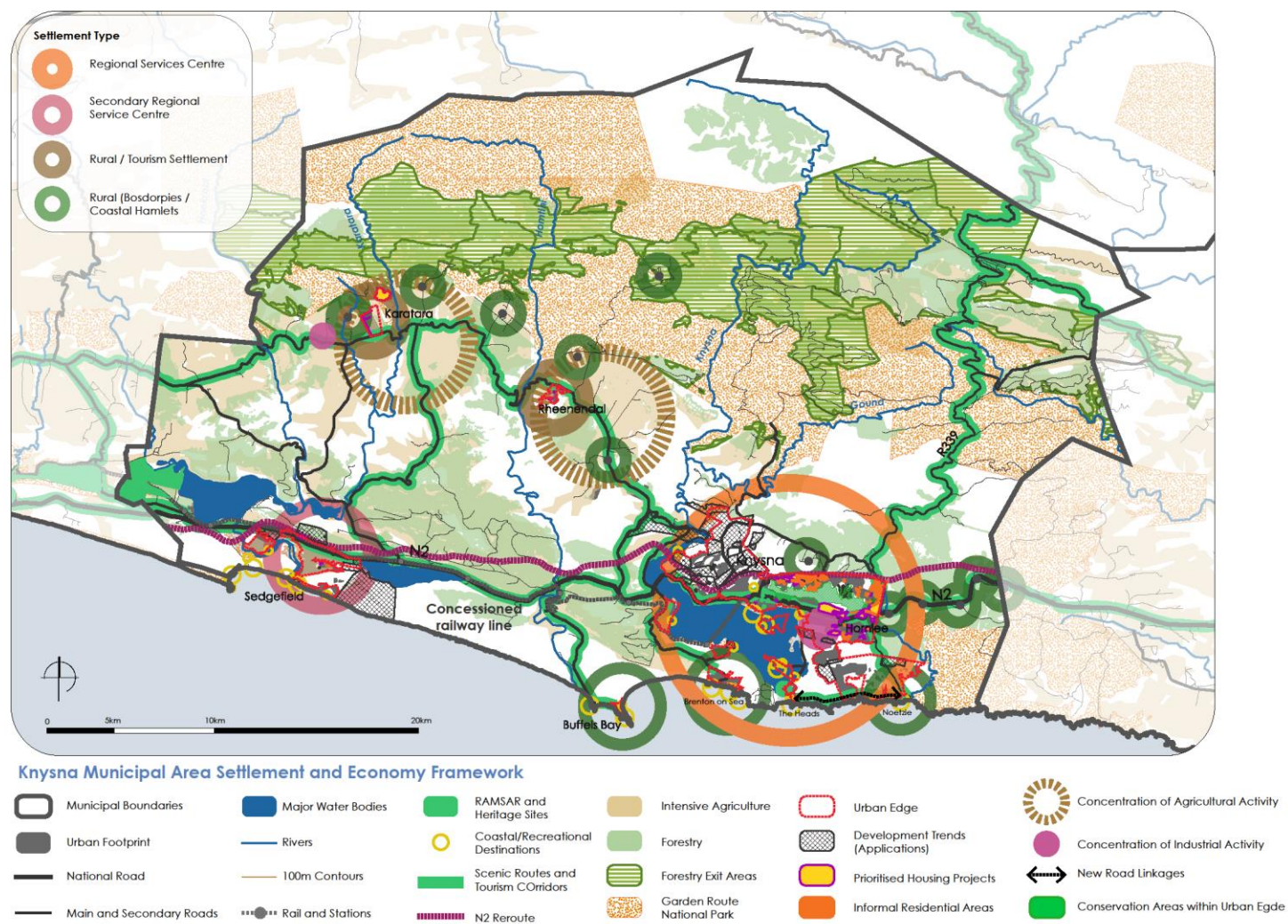
purpose. This may impact on residents' choices. It may be worth considering this need alongside negotiations regarding the planning of a new alignment for the N2 bypass. Further resolution of this is outside the scope of this MSDF.



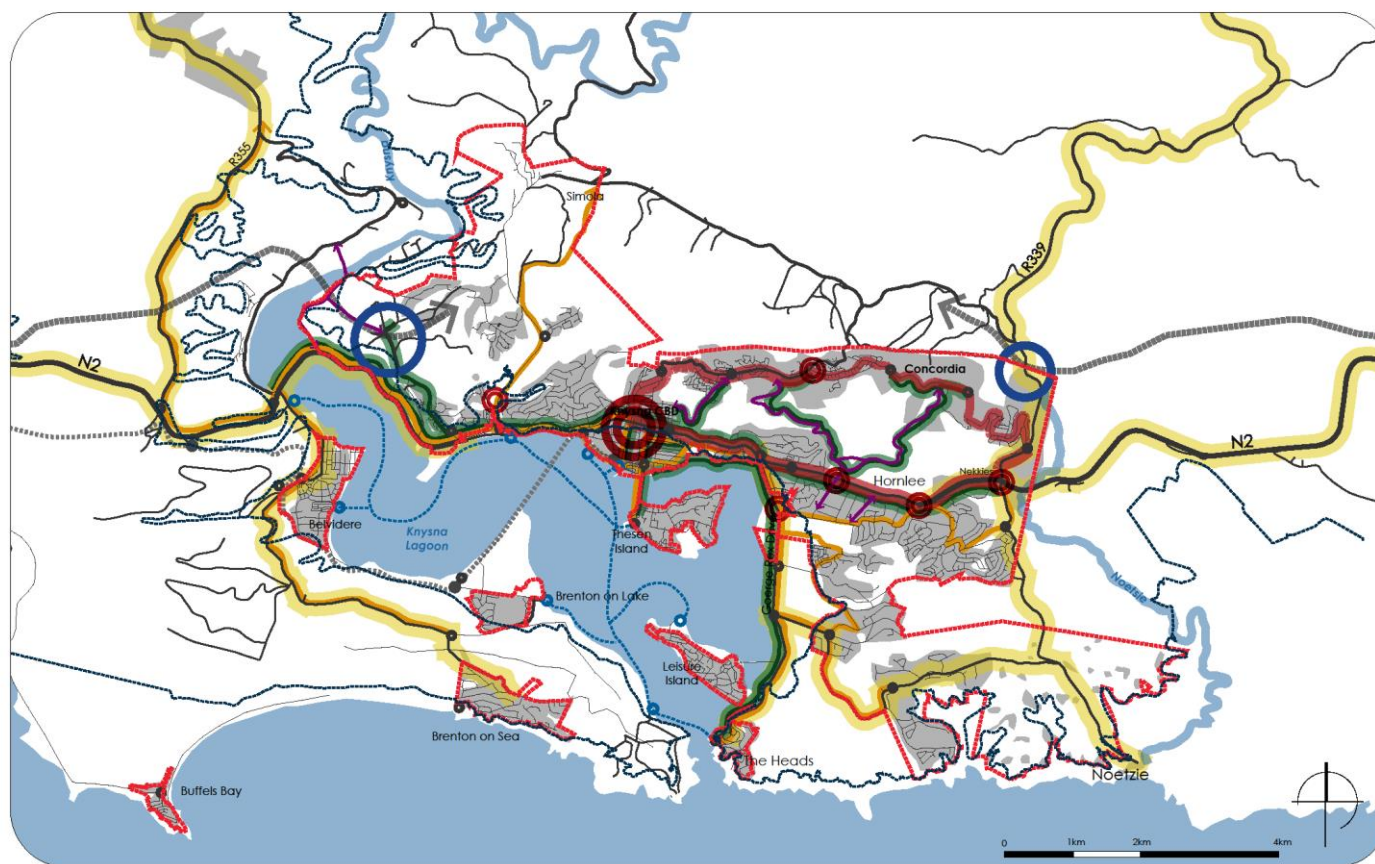
Knysna Municipal Area Accessibility and Mobility Framework



Map 13: Knysna Municipal Area Accessibility and Mobility Framework



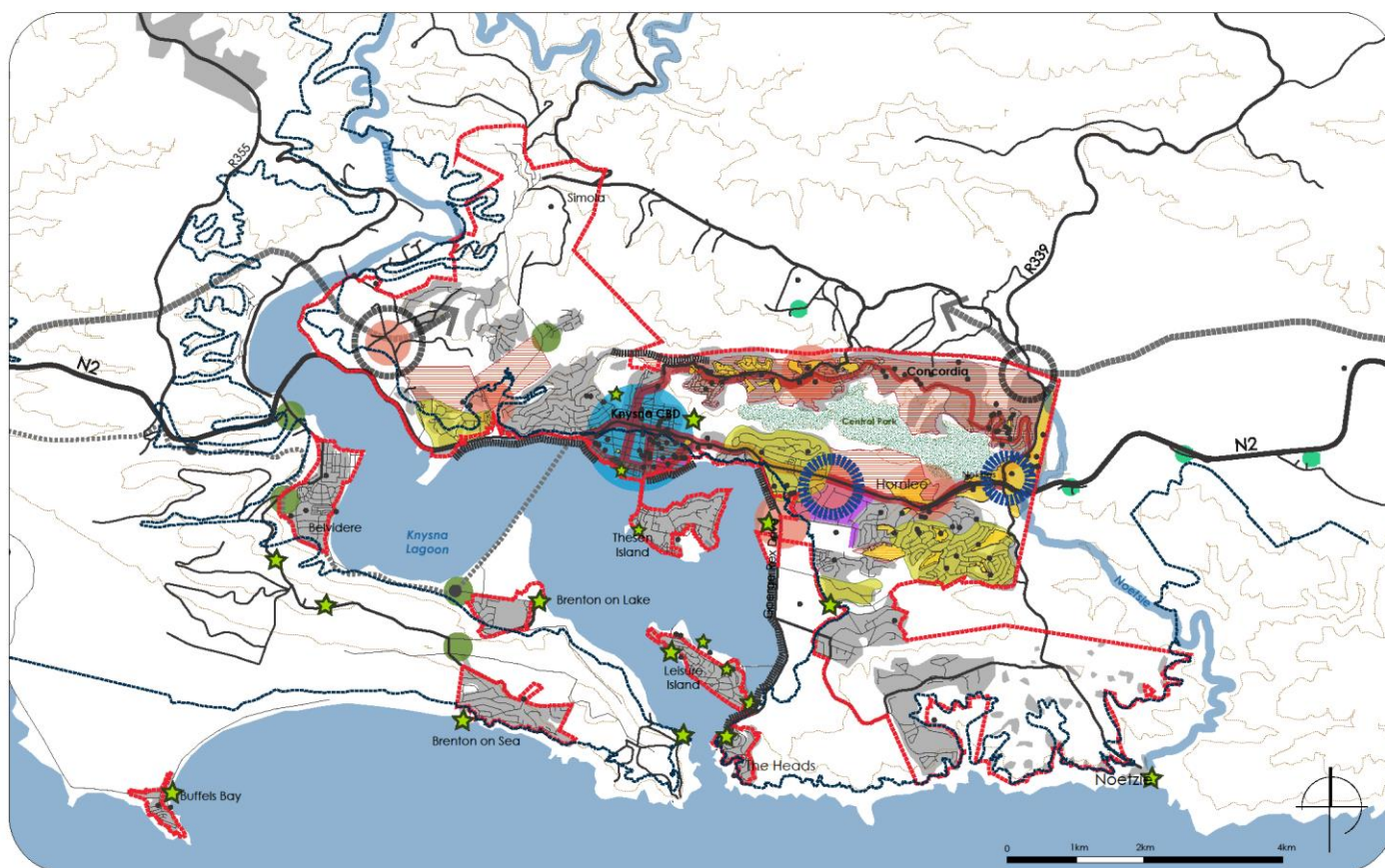
Map 14: Knysna Municipal Area Settlement and Economy Framework



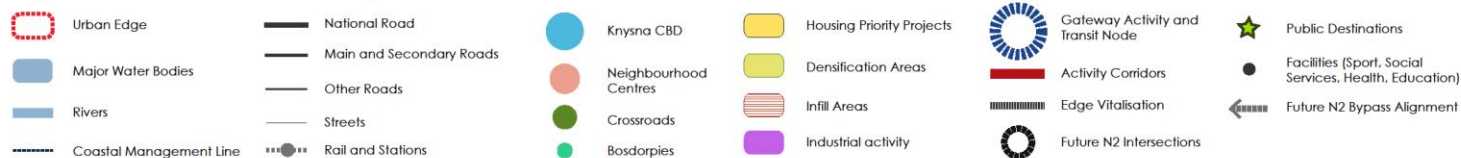
Knysna Town Accessibility and Mobility Framework



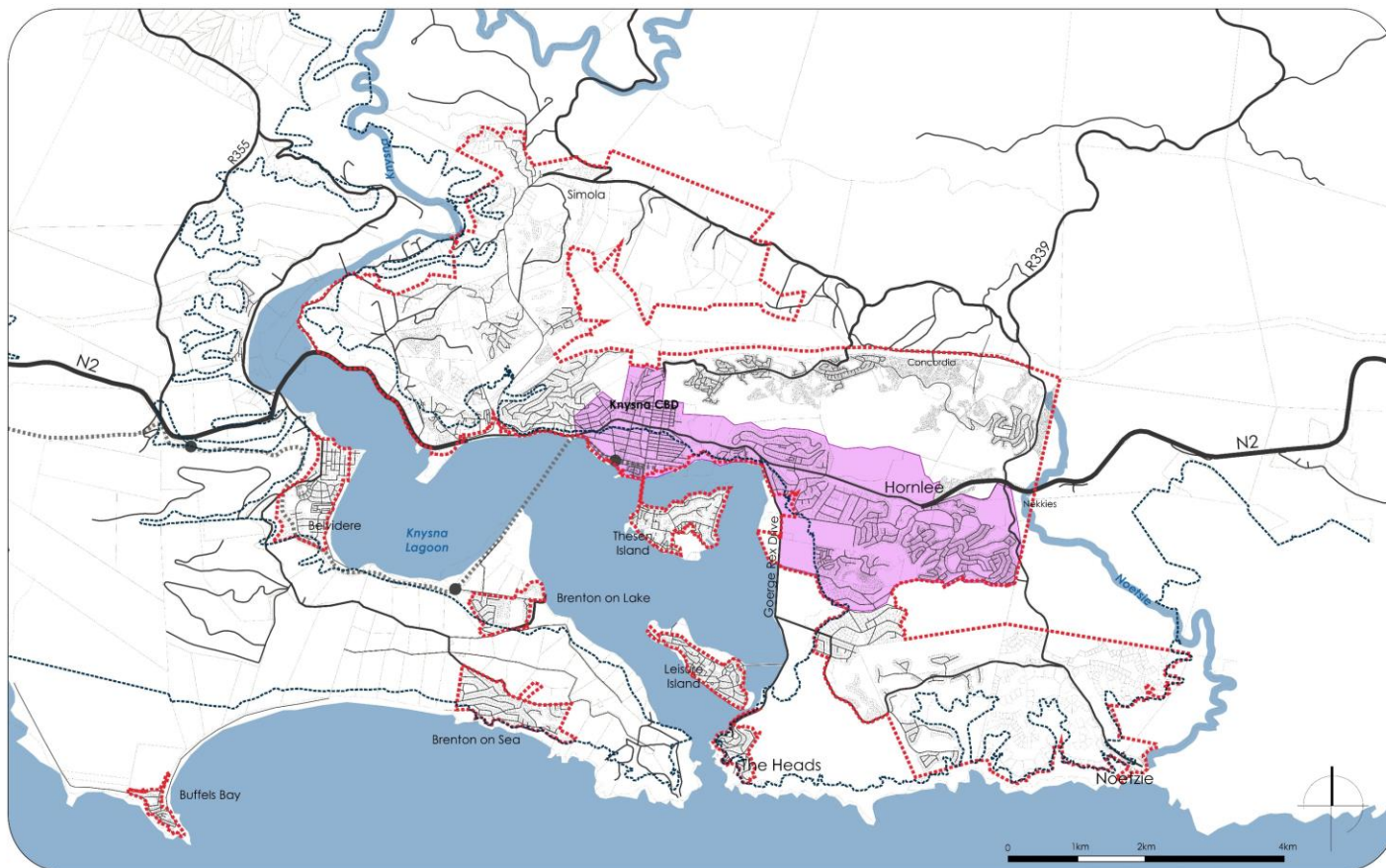
Map 15: Knysna town Accessibility and Mobility Framework



Knysna Town Settlement and Economy Framework



Map 16: Knysna town Settlement and Economy Framework



Map 17: Proposed Revised Knysna Restructuring Zone

4.4.2.3 Spatial policies and policy guidelines

The policies tabulated in this section should guide decision-making on resource allocation, sector planning, land use management and land development programmes. Each policy is supported by policy guidelines

Policy No	Policy		
E	<i>Direct public and private fixed investment to and within existing settlements reinforcing their economic development potential. In this way, the impact of public and private investment is maximised and the majority of residents benefit</i>		
		Policy Guidelines	
E1	Maintain a compact settlement form to achieve efficient, cost effective service delivery and resource use, create thresholds for future public transport provision and enable equitable accessibility	i.	National and provincial government have set municipalities the target of increasing the density of urban areas to an average gross based density of 25 dwelling units / hectare. This should be generally applied to Knysna town, Sedgefield, the specialised coastal centres and villages of Rheenendal and Karatara until local area density plans are in place.
		ii.	State-subsidised housing delivery programmes should develop vacant or under-utilised land or redevelop land within the built footprint of the existing settlements as far as possible to ensure households retain affordable, preferably, walkable access to job opportunities, social services and amenities. The development of social rental housing should be prioritised.
		iii.	Combine the repair and renewal of existing infrastructure in well located areas with enhanced capacity to accommodate densification.
		iv.	Low density residential estates are not supported and exacerbate fire risk. High end estates should make more efficient use of prime, serviced land before any lateral expansion of estates or market led housing development can be considered.
		v.	Protect the Knysna Industrial Area for industrial purposes
F	<i>Promote inclusive urban development</i>		
		Policy Guidelines	
F1	Facilitate convenient and affordable access to social, economic and affordable housing opportunities	i.	Reinforce Knysna town's regional service centre role within the KMA providing the most appropriate location for higher order health and education facilities as well as urban economic activity.
		ii.	In Knysna town, an inclusionary housing requirement should be applied in terms of the Zoning Scheme by-law, within the revised proposed restructuring zone presented in this MSDF. In Sedgefield an inclusionary housing requirement should be applied to all new development and the redevelopment of sites for multiple housing units. This requirement should be

			accompanied by affordable incentives to reduce development costs and secure project viability to improve affordability of the end product for a defined segment of the market, inclusive of social rental and gap housing products
		iii.	State-owned land within this restructuring zone and the broader Knysna town and Sedgefield areas must be actively prioritised, assessed, reserved, prepared and released for development that achieves social integration and affordable housing closer to existing facilities, employment opportunities, services and / or amenity sites.
		iv.	New housing developments must integrate the provision for the necessary social facilities in the planning, town planning layout and budget, coupled with an operating budget provision. Innovative ways of providing social facilities in clusters, shared facilities / buildings and in partnership with the private sector should be considered. Space standards should be applied flexibly taking into consideration the shortage of space, the cost of land and the cost of maintaining and securing public facilities. Clever design should minimise the need for fences, dead spaces and blank facades on interfaces with the public realm and movement routes.
		v.	In the assessment of land use and building applications and public sector developments, pursue compact and diverse neighbourhoods, offering places to live, work, recreate all within close proximity, served by streets scaled to people so that they are comfortable to walk.
		vi.	In the area identified for medium to long term growth of the Knysna town urban footprint inland of Concordia and eastward of Knysna town along the N2, any future residential development must cater for a diversity of incomes inclusive of housing opportunities responding to the income profile of demand and affordability need in Knysna.
F2	Prioritise walkability in Knysna town, Sedgefield, the rural/ tourism settlements and the rural/ coastal hamlets	i.	Establish a legible, well connected and safe non-motorised transport network
		ii.	Development proposals should encourage and support the convenience, comfort and safety of walking as the most important and inclusive mode of movement in their planning and design. The following guidelines are relevant: • Get the land use and density right – create a reason to walk and enable walks to be reasonably short and achieve a range of needs. • Ensure social facilities are located, designed and developed to promote safe accessibility by foot and prioritise the convenience and comfort of access for pedestrians first. • Make walking safe and comfortable. This is influenced by block size, sidewalk quality, a connected street network and visual interest.

			• Ensure good edges to streets. Everyone seeks “prospect” and “refuge” – visually attractive and safe – people are “drawn to spaces that have good edges” (Speck, 2013). • Make sure that streets include signs of humanity (active ground floors, cluster social facilities). • Develop an integrated and connected street network, improving pedestrian connections allowing direct connections between places wherever possible. • Promote walkable block sizes of no more than 80-100m. • Incentivise and encourage active ground floor use within mixed use zones.
		iii.	Road construction, renewal and upgrading should integrate the creation of high quality non-motorised transport infrastructure (separated pavements and cycle routes that are sufficiently wide, landscaped and well lit).
		iv.	Multi-level parking facilities should be investigated for the Knysna town CBD to release space to build more complete streets, use scarce land more efficiently and release development bulk by allowing for the parking requirements to be met collectively on shared sites
		v.	Review the Municipal Zoning Scheme By-Law’s parking provisions to allow for shared off-site parking provision and to promote the prioritisation of pedestrians in development schemes.
		vi.	Gated estates should locate on the periphery of the urban area to minimise their impact on walkability and access to public transport routes and the non-motorised transport network.
F3	Identify the right location for facilities (public and private)	i.	Resist location decisions associated with new social investment defaulting to where ownership is the primary criterion as opposed to the best location for accessibility by foot and positive downstream economic impacts possible with optimum accessibility
F4	Protect public routes for public thoroughfare to ensure fair access for all to public roads that offer convenient and efficient connections; access to areas of scenic, heritage and recreational value and multiple access and egress for disaster risk management	i.	Public roads that form part of a broader network that allows ease and choice of access should not be gated
		ii.	Existing connections linking the Heads to Pezula and to Noetzie must be retained as public road accessible to all
F5	Enhance public transport connectivity between areas within the Knysna town in terms of routine demand and explore public		

	transport connectivity to cater for seasonal demand		
F6	Promote inclusive economic development	i.	The scale and format of development can determine whether this development is inclusive and resilient or exclusive and vulnerable. Many small developments/ projects rather than dependence on one or two large scale, big bang developments offer opportunities for more inclusive development, empowering emerging contractors, developers and investors.
		ii.	Go beyond incentives to lure big investments and give special attention to attracting many small scale investments and Small, Medium and Micro-sized Enterprises (SMMEs).
		iii.	Reduce the regulatory burden to unleash the capacity of many small investors, entrepreneurs and developers to contribute to the transformation of Knysna town in the restructuring zone.
		iv.	Buildings and the non-motorised network should be designed to seek to generate economic opportunity through, for example, structured small sidewalk spaces (formal and informal) that allow the local service economy to thrive, in a way that is complementary to ease of movement and safety.
		v.	Optimise existing infrastructure in well located nodes through incentives, partnership projects and land use controls that enable viable investment in new residential and commercial development.
		vi.	Light industrial infill development should be encouraged and facilitated to build on existing competitive advantages and support job creation
G	<i>Ensure, protect and manage public access to the KMA's natural environment</i>		
		Policy Guidelines	
G1	The coastline and natural environments in the KMA offer destinations of unique scenic, heritage, recreational and economic value. They are public amenities. Public access should be secured and managed at defined, ecologically appropriate points, minimising adverse impacts on the environment, public safety and resolving	i.	It is critical that access to the coastline is managed consistently across the Southern Cape's coastal municipalities as the coastline performs as an ecological system. The Knysna Municipality must work with the Garden Route District Municipality and the Western Cape Government, in terms of the Integrated Coastal Management Act and the Western Cape Coastal Access Strategy, to ensure a coordinated and consistent approach.
		ii.	Develop and maintain appropriate public infrastructure to safeguard sustainable public access to the coastline, rivers, estuaries and wetlands at the following defined points: <i>The draft Western Cape Coastal Access Strategy sets out minimum requirements for designated coastal access sites/ routes</i>
		iii.	Access to the coastline presents opportunities for recreational activity, local economic development, and local tourism which should be undertaken in an ecologically sensitive manner and managed in terms of a coastal access bylaw.

	incompatible uses (Draft Eden Coastal Audit, 2017).	iv.	Protect publicly owned land that would secure public access to and enjoyment of these destinations and the coastline generally in perpetuity
		v.	Approved private development on public and private land should not remove historical public access to the coast.
H	<i>Foster distinctive, attractive settlements with strong sense of place</i>		
		Policy Guidelines	
H1	In all of the settlements but in particular, Knysna town, link the public coastal recreational destinations and biodiversity corridors with the non-motorised transport network and formal and informal (active and passive), hard and soft recreation spaces into a public open space system that knits the surrounding natural environment with a green network that flows through the town linking it to its surroundings	i.	Seek opportunities to integrate the conservation of critical biodiversity areas into the open space system in a way that allows public interaction and education
		ii.	Public spaces (soft and hard) must be planned and managed to be welcoming to all, legible and safe
		iii.	Built edges should define and overlook the open space network to promote activity and passive surveillance
		iv.	Build and create an interactive open space system on an equitable basis prioritising implementation in a manner that focuses on the poor and denser urban neighbourhoods in the KMA.
H2	Develop new and upgrade public spaces and streets as public spaces to give dignity and priority to the pedestrian and public transport, to promote impromptu gathering and stimulate footfall in support of small businesses at the street scale	i.	Focus interventions on Knysna town CBD, the Masifunde and Hornlee neighbourhood centre, the Northern Corridor main road and Nekkie and future N2/ Industrial transit node in the short to medium term
		ii.	Ensure a high standard of urban design is applied to the streets and public spaces
		iii.	Establish partnerships to maintain these spaces
H3	The KMA's natural and built heritage is a resource that should be identified, understood and integrated into the planning and	i.	The PSDF Heritage and Scenic Resources Specialist study (2013) provides guidance in terms of responding to the spatial form and character of existing settlements. Development in a settlement (consolidation or growth) should take existing (and sometimes historic) structure and spatial form into consideration and build on this. The spatial form needs to be compact and respond to the settlement character, as well as the topography of the landscape

	design of new and renewed development	ii.	Development in rural areas should not undermine the authenticity of the rural landscape, the garden-like character which is the basis of the Garden Route tourism economy and heritage assets. Refer to Map 31 in Annexure 1
H4	Identify, preserve and manage built heritage in a manner that celebrates and interprets the relevance of heritage to current and future generations	i.	Manage heritage places and landscapes in accordance with the findings and recommendations of the Municipality's Heritage Studies, the designated Knysna CBD Urban Conservation Area and the PSDF Heritage and Scenic Resources Specialist study (2013).

I	Promote rural development that enhances the agricultural economy, its value chain into the broader economy and rural livelihoods as crucial to growing and balancing the urban-rural municipal space economy.		
	Forestry and agriculture play an important albeit not primary role in the KMA. They provides un- or low skilled employment opportunities and grow products for local and international markets and for beneficiation in the manufacturing sector. It provides and offers food security in close proximity to major settlements and is a base for tourism activities (Laskey, 2013)		
		Policy Guidelines	
I1	Safeguard the municipality's existing and potential farming and forestry areas as productive landscapes, primary economic assets and a food security resource, equal in value to urban land.	i.	Support efforts to strengthen and rejuvenate the agricultural and forestry economy and open up new livelihood and business opportunities based on the assets and resources of the region. Some of these resources include the forest, hops, fruit, livestock, flowers, honey bush and sustainable fynbos harvesting
		ii.	Manage rural land use in terms of the Western Cape Government's rural development guidelines and the Spatial Planning Categories (SPC) identified therein
		iii.	Conversion of irrigated, arable land is not supported.
		iv.	The further subdivision of smallholdings is not supported.
		v.	The subdivision of rural land should generally not be supported unless this is required to enable more equitable and affordable access to land for farmers that would otherwise not be able to afford to acquire land for farming.
		vi.	All properties greater than 3 hectares outside of existing smallholding areas are deemed as agricultural properties whose subdivision is subject to the Department of Agriculture's regulations, the Western Cape Government's Rural Development Guidelines, this Spatial Development Framework and desirability in terms of rural context and character
		vii.	Sustainable farming methods and disaster risk management measures must be implemented in order to protect important agricultural land, resources and employment that may be lost through flooding, water scarcity and wild fires.
I2	Promote sustainable agro-industry in Rheenendal and Karatara to support the creation of job opportunities for existing residents in these areas	i.	Rheenendal and Karatara are centrally located within the two most significant rural clusters of agricultural activity in the KMA. The development of Rheenendal and Karatara should be done with careful consideration to the ongoing viability of existing and surrounding agricultural activity. Agro-industry is understood to mean light industrial beneficiation of agricultural produce harvested in the vicinity.

I3	Services provided to rural settlements and hamlets should improve standards of living and promote social and economic inclusion in a sustainable and affordable manner. Expansion beyond meeting the needs of existing residents of these settlements is not supported.	i.	Enable security of tenure through township establishment for, and limited to, existing households and the supply of basic services in a manner that does not encourage growth of the settlement and encroachment into agricultural land or biodiversity areas
		ii.	Meet local convenience needs with basic and/or mobile social facilities for the local and surrounding rural communities.
		iii.	Where possible, explore new local economic drivers rooted in the rural agricultural economy and settlement purpose to sustain existing residents. Municipal investment should not promote the expansion of the settlement populations except where existing settlement populations are being consolidated to enhance access to jobs and services.
		iv.	Knysna Municipality, with the Garden Route District Municipality, should drive innovation in the provision of sustainable rural transport services that promote access to development opportunities for those living in remote rural settlements in the KMA through the development of its Local Integrated Transport Plan (LITP). The LITP should explore precedent and innovation in the use of technology to improve such services.
		v.	Where rural development programmes are initiated in the municipal area, the Municipality will support the use of existing settlements as the base from which to deliver basic services and facilities to rural communities, as opposed to developing new rural settlements.
		vi.	Investments that provide reliable and affordable virtual connectivity to media, services and opportunities for remote settlements should be promoted and prioritised by the public sector in its rural development agenda
		vii.	Whether the upgrading of the Swaneberg, Brackenhill, Middlerf and Springveld settlements is integrated into the human settlements delivery programme for the Municipality, with these settlements absorbing additional populations, must consider the following: • The capital and operating costs of infrastructure and social services provision and the affordability of this to the Municipality over the long term • The costs of public transport provision to ensure the population has frequent and affordable access to the economic opportunities in Knysna town and is not caught in a spatial poverty trap • The set back and growth management of the settlements to avoid the loss of landscape and undermining the economic value and further potential of the Garden Route tourism corridor along the N2. • The mitigation of fire risk associated with expanding informal and formal urban development in a vulnerable landscape

J		Share resources fairly: Ensure equitable service delivery	
		Policy Guidelines	
J1	The municipality has a basic service delivery obligation to the rural hamlets/ forestry settlements or <i>bosdorpies</i> .	i.	Plans for additional housing delivery in rural villages should give careful consideration to: - the existing jobs and potential for jobs to be available in the vicinity of these settlements, - what social facilities requirements might be triggered, - the remote location of the village, limited resources and the competing pressure for social facilities in the larger settlements serving larger populations, and - the sensitivity of the environment within which these settlements are located. Such plans must be subjected to financial impact modelling.
		ii.	The level of services provided and innovative infrastructure, ecologically friendly solutions that are affordable and sustainable for communities to maintain in these settlements must be considered ensure equitable allocation of limited public resources where it is unlikely ongoing servicing costs will be recouped.
J2	Formal/ informal second dwelling accommodation should be legitimised as a form of densification and means of responding to housing demand	i.	A transition plan should be developed to formalise formal and informal yard accommodation as second dwellings with adequate access to services. This should be coordinated with the prioritisation and resourcing of bulk utility and social infrastructure provision, upgrading and maintenance.
		ii.	As of right second dwellings (existing and future) should be planned for in the layout and infrastructure specifications for new low income housing developments where possible.
		iii.	By-laws and any other regulatory constraints should be reviewed to remove contradictions, reduce the barriers and costs to developing suitable second dwellings.
J3	Private sector-led proposals for lateral urban growth of the Knysna town area or new remote / isolated settlement of an urban or suburban nature must be reviewed in terms of a framework that assures the Municipality of no short or long term impact on its sustainability, from a capital and operating perspective	i.	Any development that proposes to create a new sub/urban footprint in the municipal area must be assessed in terms of the Urban Growth Proposals Assessment Framework presented in Annexure 3. This Framework seeks to ensure that such an assessment process adequately engages with the viability, performance and sustainability concerns from the perspective of the overall public good.
		ii.	Where economic activity is within a reasonable commuting distance from the urban centres of the KMA, it is preferred that settlement takes place within the urban centres to achieve economies of scale and efficiencies. This is also important to ensure that workers have choice of work opportunities based on where they reside and they are not trapped by virtue of where they reside and the transport options available.

4.4.2.4 *Decision-making tools*

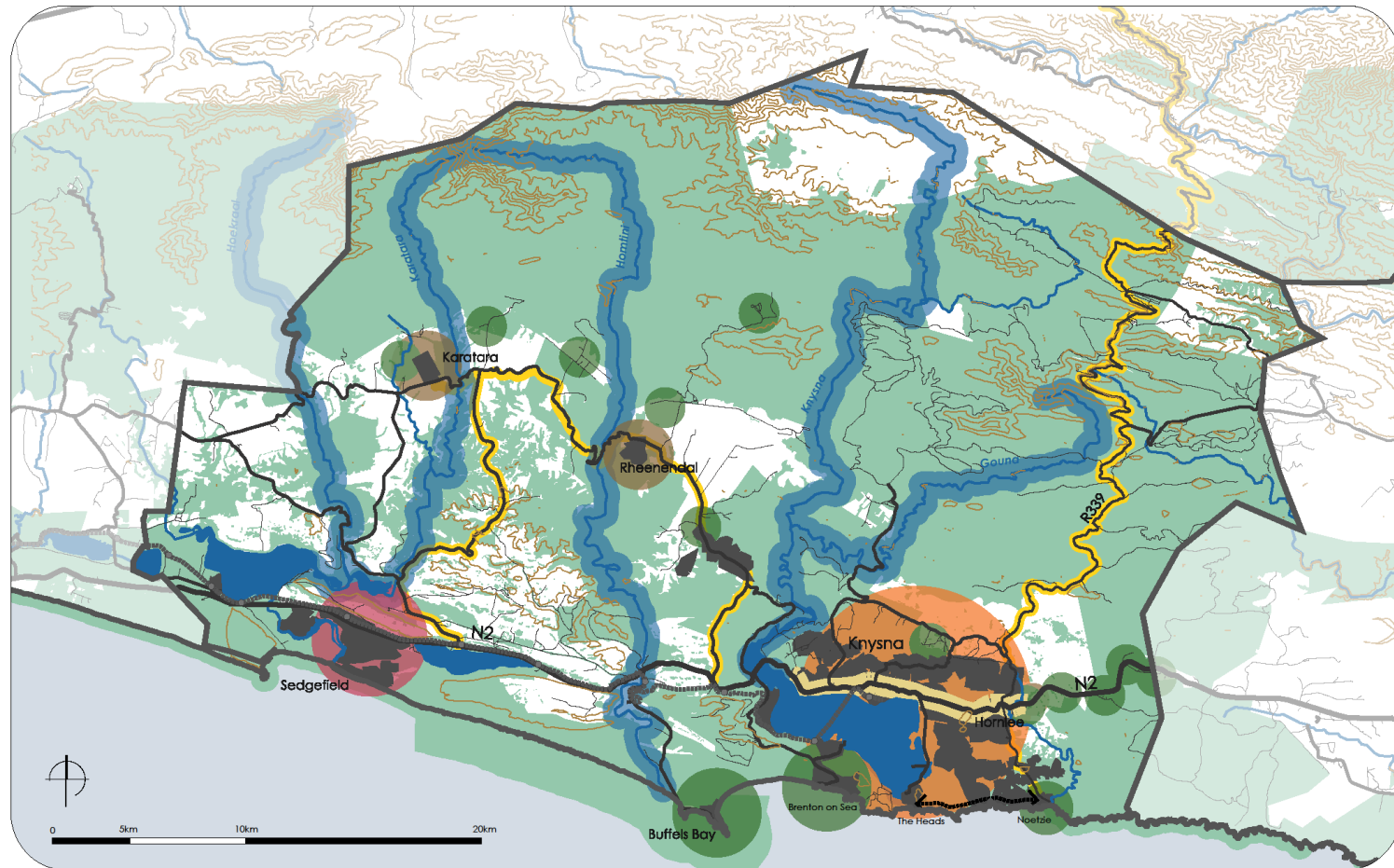
- Knysna Town's Urban Conservation Area Guidelines
- Knysna Lower Central Enhancement Study (2007)
- Sedgefield CBD Enhancement Project: Sedgefield Main Road Urban Design Guidelines (2007)
- The National Treasury will soon publish a Good Design Guide to support higher quality design in urban areas
- The CSIR offer a social facility provision toolkit:

<https://www.socialfacilityprovisiontoolkit.co.za>

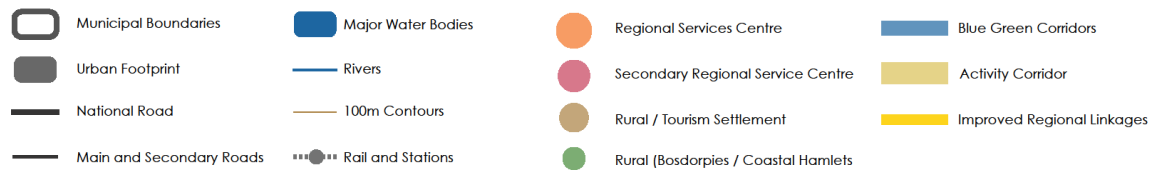
3.4.2.5 *How will we measure our success?*

Indicators to be identified to be used to ascertain whether Knysna is making progress towards this objective, will be identified on the basis of the finalisation and acceptance of this MSDF.

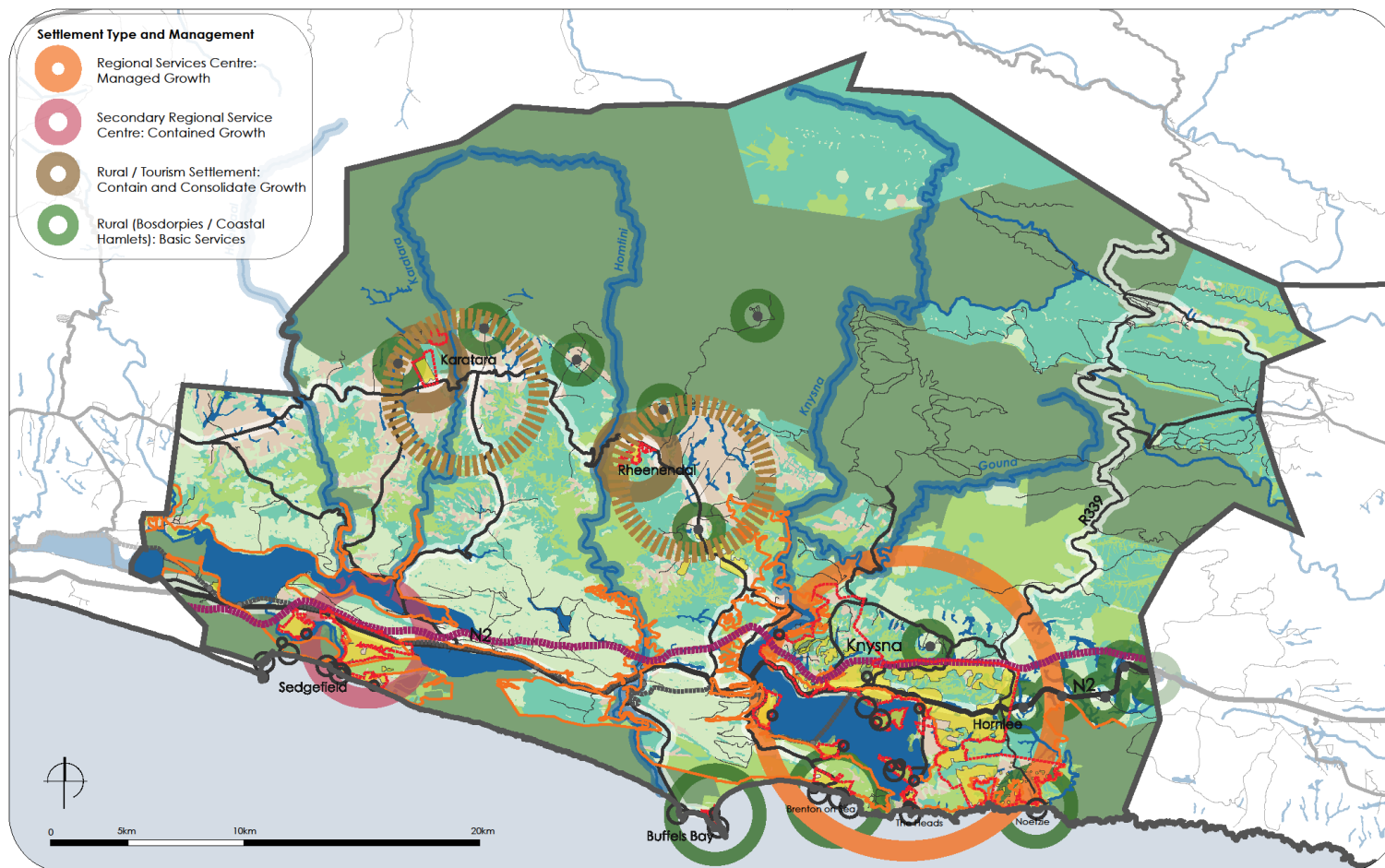
3.5 Composite Knysna Municipal Spatial Development Framework



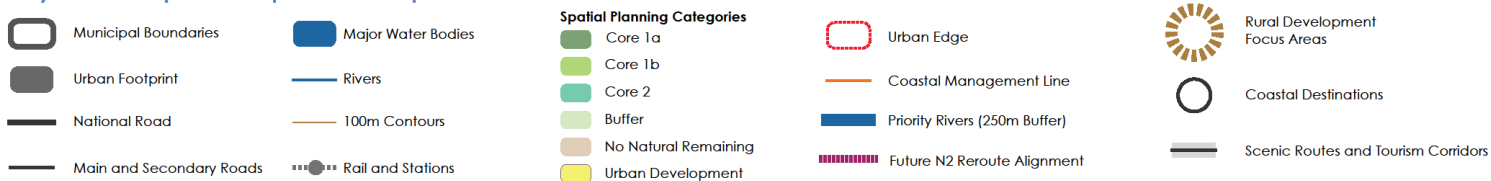
Knysna Municipal Area Concept



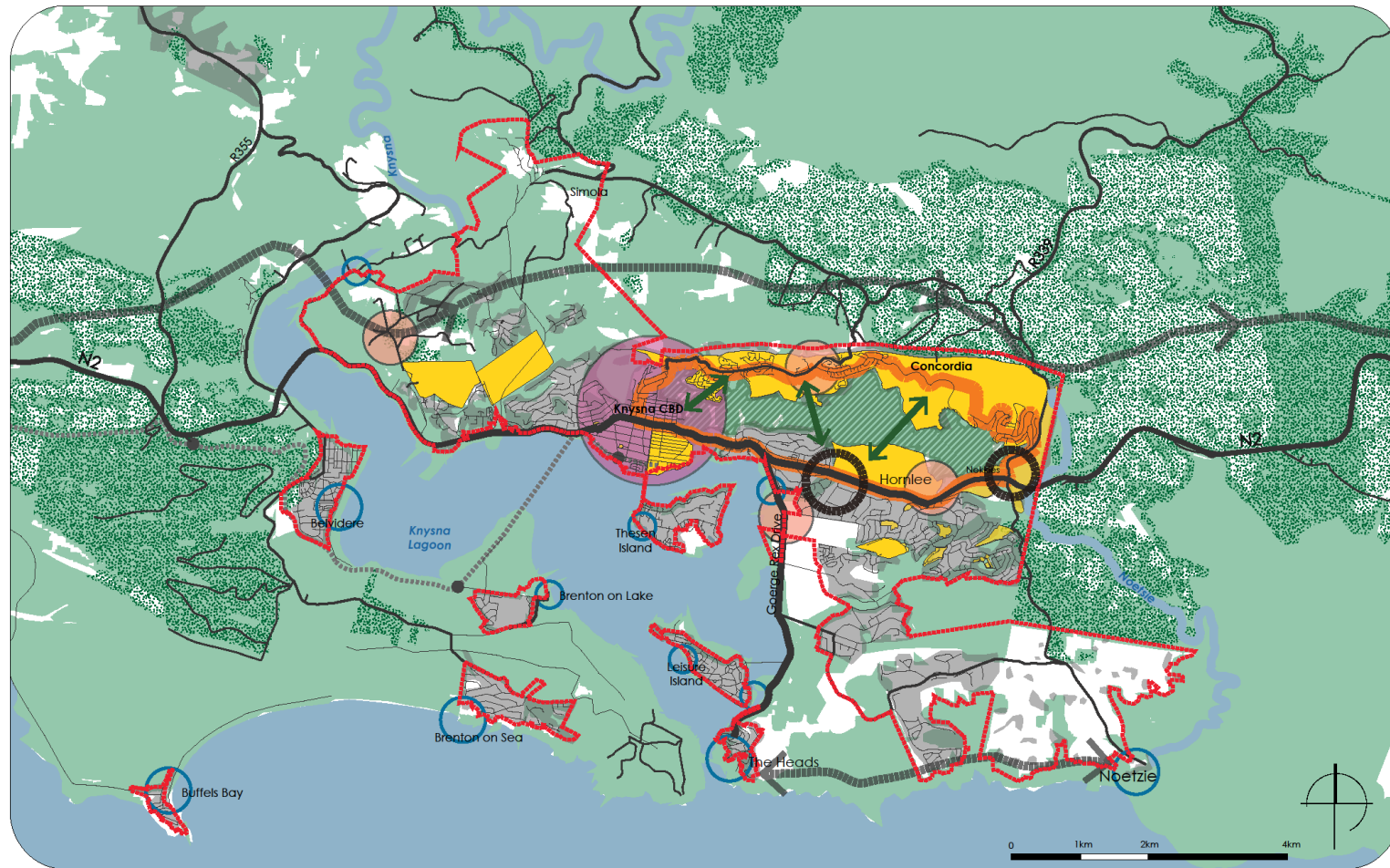
Map 18: Knysna Municipal Area Spatial Concept



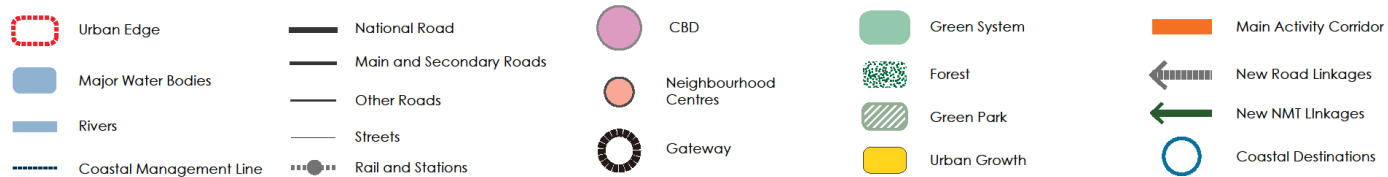
Knysna Municipal Area Spatial Development Framework



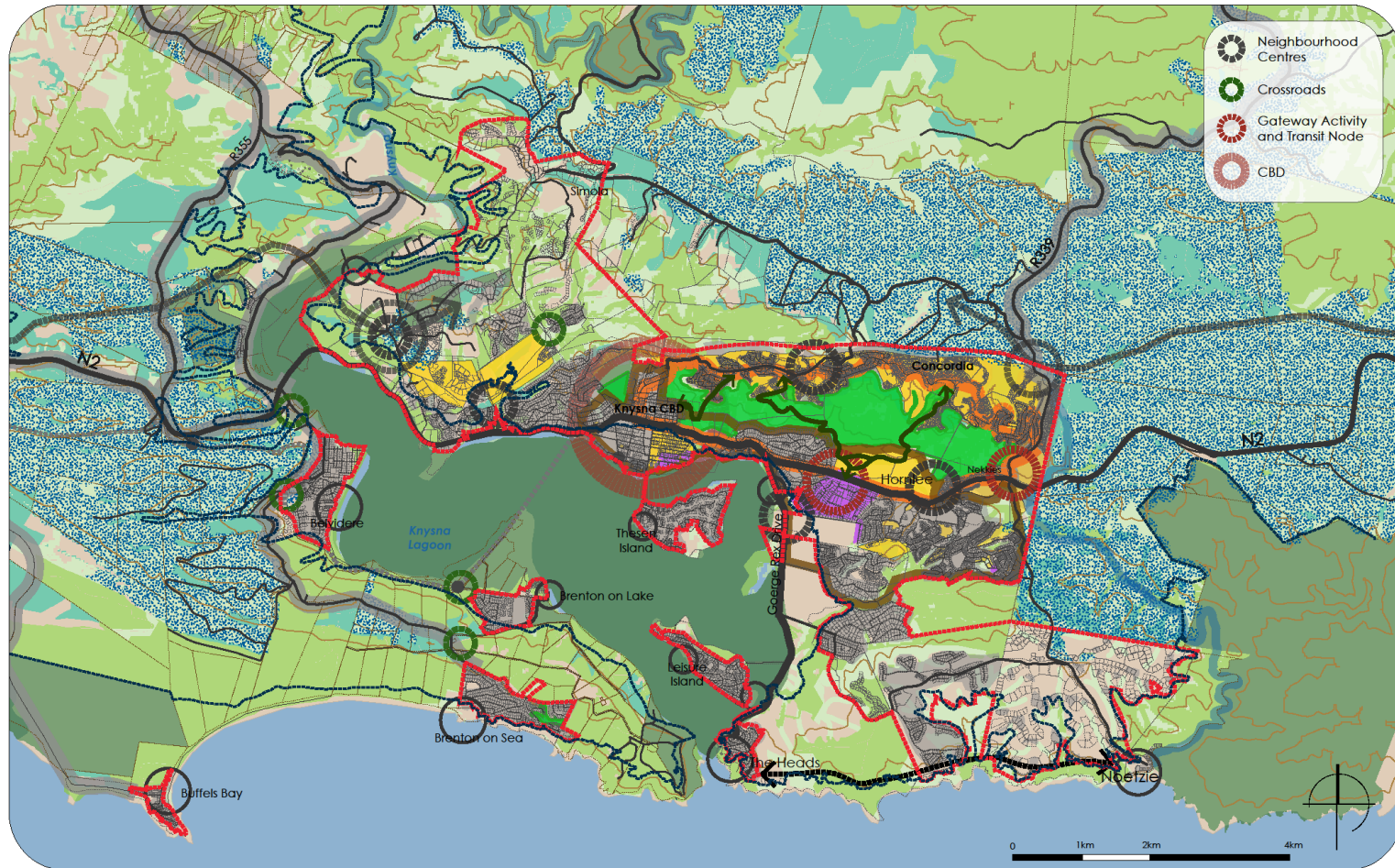
Map 19: Knysna Municipal Area Spatial Development Framework



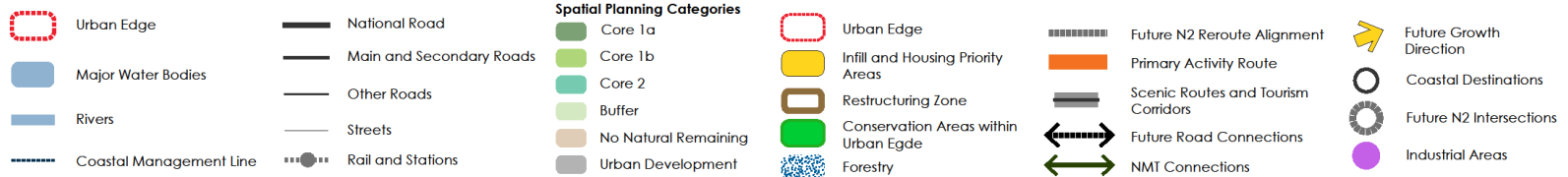
Knysna Town Concept



Map 20: Knysna town Spatial Concept



Knysna Town Spatial Development Framework



Map 21: Knysna town Spatial Development Framework

4 Implementation Framework

4.1 Implementation Requirements

SPLUMA requires that MSDF's include an Implementation Framework that contains the following:

- i. Sectoral requirements, including budgets and resources for implementation
- ii. Necessary amendments to the Municipal Zoning Scheme By-Law
- iii. Specification of institutional arrangements necessary for implementation
- iv. Specification of implementation targets, including dates and monitoring indicators; and
- v. Specification where necessary, of any arrangements for partnerships in the implementation process.

DRD&LR's SDF Guidelines also identify the need for MSDF's to identify further policies and guidelines needed to implement the MSDF.

Implementation actions have been identified in a separate document along with responsible lead departments, whether budget will be needed and prioritisation across the short, medium and long term.

4.1.1 Institutional Requirements

The MSDF is a transversal planning instrument – impacting on most, if not all, of the Knysna Municipality's Departments as well as the other spheres of government and state-owned entities. Institutional alignment is essential to implementing the MSDF.

- The main argument and strategies of the MSDF must be incorporated into Annual Reports, annual IDP Reviews, future municipal IDPs.
- Any review of the MSDF must form part of the IDP review process (refer to 6.3 *SDF Review Timeframes* for guidance on the scope of this annual review).
- The main vision, strategies, proposals and policies of the MSDF must inform sector planning and resource allocation (refer to 4.1.2 *Sector Plan Alignment* for more detail). In particular, the Municipality's Human Settlement Plan and Comprehensive Integrated Transport Plan must be led by and aligned to the vision, strategies, proposals and policies set out in the MSDF.
- The vision, strategies, proposals and policies of the MSDF must inform land use management decision-making.
- National and provincial plans, programmes and actions; such as through User Asset Management Plans (in particular for the Health and Education sectors) and Comprehensive Asset Management Plans related to national and provincial assets and facilities, must be guided by the MSDF as they pertain to the KMA. In particular the development pipelines articulated in the MSDF should be considered in the User Asset Management Plans in terms of adequate social facility provision.

4.1.2 Sector Plan Alignment

The MSDF is a long term, transversal planning and coordination tool and a spatial expression of the Knysna Municipality's IDP. While existing Sector Plans give context to the formulation of the MSDF, strategically and spatially, the Sector Plans should be led by the MSDF. To this end, with the adoption of this MSDF for the Knysna Municipality, when the Municipality's Sector Plans are reviewed, the MSDF must be a key consideration or framework for such a review. This is important to ensure alignment and for the sector plans to realise their full potential as implementation tools of the MSDF. Table 9 summarises the Knysna Municipality's sector plans, their status and implications of the MSDF for these plans. A

major issue for aligned planning is a shared understanding of population growth projections and projections of space needed to accommodate this growth. Various current studies, commissioned by the Municipality and its partners, reflect different numbers. A

corporate decision must be made on the most credible numbers which will be the basis for all planning in the Municipality.

SECTOR PLAN	STATUS	SDF IMPLICATIONS
Local Integrated Transport Plan for Knysna Municipality (LITP) (Eden District)	2016 Knysna to commission its own LITP	The LITP should be informed by the MSDF and facilitate the integration of transport planning with spatial planning and land use management. The LITP must reflect the MSDF and demonstrate how the transport planning will contribute to the desired spatial outcomes. For further detail on expectations of the LITP see section 5.1.2.1 below.
Human Settlements Plan	Draft	This plan needs to be finalised as an inter-governmental plan coordinating the Knysna Municipality, the Western Cape Department of Human Settlements and the Housing Development Agency. Verification of backlogs and confirmation of the pipeline is a key input into the review of the MSDF. Current programmes are supported by the MSDF; however, the MSDF makes strategic proposals that must be considered in the finalisation of the HSP. The MSDF's proposed considerations for the HSP are discussed further in section 5.1.2.2 below
Disaster Management Plan / Disaster Risk Assessment Update	2016	Informant to this MSDF. Requires update / review. This will be a key informant to the next iteration of the MSDF.
Climate Change Adaptation Plan (Eden District)	2014. To be reviewed.	An informant to the MSDF. The MSDF has sought to implement climate change adaptation measures in space in so far as this is appropriate to the purpose of the MSDF. An updated Climate Change Adaptation Plan for the KMA should be prepared. This should provide the baseline understanding of climate change impacts felt in the KMA and their implications, which should feed into all sector planning and the next iteration of the MSDF
Infrastructure Master Plans:		
Electricity	Under review	MSDF can inform demand, location and prioritisation
Roads	Must be drafted as part of LITP	A review of this Master Plan within the LITP should be done to ensure its alignment with the needs and prioritisation identified in the MSDF
Pavement Management System	2017	MSDF can inform prioritisation of rehabilitation
Storm water Master Plan for Knysna CBD	2015	MSDF can inform prioritisation of rehabilitation
Water Services Development Plan	2013	Update to be informed by the MSDF and its Capital Expenditure Framework
Integrated Waste Management Plan (Eden District)	2014	A review of this Master Plan will need to consider the growth projections provided in the MSDF, as well as the Human Settlement Plan's programmes particularly with regard to infill and densification. As well as needs determined in the Assessment of the Municipal Integrated Waste Management Infrastructure: Eden District Report

Table 9: Knysna Municipality Sector Plans and their implications for the MSDF

4.1.2.1 *Local Integrated Transport Plan*

The integration of spatial, land use and transport planning is a key lever identified in the IUDF to achieve spatial transformation.

Knysna Municipality will be commissioning its own updated Local Integrated Transport Plan (LITP) to support the spatial priorities adopted in this MSDF. The LITP must prioritise the infrastructure and operational requirements for public transport, non-motorised transport, freight and private cars, to achieve the objectives of the MSDF in the short, medium and long term. In addition to the minimum requirements for the preparation of a LITP, the LITP for Knysna should provide:

- a A more detailed and viable non-motorised transport network plan and implementation plan, including an obligation and specifications for pavement creation and improvement by private landowners to a consistent standard and landscaping language.
- b A high-level strategy for rural transport, based on the provisions, and experiences to date, of the rollout of the PPTIF and international innovations in rural public transport associated with on demand services and technology.
- c A review of the road classification to promote land use integration and alignment with the policies and policy guidelines set out in this MSDF. Consideration of a one way, complimentary system between the N2 and Waterfront Drive in the Knysna CBD.
- d A precinct level plan for the Knysna CBD, including a parking strategy. This plan should address the needs of commuters, business visitors and tourists, and deal specifically with peak holiday season demand. It should consider the future of the rail concession and movement within the CBD and review the taxi

rank functionality and location. It should propose a strategy for rationalisation of parking to promote:

- i. residential densification
 - ii. the use of public transport,
 - iii. walking, which in turn creates footfall which stimulates pavement businesses and enhances the safety of streets and public spaces,
 - iv. the efficient use of land,
 - v. a better quality urban form
 - vi. consolidated public parking facilities
 - vi. improved parking facilities for people with disabilities
 - vii. the removal of parking within the CBD on the N2 in favour of parkades accessed off side streets should be explored
- e Reviewed parking provisions and ratios for Restructuring Zone in terms of the Zoning Scheme By-Law. In doing so, provision should be made for parking to be provided collectively in a shared location as opposed to on a site by site basis
 - f The feasibility, enablement and regulation of technology-driven changes in the transport environment. These include on-demand services like Uber, electric vehicles, self-drive cars, etc.
 - g Establish the drivers of current travel behaviour, and perceptions through a user travel survey, particularly in respect of seasonal visitors.
 - h Explore options for season public transport typologies to popular local destinations.
 - i Further resolution of the alignment of the N2 bypass.
 - j Linkages to the N2 Bypass
 - k A prioritised, costed programme of public transport and NMT capital projects
 - l Resolution of the future plan for Welbedacht Lane.

4.1.2.2 Human Settlements Plan

Delivery of public sector housing opportunities is the primary driver of new residential development taking in place in the KMA and the demand will be grow into the future, by a substantial margin. The pipeline of land identified to date through the WCDHS and Knysna Municipality's programmes and the Southern Cape Corridor Development initiative with the HDA is supported in the MSDF.

Specifically, the Human Settlements Plan for Knysna must:

- Verify housing demand and segment this into affordability bands so that appropriate strategies for housing supply across a spectrum of tenure options can be developed to respond to real need; including, for the GAP market and non-qualifiers. A rigorous verification of the waiting lists/ backlogs (both in terms of informal settlement, back yarding and overcrowding) and the profile of households on the waiting list matched with an appropriate product (i.e. accurately match demand and supply) is critical. It is unsustainable to drive an expansive one house, one plot housing programme on the basis of unverified numbers.
- Undertake a vacant and under-utilised land audit for the Knysna town area.
- Prioritise, package and release well located public land for development of mixed income and mixed use land development;
- Review and plan for/ confirm the future approach to the 'bosdorpies' with particular reference to Middelerf, Springfield and Swaneberg.
- Assess projects for their long term fiscal impact on households and the municipality;
- Confirm the availability of external and municipal funds required to service the housing units developed;
- Identify and match human settlement needs of rural settlers with programmes and tools available from the government role players in the rural sector (i.e. Department of Rural

Development and Land Reform, National and Provincial Departments of Agriculture, Department of Energy)

4.1.3 Local Area Planning Priorities

Four areas are suggested as priorities for more detailed local planning in this MSDF:

- A growth management plan for Sedgefield
- An integrated spatial development framework/ transport and parking plan for the Knysna CBD which should address in detail the spatial challenges such as the location/structure of the taxi rank and holding facilities, the future development of the railway precinct linked to the railway concession, under-utilised, valuable land and location and urban design guidelines for densification in the CBD including streetscape improvements, etc. This should flesh out in more specificity what the Local Integrated Transport Plan cannot do for the Knysna CBD area.
- Local Densification Plans for priority neighbourhoods. In this regard the Welbedacht/ Eastford Downs area should be a priority for local area planning. Traffic and engineering studies on the future of Welbedacht Lane and its integration into the network to enable greater carrying capacity are a key requirement to inform this local planning. The location of these properties in close proximity to the river is also a concern that should be addressed in the planning to protect the river corridor from encroachment and pollution. This more detailed local planning exercise may also review the urban edge in this area for further consideration in an MSDF amendment. The land use implications of a possible intersection between the existing N2 and N2 bypass in this area in the future should also be considered in detail.
- A local sustainable development plan for the Western Heads area to support the realisation of sustainable development opportunities for landowners within a conservation vision that achieves the desired conservation outcomes required of this area which hosts significant

critical biodiversity assets and is identified for conservation estate expansion. This plan should include consideration of incentives for the benefit of landowners that conserve the integrity of their landholdings as a functional part of the ecological system.

- A precinct plan for the development of the site and future neighbourhood centre at the Vigilance Drive/ George Rex intersection.

It should be noted that the Municipality's capacity – human and financial – is limited to undertake these local area planning exercises. Partnerships should be sought to undertake such exercises that removes any sole reliance on the Municipality to be the driver of the process. It is critical however that the purpose, terms of reference, methodology, stakeholder engagement and reporting processes followed to undertake these planning processes should be formally approved upfront by the Municipality. Partners include SANPARKS, voluntary organisations, resident associations; etc.

4.1.4 Urban Area

The Knysna Municipality, the Department of Environmental Affairs and Development Planning of the Western Cape Government and the SANPARKS are working to define an acceptable urban area in this MSDF in terms of the National Environmental Management Act, 1998 (Act 107 of 1998). This urban area will be adopted by the competent authority (as defined in NEMA) in accordance with the Environmental Impact Assessment Regulations Listing Notices of 2014 (GN No. R.983, R.984 & R.985 of 4 December 2014, as amended). These listing notices exempt certain listed activities as triggers for environmental impact assessments where they are to take place within the urban area or change the thresholds that trigger an EIA.

In doing this, the basis is put in place for further streamlining of the appropriate application of NEMA within this area. The intention is

to remove an unnecessary administrative burden where the proposed activity is unlikely to have a significant detrimental impact on a receiving environment that is not sensitive; and to incentivise and expedite desirable, compact development. A key focus is to safeguard water bodies and courses, natural areas and critical biodiversity areas.

4.2 Capital Investment Framework

The MSA requires Spatial Development Frameworks to include a Capital Investment Framework encompassing the whole of government, intended to coordinate investment.

Spatial categories for investment planning are presented to guide the investment approach.

Reflecting on planned investments in the Medium Term Expenditure Framework of the Western Cape Government and the Knysna Municipality; generally, investments are chasing backlogs – investing in infrastructure in areas of need and prior disadvantage. Bulk infrastructure investments are also creating additional capacity in terms of water supply and waste water treatment. Within the existing affordability envelope, what investments are being made, are supportive of one another.

Investment's by other spheres of government, in particular the Western Cape Government, are largely limited to education and health services, and importantly, as discussed throughout this MSDF, human settlements development.

Municipal investments, aside from the improvement of gravel roads, are focussed on servicing the needs of Knysna town. In light of the predominance of the Knysna town's economy, service delivery, housing backlogs and population growth, this is the correct focus.

Public sector investment in Knysna will continue to largely be driven by the housing delivery programme. If designed and implemented properly, the catalytic potential of some of the projects such as the social rental housing infill projects and the Heidevallei project will have transformative impact, particularly on beneficiary households and improving inclusivity in Knysna town.

However, within the priority investment areas, investment in the integrated public realm, non-motorised transport and open space network, has significant transformative potential.

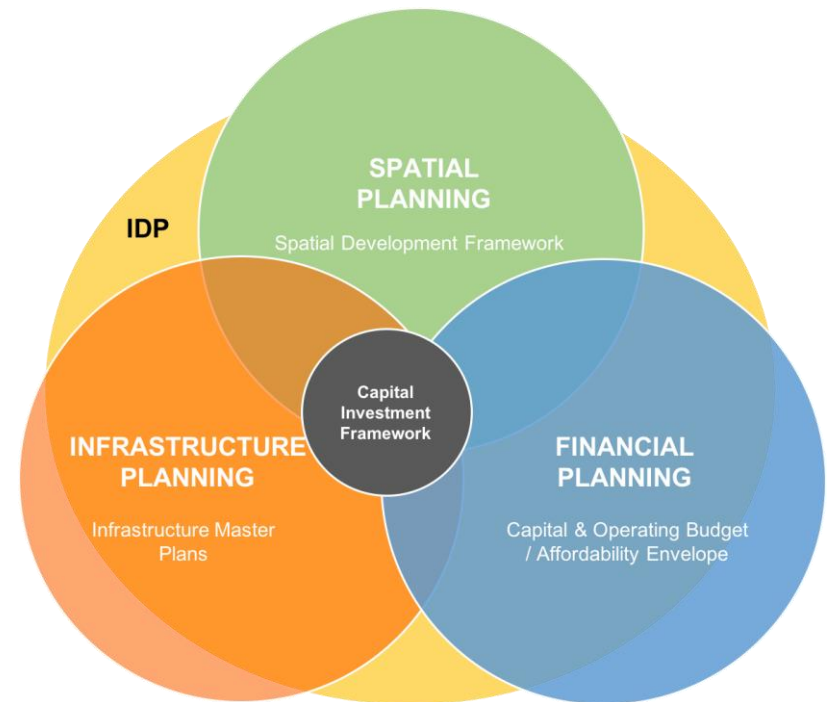


Figure 12: Planning inputs into Capital Investment / Expenditure Frameworks

The Capital Expenditure Framework for Knysna is illustrated in Map 22, Map 23 and Map 24.

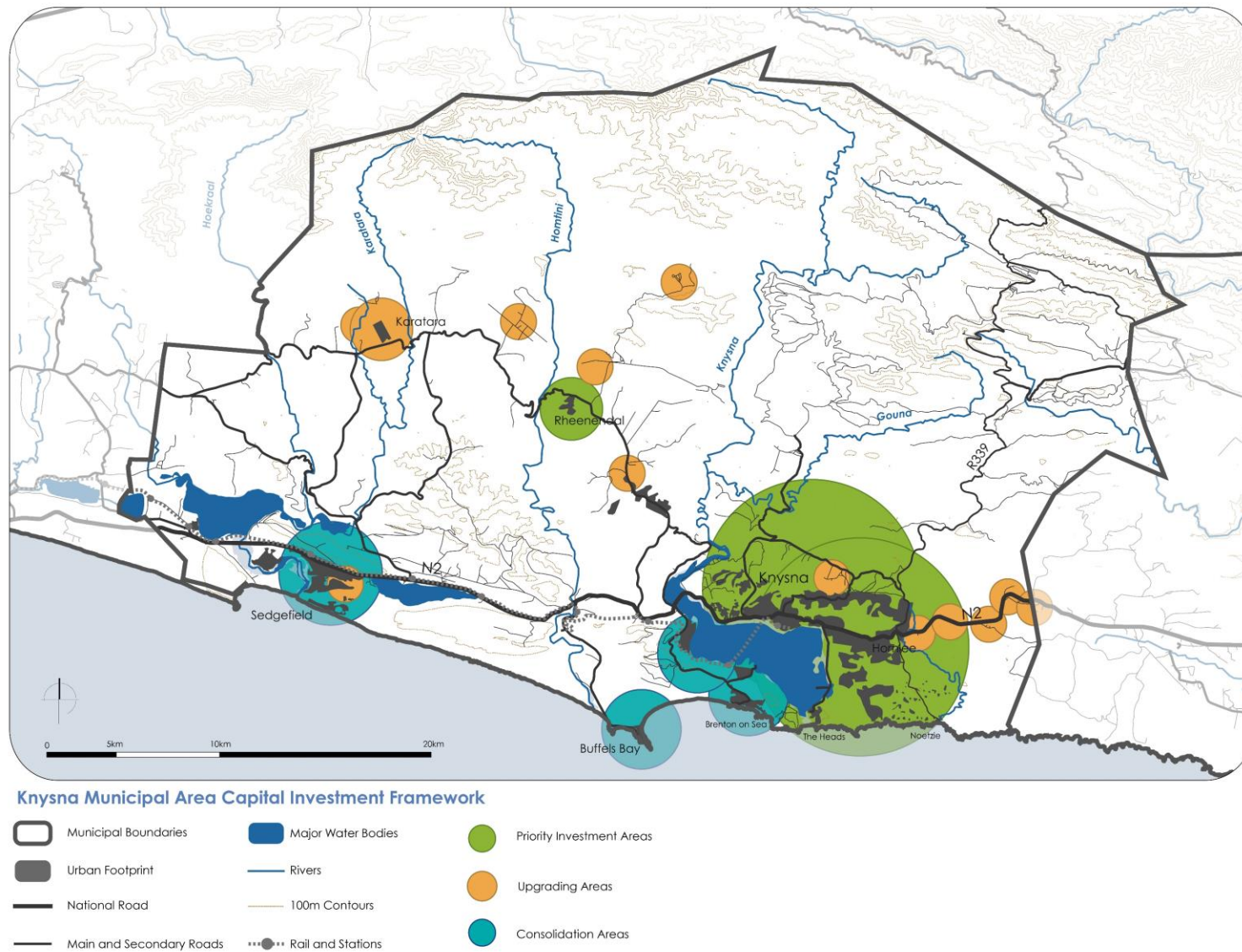
4.2.1 Spatial Categories for Investment Planning and Prioritisation

There are four spatial categories identified for guiding investment planning, presented at both the municipal-wide scale and Knysna town scale:

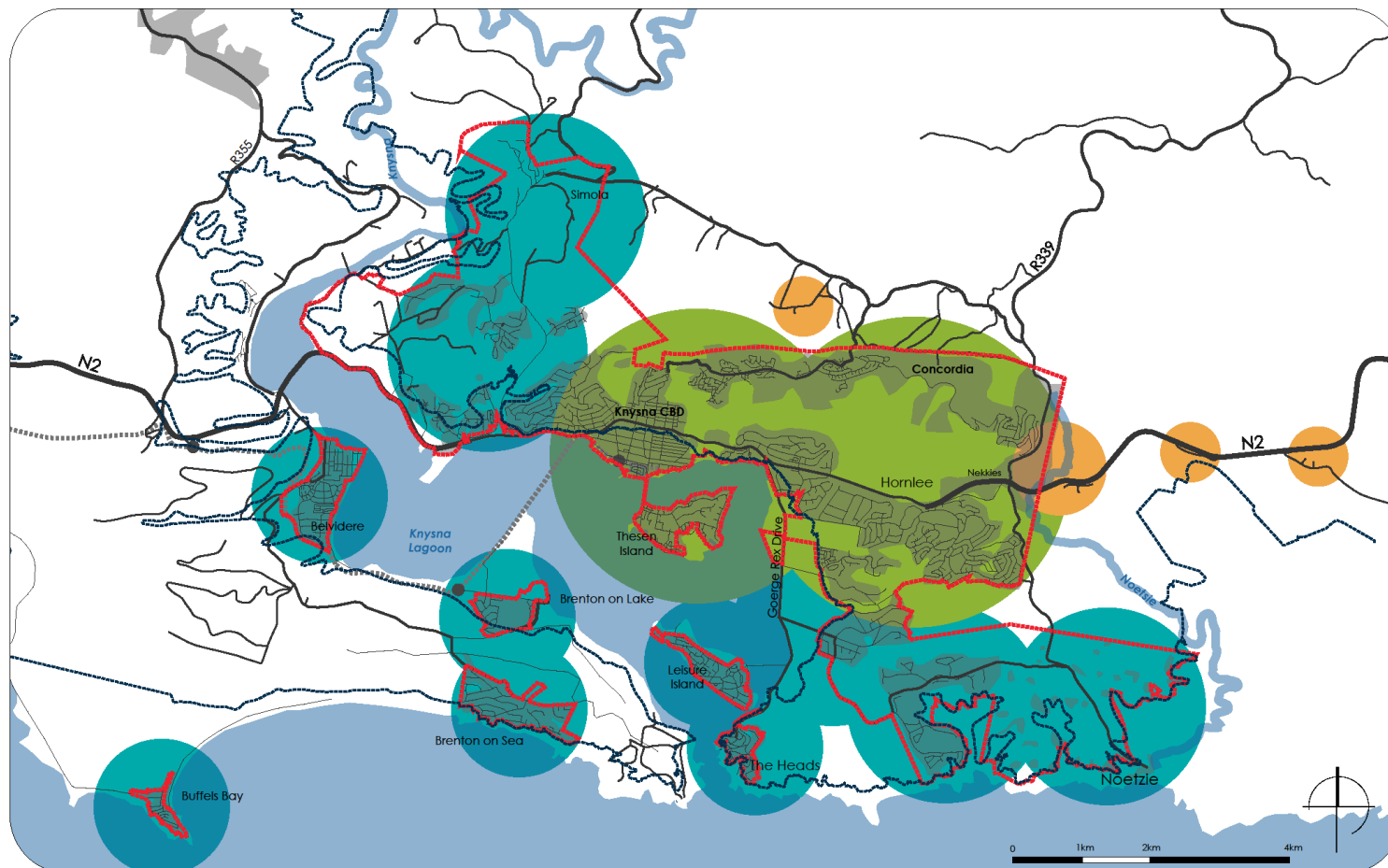
- i. **Priority Investment Areas:** These areas must be the focus for getting the basics right as well as adding value through new investment to facilitate social inclusion, attract economic activity and private sector and household investment. There is considerable scope for the absorption of residential, commercial and industrial growth within this zone. These areas and the priority nodes within Knysna town specifically should be the focus of any municipal investment incentives including expedited land use development procedures and/or relaxation of development controls or contributions linked to defined outcomes to be met by development proposals. High quality public space improvement and urban management programmes are needed to support the economic potential of these areas as well as the opportunity to be spaces for all of Knysna's citizens to come together.

In the case of Rheenendal the priority is to attract economic activities that support job creation and education initiatives that improve skills and job prospects.

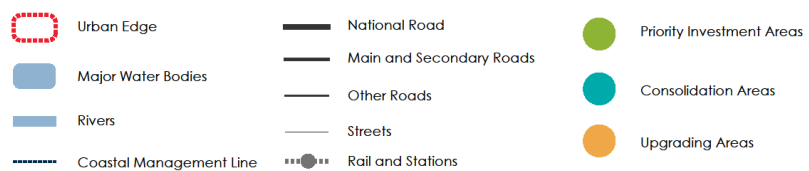
- ii. **Upgrading Areas:** These are areas primarily focussed on informal settlement and marginalised rural settlements that require upgrading and improvement to bring them to an acceptable standard of performance as residential settlements, and in the case of Rheenendal, as a local service centre.
- iii. **Consolidation Areas:** This area forms the balance of the municipal footprint. In these areas the focus is to ensure the provision and maintenance of services so that the area may perform well in its current function.
- iv. **Medium – Long Term Urban Growth Area (10 – 20 years):** This area is identified as the desired location medium to long term growth; namely, in the area to the east of Knysna Town along the N2 and to the north of the Northern Areas (inland from Concordia), with the Windheuwel site being a short to medium term area for expanded utility infrastructure. A local area development framework and fiscal impact assessment should be developed by the Municipality for these growth areas prior to the development of public and or privately led development proposals. These medium – to long term growth areas are considered to have the least impact on biodiversity assets and offer the best topographical and infrastructure network extension suitability. However this land is currently primarily forestry land and the future of the forestry industry and its requirement for this land will need to be determined. The disadvantage is the risk of perpetuating apartheid settlement patterns of class and race division. Development along the N2 will also need to carefully consider and minimise impact on the particular scenic, garden route quality of the N2 and its contribution to the particular quality of entering Knysna from the east. Careful attention will need to be paid to accessibility of households to Knysna town, given that they will predominantly be reliant on travelling by foot, and the layout, setbacks, design and landscaping of developments along this route.



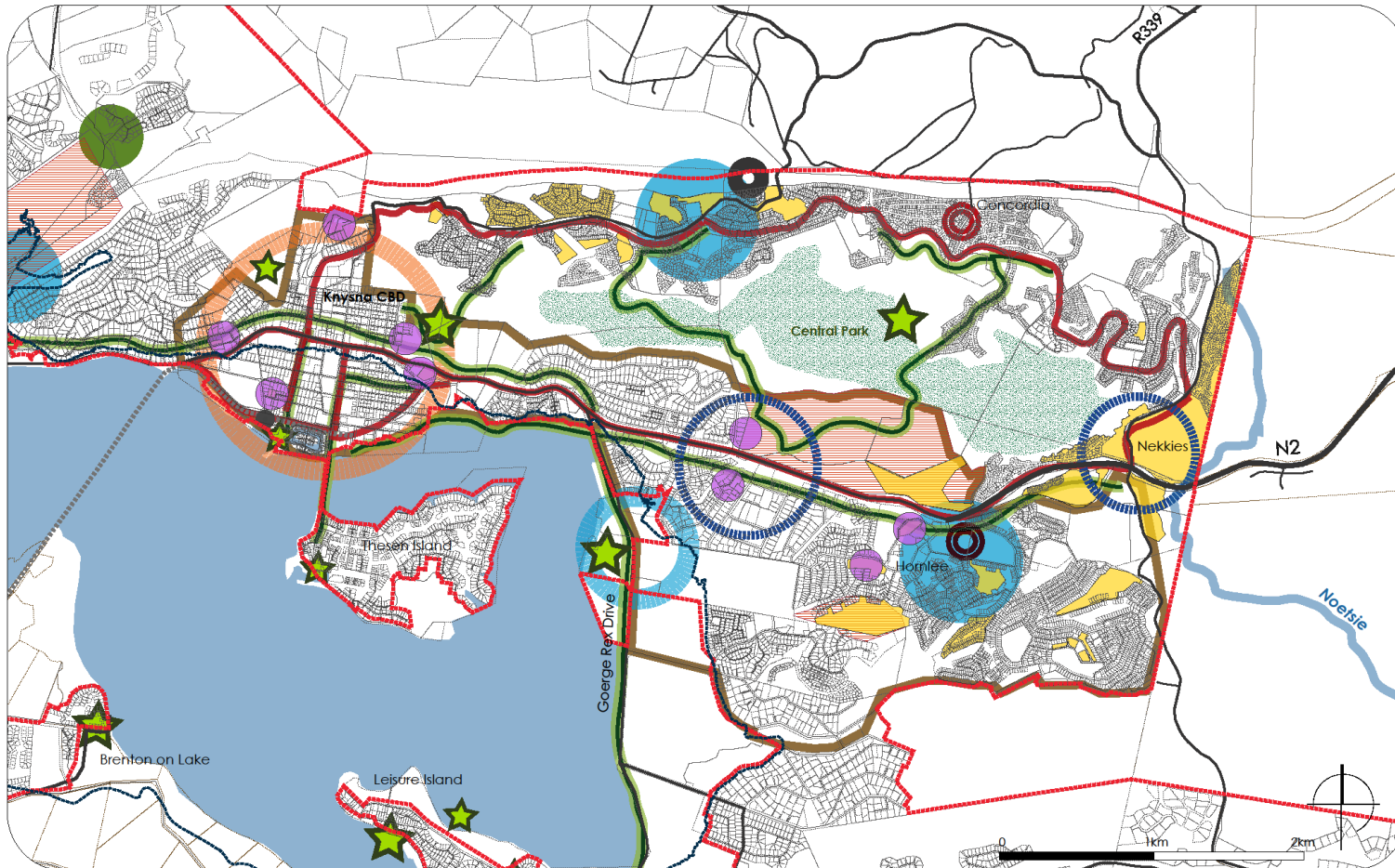
Map 22: Knysna Municipal Area Capital Investment Framework



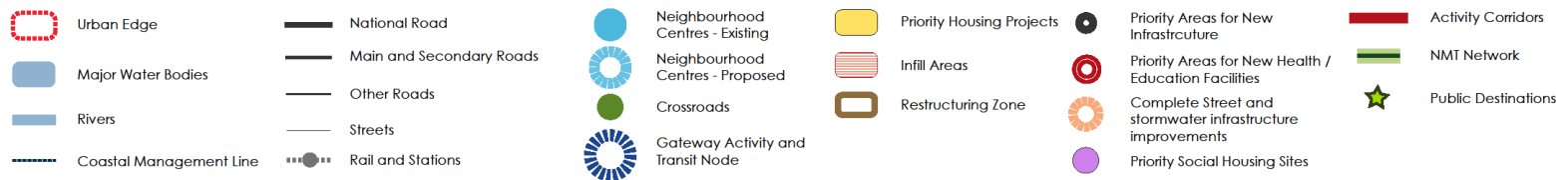
Knysna Town Capital Investment Framework



Map 23: Knysna Town Capital Investment Framework



Knysna Town Core Capital Investment Framework



Map 24: Knysna town core area Capital Investment Framework

4.2.2 Housing, Health and Education

The priority public sector projects associated with human settlement development, education and health facilities for the KMA are set out in Table 10 below, not all of which have allocated budget as yet. These projects are all aimed at meeting existing demand.

Area	Sector	Type of infrastructure	Current Project Stage	Budget	Number of opportunities	Implementation Period
Knysna town	Education	Concordia Primary School		R250,000		2018/19
	Education	Concordia Secondary School		R450,000		2018/19
	Education	Knysna Secondary School				
	Education	Ethembeni Day Care Hilda Stent Creche				
	Health	Knysna Forensic Pathology Laboratory		R2,000,000		2018/19 and onwards
	Health	Khayeletu Clinic Upgrade				2019/20
	Health	Hornlee Clinic Relocation and Expansion				TBC
	Human Settlement	Informal Settlement Upgrading (Top Structures): - Bloemfontein - Ethembeni - Happy Valley - Hlalani - Hornlee - Vision - White Location - Xolweni			158 200 120 165 359 476 150 220	

	Human Settlement	Informal Settlement Upgrading (Services): - Vision			1393	
	Human Settlement	Integrated Residential Project (Planning): - Heidevallei			1200	
Sedgefield	Health	Sedgefield Clinic Upgrade				
	Health	Sedgefield EMS Upgrade				
	Human Settlement	Informal Settlement Upgrading (Planning)			200	
Rheenendal	Education	Rheenendal Primary School		R200,000		2018/19
	Human Settlement	Integrated Residential Project (Planning)			322	
Karatara		Integrated Residential Project (Planning)			214	
Other						
	Disaster Risk Management			R5,000,000		2018/19

Table 10: Human Settlements, Health and Education Projects Planned for Knysna over the Medium Term Revenue and Expenditure Framework period

Health and Education investments are catching up with existing demand and demand emanating from human settlement projects.

4.2.3 Utilities: Water, Wastewater, Electricity and Waste

The Knysna Municipality's Long Term Financial Plan 2018 Update identifies a 10 year capital investment need of R7,353 million, but affordability for R1,236 million. The Capital Expenditure Framework estimates the 10 year capital need to be R2.69 billion considering the ambitious subsidised housing programme. This was based on a desktop analysis which would need to be reviewed based on updated sector master plans. An infrastructure condition assessment is underway which may also inform a review of these numbers.

Utility master planning in Knysna requires updating. Master planning is needed to inform long term Capital Expenditure Framework preparation, the annual process of preparing the mid-term budget for the Municipality and the use of development contributions. Typically, planned requirements exceed funds available and existing facilities require upgrading to maintain service standards and accommodate new growth.

Priority utility infrastructure investments over the Medium Term Revenue and Expenditure Framework (MTREF) period can be summarised as follows:

- a) Basic electricity services to informal settlements/ housing developments
- b) Upgrading of the Knysna Wastewater treatment works
- c) Upgrading to bulk water supply at Charlesford and in the north-east. (Knysna Municipality, 2018)

Increasing infill and densification or incentivising densification will involve ensuring that existing reticulation networks are maintained

and in undertaking the maintenance, upgrading is done to enhance capacity. Refurbishment of reticulation infrastructure is identified as a key challenge in the MTREF. This can be seen as a short term increased cost for long term efficiencies. This is also important from the perspective of retaining existing investment and growing off this base. As important is the risk of this infrastructure failing and the detrimental impact this will have and indeed is having on the Knysna Lagoon.

The Assessment of the Municipal Integrated Waste Management Infrastructure: Eden District Report developed by DEA&DP recommends that Knysna plans to budget for solid waste infrastructure investment to include: the rehabilitation of the Brenton-on-sea landfill, Knysna Garden Waste (Old place) and Sedgefield landfill (est. R 14 964 800); the operational compliance cost (est. R 1 788 100) for Brenton-on-sea landfill, Knysna Garden Waste (Old place) and Knysna Refuse Transfer Station; Integrated Infrastructure for Knysna Municipality to achieve 20% waste diversion with the development of a composting and crushing facility in Knysna and chipping facility in Brenton-on-Sea (est. 27 107 000).

4.2.4 Public Transport and Roads

The municipality's priority as shown in its budget is to surface gravel roads. Within the next three years, the Western Cape Government plan on investing in improving gravel roads and the Knysna Lagoon road.

Storm water infrastructure backlogs in the Knysna CBD – leading to surcharging and flooding – impacting on the condition of roads and pavements is an important area for focus of future investment.

4.3 Capital Expenditure Framework

SPLUMA requires that municipal spatial development frameworks “determine a capital expenditure framework for the municipality’s development programmes, depicted spatially” for the next 5 years. The intention is to more effectively link the municipality’s spatial development strategies to one of the primary means with which to implement these strategies, namely the municipality’s budget and the budgets of other government stakeholders.

Annexure 2 contains a detailed Capital Expenditure Framework (CEF) report supporting this MSDF.

The long term housing programme identified by the Housing Development Agency was used to estimate the services requirements for social expenditure to meet the needs of households earning less than R3,500 per month. This is an ambitious long term programme of infill development and development contiguous to urban periphery of the settlements in Knysna. The amount of money that it is affordable for the Municipality to spend over the next 10 years was determined by the Municipality’s Long Term Financial Plan (2018) and amounts to R1,236 billion. The total projected need is R2.69 billion, more than double what is considered affordable. 67% of this amount is to fund new growth. This estimated cost excluded the cost of the acquisition of land and the construction of top structures for housing projects which are assumed to be funded from outside of the Municipality’s budget. It is important that there is a clear strategy used to make decisions about what to fund and what not to fund, when tailoring the need to the budget available, especially considering much of the municipality’s social capital expenditure will not generate revenue with which to pay the operating costs of maintaining this infrastructure. For the same reason, it is important

that the municipality is careful to lead the decisions around spending of other government agencies and departments building human settlements in the municipal area. This is particularly important because the largest drivers of the required expenditure are electricity and roads. Roads maintenance is paid from rates revenue. The form and location of development can extend the operating burden or consolidate around existing networks that themselves already require maintenance. The Long Term Financial Plan is clear that existing ratepayers are reaching the affordability ceiling and cannot absorb further increases in property rates and tariffs. The municipality will need to source additional income from new economic growth and be careful to manage the growth of its operating and maintenance liabilities. This has implications for where the Municipality spends its budget vis-a-vis where there is potential for economic growth.

It is clear that a new dam is not affordable for the Municipality to construct and the national Department of Water and Sanitation will need engaged to fund this.

In the case of Knysna it is crucial that the choices around how to spend its capital budget pay close attention to the need for timeous renewal of infrastructure. The failure of infrastructure (waste water, storm-water and electricity in particular) will and does have a dire impact on the environmental systems in the municipal area and in turn on the economy. While the current Medium Term (three year) Revenue and Expenditure Framework Budget for the Municipality allocates approximately 27% of its budget to renewal of infrastructure which is above the benchmark – this is still R95 million short of actual need.

If backlogs and infrastructure renewal are prioritised, Knysna town, the rural areas and Sedgefield are priority areas for investment. If

subsidised housing is prioritised, spending would shift to Karatara, Rheenendal, Sedgefield and the coastal hamlets

The cost implications of more recent discussions to consider a number of *bosdorpies* strung along the N2 towards Plettenberg Bay as future locations for human settlement delivery have not been considered but are inevitably likely to increase the required capital budget significantly. An update to this CEF should be prepared to assist with decision-making in this regard to ensure that the capital and operating implications are fully understood and considered prior to any final decisions to transform these forestry settlements into suburbs of Knysna town.

A package of updated sector plans, prepared on the basis of the direction and growth projections provided in this MSDF should be prepared by the Municipality. These sector plans should then be integrated into an integrated infrastructure investment plan which would enable a more detailed and specific iteration of this Capital Expenditure Framework to be prepared.

5 Conclusion

The MSDF presented in this report gives spatial expression to the Knysna Municipality's service delivery and development agenda, and directs and guides development and management activities in the Municipality's urban and rural areas. It embraces the principles of SPLUMA and pursues the policy priorities of the IUDF, as well as other sectoral legislative and policy intent.

As a consequence of public and stakeholder participation in the drafting of this MSDF, this MSDF will represent a compact between the Knysna Municipality and those that live, work, play and govern in Knysna on how the development and growth of settlement in the KMA will be directed and managed. The vision, strategies and policies of this MSDF will be honoured in decision making associated with planning, resource allocation and implementation. This is the basis of good governance envisaged by SPLUMA.

This Knysna MSDF is adopted by Council in terms of SPLUMA, LUPA and the Knysna Municipality By-Law on Municipal Land Use Planning (2016). Accordingly, it has the full status of a Municipal Spatial Development Framework. It is also approved in terms of the Municipal Systems Act as a part of the Knysna Municipality's Integrated Development Plan.

5.1 Outstanding Information

The National Department of Agriculture, Forestry and Fisheries (DAFF) (Land Use and Soil Management) responsible for the Subdivision of Agricultural Land Act, no 70 of 1970 has embarked on a process of demarcating / updating the areas within all municipalities of the Western Cape not subject to the provisions of this Act. At the same time, the Department is developing norms and demarcating areas of "agricultural significance" worth preserving for agriculture in future, which will then be deemed as such by the proposed "new" Act 70 or the Preservation and Development of Agricultural Land Act underway. This will aim to direct development

proposals from an agricultural perspective if on agricultural land. When this new information is available, the extent to which revisions are needed to the MSDF will need to be ascertained and incorporated into the annual IDP Review process. The manner in which an urban edge is identified requires resolution between the municipality and DAFF, which, if resolved, may require an amendment to the MSDF linked to the annual IDP Review.

5.2 Monitoring and evaluation

TO BE COMPLETED SUBJECT TO THE ADOPTION OF THE PROPOSALS CONTAINED IN THIS DRAFT MSDF AND WITH REFERENCE TO INDICATOR DEVELOPMENT UNDERWAY FOR INTERMEDIATE CITIES BY COGTA

5.3 SDF Review Timeframes

The purpose of the MSDF is to provide a medium to long term vision and a set of strategies to attain this vision. SPLUMA requires that this is translated into an implementation framework that takes a 5 year view to inform the municipality's Integrated Development

Plan and Budget. As development, whether it be the public sector or the private sector, takes multiple years to be realised, it is not appropriate that the MSDF is substantially reviewed annually. The MSDF must encourage consistency and predictability in planning decisions in order to achieve the desired outcomes. Transformation of the built environment in particular is a long term process that requires determination and persistence.

Processes, including public participation processes, associated with the review of an MSDF are prescribed by SPLUMA, the MSA (and associated regulations), LUPA and the Knysna Municipality By-Law on Municipal Land Use Planning and any associated policies or regulations.

The Knysna MSDF will be reviewed on the following basis:

TIMEFRAME	NATURE OF REVIEW	PUBLIC PARTICIPATION PROCESS	SUBSTANCE OF THE REVIEW
When required	When required	IDP Public Participation Process	a) Major change to the IDP Strategies and Objectives that impacts on the Strategies and Policies of the MSDF
5 years	Limited Review	As prescribed by the legislation and regulations, coordinated with the IDP Public Participation Process	d) Alignment to new term of office IDP e) Update based on trends or shifts in the socio-economic, biophysical or built environments based on a defined set of key variables that indicate the nature of such trends f) Update based on updated master plans or to inform updates to master plans g) Supplementation/ update or adjustment to deal with changes in baseline information, legislation, policy
10 years	Full Re-write	As prescribed by the legislation and regulations, coordinated with the IDP Public Participation Process	

Table 11: MSDF Review Framework

An ongoing formal record will be maintained and made available of corrections or site-specific deviations granted by the Municipal Planning Tribunal. These will be incorporated into the five year review of the MSDF.

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Annexure 1:
Policy Context, Vision Directives and Status Quo
Report, December 2018

Annexure 2:

Capital Expenditure Framework

Annexure 3:

Urban Growth Proposals Assessment Framework

In the context of the priorities identified in the Knysna 2017 – 2022 IDP and the Municipality's Long Term Financial Plan, any new private land development proposals would have to demonstrate that they not only pay for themselves from a long term operational perspective but also enhance Knysna's efficiency, make a nett contribution to the economy and ensure that land is used productively from a revenue generation perspective. A risk assessment should also be conducted, including a fire risk assessment along the wildland – urban interface. Any development that proposes to extend the urban footprint of Knysna city or create a new urban or suburban footprint in the municipal area should be deemed satisfactory in terms of these key sustainability concerns before an assessment of desirability can proceed.

It would not be responsible for the MSDF to speculate on opportunities for new settlement outside of a comprehensive assessment of what such settlement would bring to the table from a development perspective versus what the impacts, costs and risks would be and who would meet these short and long term (capital and operating) obligations and/or mitigate or manage impacts. It is not within the means of the process to prepare an MSDF that considers the full lifecycle implications of such development proposals to inform its recommendations and to subsequently apportion responsibility for the costs for such development in its Capital Expenditure Framework, that would then need to be reflected in the Knysna Municipality's Integrated Development Plan and in turn its budget, given that the MSDF is the spatial expression of the IDP. The normal land development and impact assessment procedures must deal with such proposals. Given that the MSDF should, with the IDP, drive the municipality's budget, and spatial form has a direct bearing on the municipality's

financial sustainability, an in principle decision on development in an MSDF cannot be separated from its financial implications.

At the same time, recognising that unforeseen economic prospects or opportunities and/ or new information may arise and a compelling case might be made for economic investment that is able to realise a net return on investment for Knysna as a whole, the MSDF does however provide the following framework for decision-makers who may wish to consider proposals for lateral urban growth of the Knysna town area or new remote/isolated settlement of an urban or suburban nature. The burden being on the proponent to provide sufficient evidence in respect of the conditions set out below and on the Municipality to ensure the objectivity of this evidence.

A. GENERAL CONSIDERATIONS

- a) Planning and development regulation in the rural areas of the Knysna Municipality will be governed by The Western Cape's Rural Development Guidelines of 2009 or any updates thereto.
- b) The Provincial PSDF principles and policies as they relate to improving the position of municipal financial sustainability through infill and appropriate densification and the need to prevent commercial decentralisation and the associated decline of central business areas are key policies to inform both municipal spatial frameworks and growth management.
- c) Where the urban edge has been delineated to protect natural resources (e.g. critical biodiversity / the coastlines) it should not be amended.
- d) Arguments regarding poor agricultural conditions will not be accepted as the basis for a review of the urban edge.
- e) Arguments regarding the availability of infrastructure will not be accepted as the basis for a review of the urban edge.

B. PERFORMANCE CONSIDERATIONS

Assessing the performance of proposed extensions to the urban footprint of Knysna town, Sedgefield or new remote, isolated settlements of an essentially urban or suburban nature such as agri-villages; eco-estates and other forms of lifestyle residential estates is important to adequately inform decision-makers in order that their decisions:

- a) Do not reinforce / exacerbate or continue segregated settlement patterns
- b) Do not reinforce / exacerbate or continue inefficient settlement patterns through non-contiguous or leapfrog development
- c) Do not trigger costly commuting distances (to work, education and health facilities, amenities and services) for people living or working in these settlements that would rely heavily on private motor vehicle use that would increase carbon emissions and incur prohibitively expensive costs for particularly the poor – effectively leading to economic exclusion or spatial poverty entrapment
- d) Do not trigger unaffordable capital and/or operating cost burdens on the public sector to provide requisite public facilities and/or services in these settlements or to provide the transport for scholars and patients to access facilities elsewhere
- e) Do not exacerbate the Municipality's risk and the associated disaster management costs associated with such risk in respect of securing life and property in the case of extreme events associated with *inter alia* fire, inundation / flooding, coastal erosion by virtue of their location and/or distance from emergency services
- f) Do not compromise the unique character of an area
- g) Do not compromise the rural economy and/or existing value adding land uses
- h) Do bring opportunity for the whole existing settlement to improve and prosper.
- i) Are not based on providing in a housing need alone (only) but comply with all the guidelines in this framework.

- j) Protect valuable view corridors, undeveloped ridge lines, heritage assets and existing vistas should not be compromised by any development proposal or cumulative impact of development proposals. The proportion of urban development up the slope of a prominent hill or mountain should not degrade its aesthetic/ visual value.
- k) Do realise tangible economic benefits for the municipality

C. VIABILITY CONSIDERATIONS.

Assessing the viability of proposed extensions to the urban footprint of the KMA and remote settlements of an essentially urban or suburban nature such as agri-villages; eco-estates and other forms of lifestyle residential estates is important to adequately inform decision-makers in order that their decisions:

- a) Safeguard the fiscal sustainability of the municipality – in the short term in terms of capital costs and in the long term in terms of operating costs – by ensuring that the development is self-funded in terms of bulk and link servicing requirements
- b) Ensure that there is no undue subsidisation of services to and in these areas on the part of the existing ratepayers of the Municipality and or the state where this is not going to address the legacy of spatial apartheid, the imperative of spatial justice and the needs of disadvantaged residents most in need of public assistance.
- c) Safeguard the long term sustainability of servicing these settlements to the extent that the public sector is responsible or might reasonably be found to be the default responsible party
- d) Demonstrate tangible social and economic benefits for the municipality and existing settlement residents, balancing the provision of live – work - play opportunities, and securing the financial sustainability of the existing settlement being extended.

D. EVIDENCE REQUIRED

Such development proposals must provide the Knysna Municipality with the following:

- a) Evidence as to why the proposed target market of the proposed development cannot be accommodated within the existing urban edge on existing vacant and under-utilised land
- b) Evidence that the development fulfil the needs and priorities identified in the IDP and does not draw attention and resources away from other priorities
- c) A clear assessment of the impact on bulk services, what bulk services would be required and when these would practically come into operation
- d) Evidence that there is no impact on existing capacity and future capacity being brought on stream by existing infrastructure investment programmes, given service delivery backlogs in the existing built footprint of the city and the need to maintain and upgrade existing infrastructure.
- e) Evidence that landowners and developers within the urban edge, who have acted in alignment with Council policy, with legitimate expectations of obtaining services from the Municipality will not be negatively affected.
- f) Assurance that the development funds the Public Transport Network infrastructure requirements to ensure that access to public transport modes is integrated with the planning and implementation of the development and offered from the outset of occupation of the development
- g) Adequate provision to ensure permanent employment generating activities are part of the development to minimise commuting costs, and that this is not limited to retail which has little local generative impact;
- h) Assurance that such economic land uses are operational from the outset of residential occupation of the development
- i) A signed written agreement committing the applicant (and its successors in title) to the planning, design, construction and full upfront financing of all bulk utility and public transport infrastructure external to the site, in addition to development contribution requirements
- j) Any changes to the terms and conditions of this agreement (including the
 - a. signatories) would need Council approval given the possibility that this would impact financially on the Knysna Municipality and as a result impact on its IDP;
- k) An assessment of the operational costs and any other 'hidden costs' of the proposed development to the Municipality and whether these will be retrieved in full by rates and tariff charges based on an understanding of the proportion of landowners within the development that will be liable for such charges and the proportion that will require subsidisation;
- l) Developer commitment to the construction and operation of the full extent of social facilities required by the development, including confirmation on the timing of construction and the period that the social facilities will be operated at the expense of the developer;
- m) Should the development be residential in nature, an inclusive approach must be followed that enables well planned on-site integration. Where state funding is required for housing, an agreement must be in place that specifies:
 - i. subsidies obtained for the development of housing will not be used to fund link infrastructure to market housing;
 - ii. the number of houses that will qualify for the housing subsidy, the number of houses to be built for the GAP market, the provisions made for the proposed subsidised units on the Municipality's Housing Plan, pipeline and three year capital budget; and the requisite infrastructure. The GAP market is defined as households earning more than R3,500 and less than R22,000.
 - iii. assumptions on subsidies (infrastructure, land and top structure) to be received from the Municipality

- and discounted development contributions should also be documented;
- iv. the agreed standard of services to be installed
- v. the maintenance agreement with respect to state-subsidised housing units which guarantees the infrastructure and associated services for a minimum of five years at the cost of the developer with performance indicators to ensure prompt service delivery.
- n) Should any green or 'off the grid' infrastructure be proposed – evidence that there is no risk of negative impact on environmental systems and services should there be a break in the functioning of these services
- o) Legal provision that the Municipality will not become obliged by default to service the development in the future should such off the grid systems fail to perform without due provision being made by the land owners to pay the full capital and operating costs of such services
- p) An assessment of fire risk along the wildland – urban interface must be done and satisfactory mitigation actions identified. Provisions for ongoing maintenance of such actions must be documented and it must be clear how these will be complied with in perpetuity.

E. TOOLS TO ASSIST WITH THE ASSESSMENT

Tools are available to assist the Municipality in these decision-making processes:

- a) The Cities Support Programme's Fiscal Impacts Tool:
This tool aims to assess the long term operating and capital costs of development to multiple actors. The tool provides a template that can be adapted to cost parameters specific to the Municipality. Importantly, it not only assesses the fiscal impact – the total life-cycle cost incurred by government – but also the financial impact on household budgets and environmental cost
- b) The CSIR have a geospatial assessment procedure for the calculation and mapping of fire risk along the wildland – fire interface.