Western Cape Government

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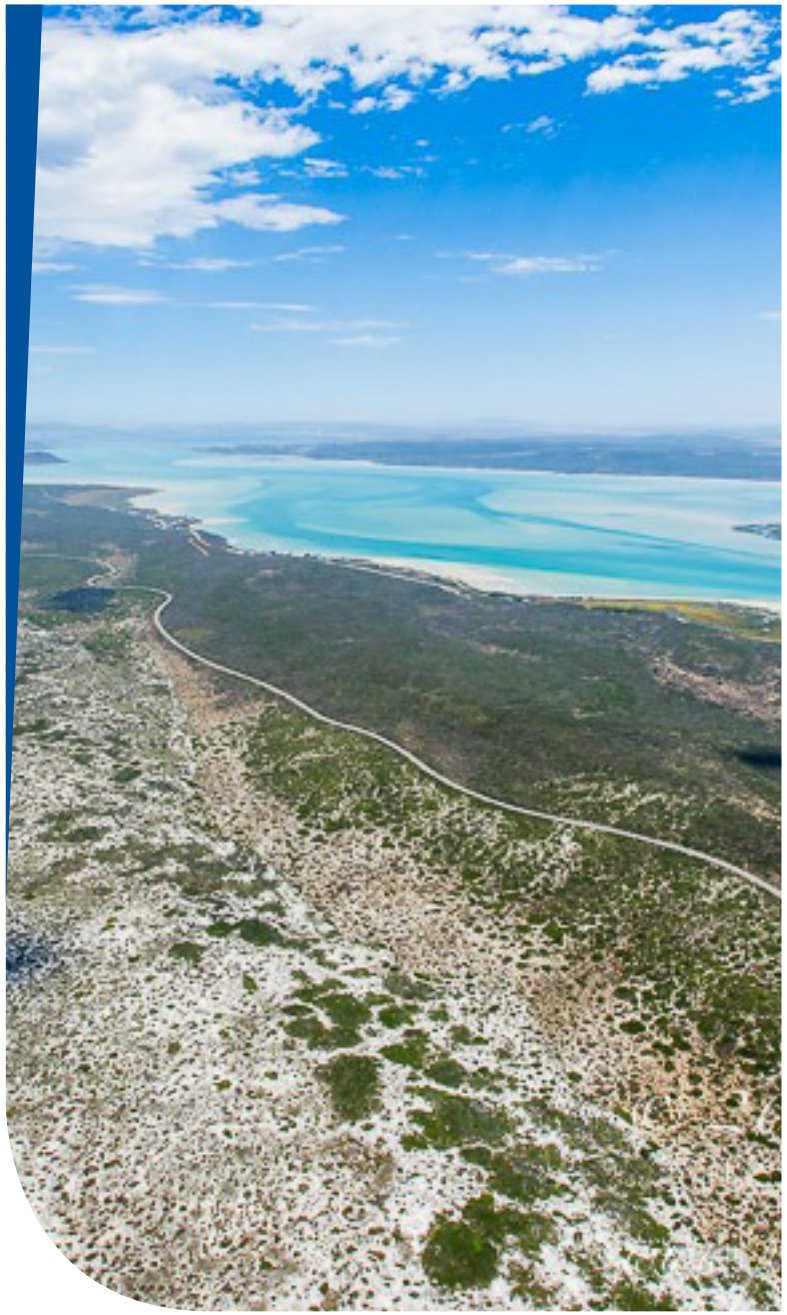

Greater Saldanha Regional Spatial Implementation Framework

Status Quo Assessment Report

September 2016

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Glossary of Terms & Abbreviations

APP -	Annual Performance Plan
BAU -	Business-As-Usual
BEPP -	Built Environment Performance Plan
CoCT -	City of Cape Town
CSIR -	Council for Scientific and Industrial Research
CTIA -	Cape Town International Airport
DAFF -	Department of Agriculture, Forestry and Fisheries
DEA&DP -	Department of Environmental Affairs and Development Planning
DCF -	District Coordination Forum
DCoG -	Department of Cooperative Governance
DoA -	Department of Agriculture
DPME -	Department of Planning, Monitoring and Evaluation
DoHS -	Department of Human Settlements
DoP -	Department of the Premier
DWA -	Department of Water Affairs
DWS -	Department of Water and Sanitation
EIA -	Environmental Impact Assessment
EPWP -	Expanded Public Works Programme
FFC -	Financial and Fiscal Commission
GCM -	Greater Cape Metro
GCMRSIF -	Greater Cape Metro Regional Implementation Framework
GCFR -	Greater Cape Functional Region
GDP -	Gross Domestic Produce
GDPR -	Gross Domestic Produce (Regional)
GHG -	Green House Gas
GPS -	Growth Potential of Towns Study
GSR -	Greater Saldanha Region
GSRSIF -	Greater Saldanha Regional Spatial Implementation Framework
HIA-	Heritage Impact Assessment
HWC -	Heritage Western Cape
ICMA -	Integrated Coastal Management Act
ICT -	Information and Communication Technology
IDP -	Integrated Development Plan
IDZ -	Industrial Development Zone
IPBF -	Intergovernmental Planning and Budgeting Forum
IPC -	Intergovernmental Planning Committee
IPTN -	Integrated Public Transport Network
IUDF -	Integrated Urban Development Framework
JPI -	Joint Planning Initiative
KNPS -	Koeberg Nuclear Power Station
KV -	Kilo Volts
LUPA -	Land Use Planning Act
MERO -	Municipal Economic Review and Outlook
MIG -	Municipal Infrastructure Grant
MinMay -	Ministers and Mayoral Committee
NEMA -	National Environmental Management Act
NHRA -	National Heritage Resources Act
NLTA -	National Land Transport Act
NMT -	Non-Motorised Transport
OECD -	Organisation for Economic Co-operation and Development
PAZ -	Precautionary Action Zone
PCF -	Premier's Coordinating Forum
PERO -	Provincial Economic Review and Outlook
PLTF -	Provincial Land and Transport Framework
PRASA -	Passenger Rail Agency of South Africa
PSDF -	Provincial Spatial Development Framework
PSG -	Provincial Strategic Goal
PRZ -	Provisional Restructuring Zone
RSDF -	Regional Spatial Development Framework
RSEP -	Regional Socio-Economic Programme
RSIF -	Regional Spatial Implementation Framework
SAHRA -	South African Heritage Resource Authority
SALGA -	South African Local Government Association
SANRAL -	South African Roads Agency Limited
SANBI -	South African National Biodiversity Institute
SAPS -	South African Police Services
SBIDZ -	Saldanha Bay Industrial Development Zone
SBM -	Saldanha Bay Municipality
SEA -	Strategic Environmental Assessment
SDF -	Spatial Development Framework
SDI -	Spatial Development Initiative
SIP -	Strategic Infrastructure Project
SMEs -	Small and Medium Enterprises
SPLUMA -	Spatial Planning and Land Use Management Act
SWOT -	Strengths Weaknesses Opportunities Constraints
TCT-	Transport for Cape Town
TNPA -	Transnet National Ports Authority
ToR -	Terms of Reference
VI -	Vulnerability Index
VPUU -	Violence Prevention through Urban Upgrading
WC -	Western Cape
WCG -	Western Cape Government
WCIF -	Western Cape Infrastructure Framework
WMA -	Water Management Area

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1. Introduction

1.1. Background

In March 2014, the Minister of Environmental Affairs and Development Planning approved the Western Cape Provincial Spatial Development Framework (PSDF). Building on the Western Cape Provincial Government's strategic development objectives, the PSDF sets out the Province's agenda for the sustainable development and management of its urban and rural areas. In so doing, it is intended to facilitate and guide an approach to spatial planning and land use management in the Western Cape that takes the Province on a development path towards:

- more inclusivity, productivity, competitiveness and opportunities in its urban and rural space-economies;
- better protection of its spatial assets (e.g. the Western Cape's unique scenic and cultural landscapes and townscapes);
- strengthened resilience of its natural and built environments; and
- improved effectiveness in spatial governance and on-the-ground delivery of public services, facilities and amenities.

Overall, it is intended that the above outcomes provide substance and impetus towards achieving the number one development priority of the Province: Growing The Economy.

In adopting a strategic view of the Provincial space economy, the PSDF identified three functional regions where significant development trends and/or development potentials were seen to exist. One of these identified functional regions is the emerging Greater Saldanha Regional Industrial Complex, with the Saldanha Bay/Vredenburg growth centre at its heart.

This Greater Saldanha Region (GSR) is noted as experiencing a wide range of developmental and environmental initiatives driven by an array of role-players. These initiatives, furthermore, are likely to be progressively realised in implementation programmes over an extended period of time. They are likely, too, to require a concerted effort to provide for crucial enabling and/or mitigating activities such as:

- significant enabling infrastructure development;
- related social development programmes and facilities development;
- management of human settlement needs and trends; and
- the need to manage pro-actively the full range of environmental aspects of whatever activities and land uses occur or are planned to occur.

1.2. Facilitating Development in the GSR: The Joint Planning Initiative Approach

Recognising that in order to work towards the ideal of sustainable and integrated service delivery and to deliver on the envisaged outcomes of the National Development Plan (NDP), the Western Cape Government (WCG) embarked on a Joint Planning Initiative (JPI) approach towards planning and implementation between itself and the municipalities in the province, in October 2014.

Amongst other aspects, the JPI resulted in the identification of a set of priorities agreed upon between the WCG and its municipalities that would feed through into the Provincial Strategic Plan (PSP) and departmental initiatives as well as Municipalities' Integrated Development Plans (IDP). This is intended to strengthen and promote the coordination of government plans and actions.

Within the overall conception of the JPI approach in the West Coast district, the Province initiated a study known as the West Coast Industrial Plan (WCIP) in 2015. The WCIP sought to identify all potential industrial development initiatives with an impact on infrastructure within the West Coast district and was originally intended to be undertaken as part of the Greater Saldanha Regional Spatial Implementation Framework (GSRSIF).

However, for logistical reasons, the pairing of the WCIP and GSRSIF did not occur. Moreover, the WCIP ultimately found that all the potential projects identifiable through its activities were located within the Saldanha Bay Municipality and most, in fact, centred on the Saldanha/Vredenburg growth centre. Thus the WCIP report notes that: *"The use of the term "West Coast Industrial Plan" or WCIP used in this report refers to significant industrial activities focussed around the town of Saldanha, and not to a general industrial analysis of the entire West Coast District municipal area."*

In order to consolidate the work completed as part of the WCIP, the GSRSIF is intended to serve as a further planning tool to extend the process of engagement with role-players and interested and affected parties (IAPs), and to set in place a framework to guide investment, spatial development and environmental management decisions within the GSR over a 15-year time frame. Ultimately, this is intended to facilitate the coordination of effort so as to make optimum use of available resources in creating the best chances for sustained – and sustainable – development in the GSR and surrounds.

1.3. Approval of the GSRSIF as a Provincial Regional SDF

The GSRSIF will be approved as a Provincial Regional Spatial Development Framework (PRSDF), as contemplated in the Western Cape Land Use Planning Act (LUPA, Act 3 of 2014). This will give the GSRSIF statutory status and will further strengthen efforts to align the developmental activities of the Province, municipalities and potentially other state and non-state agencies and actors. The purpose of a PRSDF is set out in Section 7(2) of LUPA as follows:-

a) provide a spatial vision that strives to balance economic, social and environmental considerations;

b) promote rational and predictable land use planning in the region;

c) facilitate the coordination, integration and alignment of provincial and municipal land use planning policy; and

d) address specific economic, social, natural or unique features.

Therefore, it is against this background that DEADP, in partnership with the municipalities in the West Coast district agreed to collaborate in preparing a RSIF for the broadly defined Greater Saldanha Region, with a specific focus on the Saldanha Bay/ Vredenburg development centre and the adjoining towns of the bordering municipalities.

Accordingly, in March 2016, following a procurement process and the adjudication of tender bids, DEADP contracted Gibb (Pty) Ltd, assisted by a team of specialists, to prepare the RSIF for the Greater Saldanha Region in terms of LUPA Section 7(1).

1.4. GSRSIF Terms of Reference

The project Terms of Reference (ToR) confirms that the GSRSIF is seen as one of the outcomes of the PSDF and is to be prepared and approved as a Provincial PRSDF. As such, it must comply with the requirements of Section 7 of LUPA, read with Section 4 of the same Act.

As previously noted, the GSRSIF is undertaken as one of the key outcomes of a JPI, and is directed to address the following extrapolated JPI priorities for the Greater Saldanha Region:

- Improving regional competiveness;
- Skills Development (education) linked to Job Creation (assimilating young people out of schools);
- Integrated Social Strategy: Co-ordination and building of social capital in all stakeholders through an appropriate structure (per municipality) supported by a Social Contract; and
- Infrastructure: Integrated Planning and Budgeting.

In addressing all the above, the ToR specifies that the GSRSIF should contain – at minimum – the following elements:

1. A vision for the integrated development of the functional region.
2. An assessment of the existing levels of development in the functional region.
3. An assessment of the challenges of provincial land use planning in relation to other provincial functional areas listed in Schedules 4 and 5 of the Constitution;
4. An assessment of Provincial priorities, objectives and strategies, dealing in particular with:
   - Compliance with land use planning principles as set out in LUPA;
   - Biodiversity, ecology, tourism, heritage and agricultural resources, socio-economic development, efficient use of resources and government infrastructure; and
   - Adaptation to climate change, mitigation of the impact of climate change, renewable energy production and energy conservation.
5. A review and update of the Greater Saldanha Area Environmental Management Framework that includes a Strategic Environmental Management Plan.
6. Proposals to unlock opportunities in the functional region's space-economy, including the identification of a list of catalytic governmental regional infrastructure projects by determining bulk infrastructure requirements for water, solid waste, energy, and transport over the next 15 years; taking into account existing Infrastructure Growth Plans (IGP) and the Industrial Project Inventory conducted by the DEDAT; also including three-year action plans to align and inform the MTEF.
7. An accessibility analysis for social infrastructure (i.e. education, health, libraries and sport facilities) for the West Coast District.
8. Proposals on the rationalisation and clustering of social services and facilities in order for government to deliver these services in an integrated and financial sustainable manner.
9. A determination of the viability of different public transport options, as well an investigation on the shift from road to rail for freight.
10. Proposals on settlement level strategies that align housing with transport, land-use, economic and large scale infrastructure decisions within a long term vision of a more integrated region.
11. Categories of land development that will require approval under section 53(1) of LUPA.
12. A description of the process followed in the drafting of the Regional Spatial Implementation Framework.

1.5. The GSRSIF Study Area

Based on the findings of the PSDF (2014) as well as other studies such as the Growth Potential Study of Towns (also 2014), it is understood that the so-called Greater Saldanha Region functions in a complex relationship to its hinterland and, most particularly, to the Greater Cape Metropolitan Functional Region. Therefore, it is accepted that the study area for the GSRSIF may be further refined in response to project outcomes during the course of the project. However, as of the project inception, the study area will be conceived of at two scales, as follows: -

1. The Primary Study Area will be comprised of the municipalities of Saldanha Bay and Swartland and will also include the southern portion of the Bergrivier Municipality. The inclusion of the southern portion of the Bergrivier jurisdiction into the study area is based partly on the fact that a portion of the area is included into the study area of the Greater Saldanha Environmental Management Framework (EMF) but also due to the role and impact that regional development may have on the main municipal towns.
2. The Secondary Study Area will be comprised of the balance of the West Coast District Municipality's area of jurisdiction.

The Study Area is illustrated in Figure 1.

NOTE: the GSRSIF and EMF studies have different study areas. Thus the planning components of the GSRSIF will address trends and dynamics in the broader functional area of the Saldanha Bay, Swartland and Bergrivier Municipalities, as illustrated, the work of the environmental component of the project remains focused on the specified study area of the current Draft Greater Saldanha Environmental Management Framework.

Figure 1. Greater Saldanha Regional Spatial Implementation Framework Study Area Delineations

1.6. Outputs of the GSRSIF

In order to achieve the project outcomes, the ToR requires that the Professional Team delivers the following outputs in indicated timeframes within an overall 21-month programme:

a) Inception Report (month 1)

b) Review and Update of the draft Greater Saldanha Bay Environmental Management Framework [EMF] (months 2 – 11)

c) Status Quo Assessment Report (months 2 – 4)

d) SWOT Analysis and Spatial Analysis (months 4 – 10)

e) Spatial Proposals (months 9 – 14)

f) Implementation Framework (months 14 – 16)

g) Final RSIF for GSR and Approval (months 17 – 21)

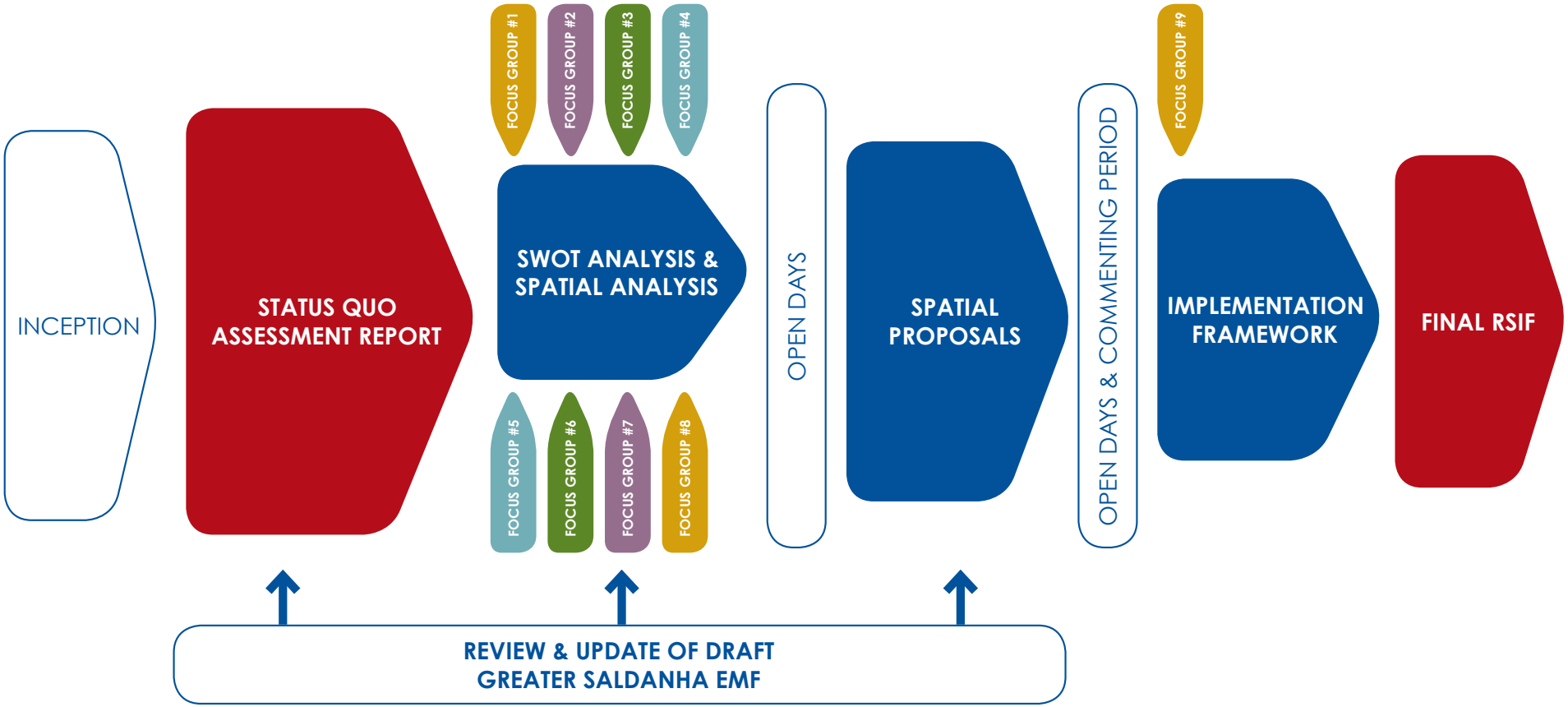


Diagram 1. GSRSIF Project Process and Deliverables

1.7. RSIF Legislative & Policy Context in Addition to the PSDF

1.7.1. Spatial Planning Legislation

The national Spatial Planning and Land Use Management Act (SPLUMA Act 16 of 2013)) and the provincial Land Use Planning Act (LUPA Act 3 of 2014) have introduced a three-sphere system of integrated planning at the national, provincial and local levels, as illustrated in Diagram 3. Towards sustainable development and improved service delivery, the system is aimed at facilitating intergovernmental priority setting and the spatial alignment and coordination of public investment.

In terms of LUPA Section 3, which sets out the functions of Provincial Government, the Provincial Minister may adopt, amend or review a provincial regional spatial development framework. In addition he/she must monitor provincial land use planning and how it is impacted on by the following matters:

- Disaster management
- Housing;
- Regional planning and development;
- Urban and rural development;
- Provincial tourism;
- Protection of biodiversity, heritage and agricultural resources;
- Main public facilities and services;
- Water and energy services;
- Adaptation to climate change and the mitigation of its impacts;
- Renewable energy production and energy conservation; and
- Economic development.

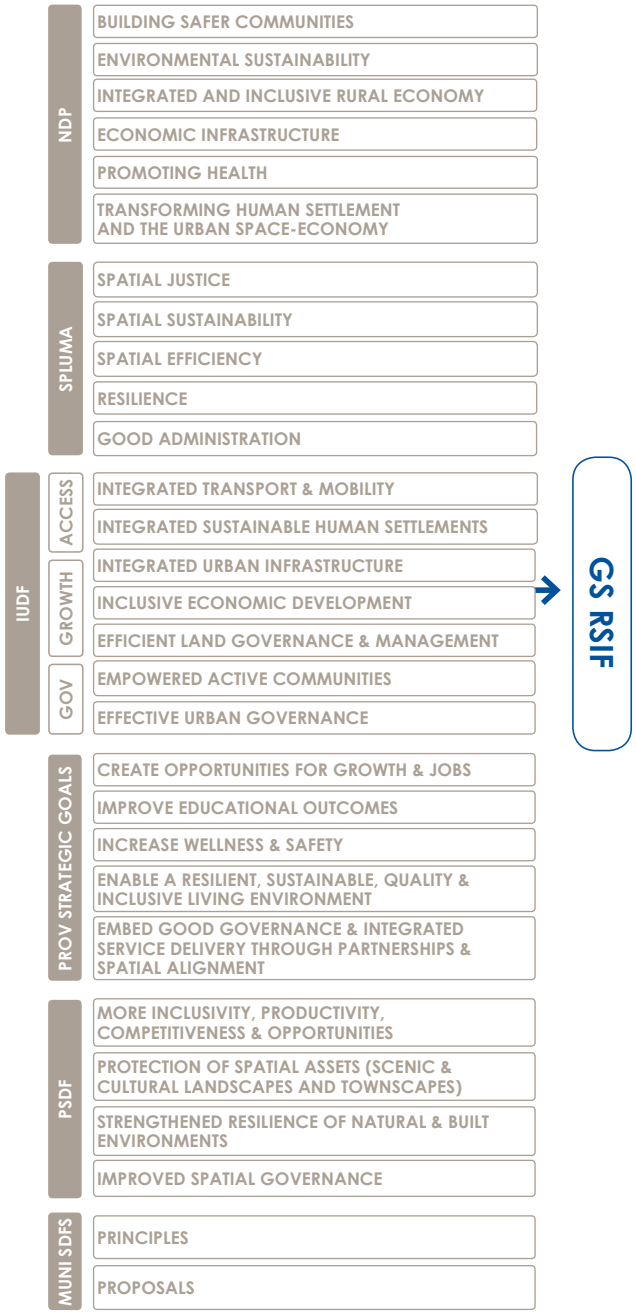


Diagram 2. GS RSIF Policy informants

1.7.2. The 2016 IUDF

The Integrated Urban Development Framework (IUDF) that was approved by National Cabinet on 26 April 2016 aims to steer urban growth towards a sustainable model of compact, connected and coordinated towns and cities. The IUDF provides a roadmap to implement the NDP's vision for spatial transformation – creating liveable, inclusive and resilient towns and cities while reversing the apartheid spatial legacy.

To achieve this transformative vision, four overall strategic goals are introduced:

1. **Spatial integration** - To forge new spatial forms in settlement, transport, social and economic areas.
2. **Inclusion and access** - To ensure people have access to social and economic services, opportunities and choices.
3. **Growth** - To harness urban dynamism for inclusive, sustainable economic growth and development
4. **Governance** - To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

These strategic goals inform the priority objectives of the nine policy levers, which are premised on the understanding that (1) integrated urban planning forms the basis for achieving integrated urban development, which follows a specific sequence of urban policy actions: (2) integrated transport that informs (3) targeted investments into integrated human settlements, underpinned by (4) integrated infrastructure network systems and (5) efficient land governance, which all together can trigger (6) economic diversification and inclusion, and (7) empowered communities; all of the above will demand effective (8) governance and (9) financial reform to enable and sustain these policy actions.

The accompanying implementation plan gives strategic direction, i.e. what needs to be done, when and by whom in order to achieve the goals

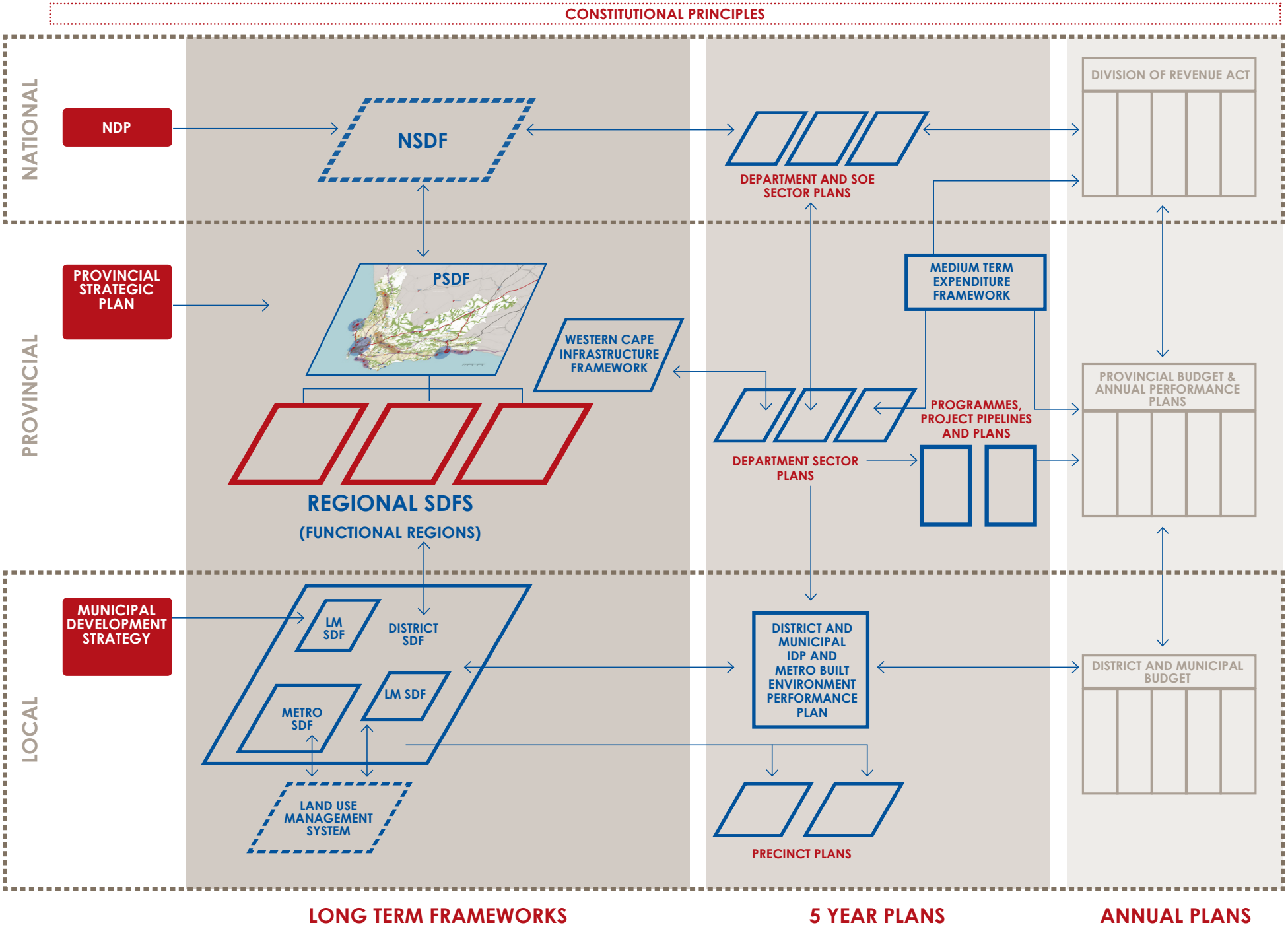


Diagram 3. The role of Regional Plans in relations to other local, provincial and national plans and frameworks

of the IUDF. It includes programmes and projects to be undertaken in the short-to-medium term. The plan will be reviewed every three years to monitor progress being made and to readjust or reprioritise the programmes and projects.

1.7.3. Provincial Objectives

1.7.3.1 Provincial Strategic Goals

In terms of development policy, the RSIF needs to take forward the Western Cape's Provincial Strategic Goals (PSGs), namely:

1. Create opportunities for growth and jobs.
2. Improve educational outcomes and opportunities for youth development.
3. Increase wellness, safety and tackle social ills.
4. Enable a resilient, sustainable, quality and inclusive living environment.
5. Embed good governance and integrated service delivery through partnerships and spatial alignment.

The RSIF serves as an instrument towards the achievement of PSG5, with a focus on opening-up economic opportunities (PSG1) and improving living conditions (PSG4).

1.7.3.2 Provincial Spatial Development Framework

The Western Cape's 2014 PSDF is framed to take forward the NDP's spatial agenda with respect to urban and rural transformation, improving infrastructure, and building environmental sustainability and resilience. The PSDF is centered around 5 guiding principles that aim to take these agendas forward, i.e.:

1. **Spatial Justice**: Redressing past spatial and other development imbalances through improved access to and use of land by disadvantaged communities.
2. **Sustainability and Resilience**: Spatially compact, resource-frugal land development

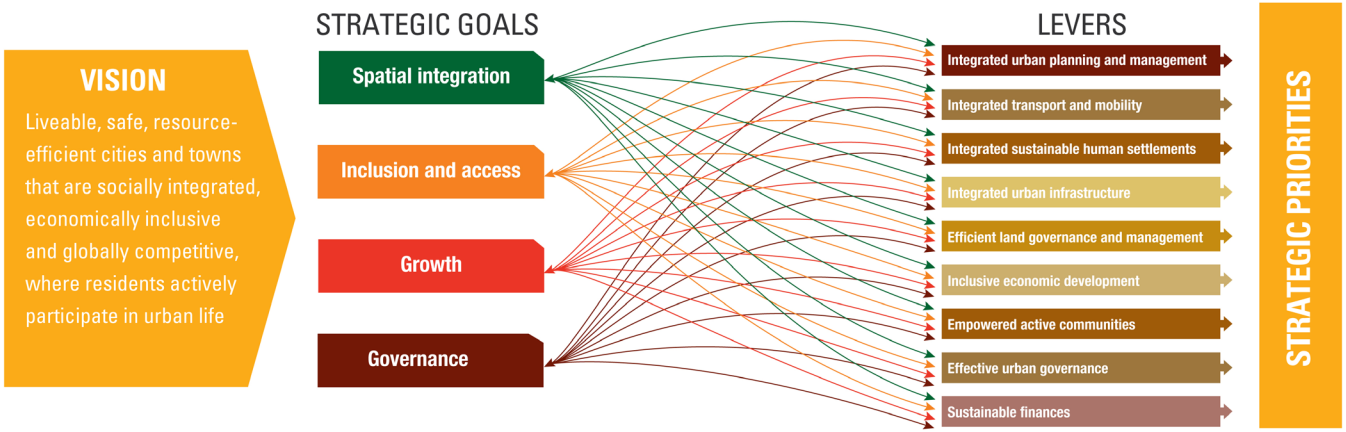


Diagram 4. The core elements of the IUDF and the relationship between the 4 strategic goals and the policy 9 levers

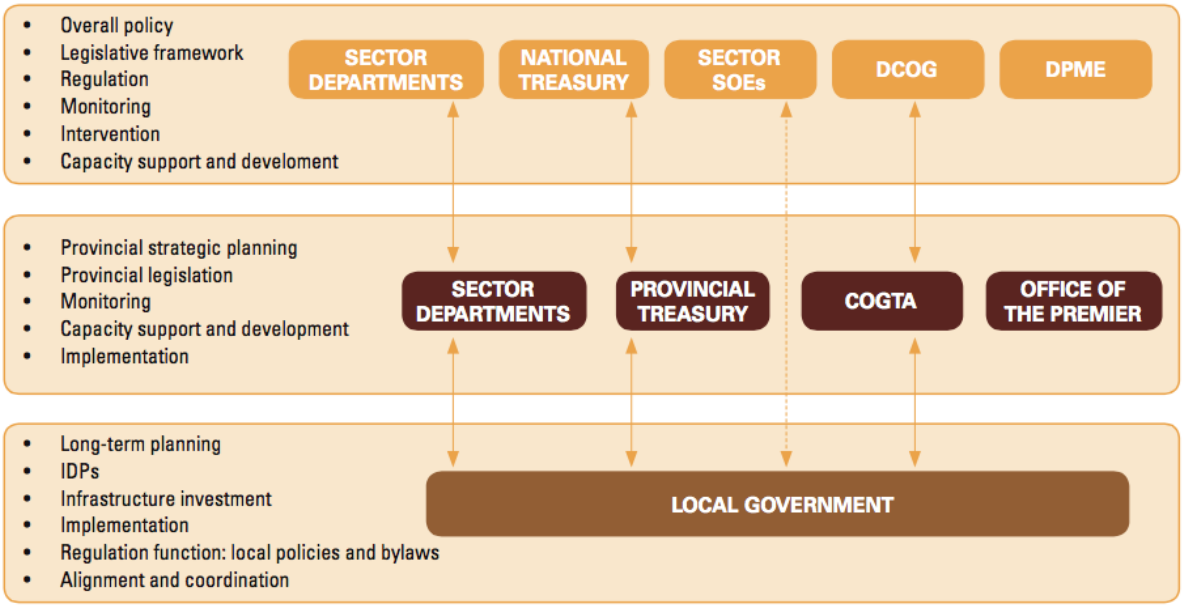


Diagram 5. Roles and responsibilities for the implementation of the IUDF

compatible with cultural and scenic landscapes, that protects agricultural land while building capacity to withstand shocks and disturbances such as climate change or economic crises.

3. **Spatial Efficiency**: Compact mixed use settlements with residential areas close to work opportunities and the prioritisation of public transport.
4. **Accessibility**: Improving access to services, facilities, employment, training and recreation, and safe and efficient transport modes.
5. **Quality and Liveability**: Quality built environments that are legible, diverse, varied and unique; that offer a variety of opportunities, experiences and choice.
6. Translating these principles into a provincial transversal mandate, the spatial agenda therefore focuses on improving oversight of the sustainable use of the Western Cape's spatial assets, using infrastructure investment to bring about the required urban and rural spatial transitions and growing the Western Cape economy in partnership with the private sector, non-governmental and community based organisations

1.8. Objectives of the GSRSIF

The objectives of the GSRSIF span both general as well as specific objectives.

1.8.1. General Objectives

1.8.1.1 Promoting a Regional Planning Approach

The concept of Regional Planning is accepted to be most relevant and applicable where planning agencies need (or wish) to define how best to manage development that manifests spatially across a broader area than a given municipal administrative jurisdiction. Regions are commonly identified on the basis of grouped administrative areas or, increasingly, on the basis of functional relationships related to natural, social, infrastructural and/or economic systems.

In almost all cases where regional planning is attempted across administrative or jurisdictional boundaries, the central challenge of such planning becomes the management of co-responsibility and the assignment of roles and functions amongst the key role-players in the region. This is very much the case in the GSR, where one of the main motivating factors to undertake the GSRSIF is the need to plan for and manage a growing number of development initiatives and/or proposals in the region.

Whilst many such proposals and initiatives appear to be focused within the proclaimed Saldanha Bay Industrial Development Zone (IDZ) and the wider burgeoning industrial complex of Saldanha Bay and Vredenburg (as part of the broader SIP 5 Saldanha-Northern Cape development corridor), there are other trends and dynamics related to key infrastructural investments such as the upgrade of the north-south national route N7 as well as major programmes such as the RSEP/VPUU Programme (which targets areas in Saldanha Bay and Swartland municipalities in the study

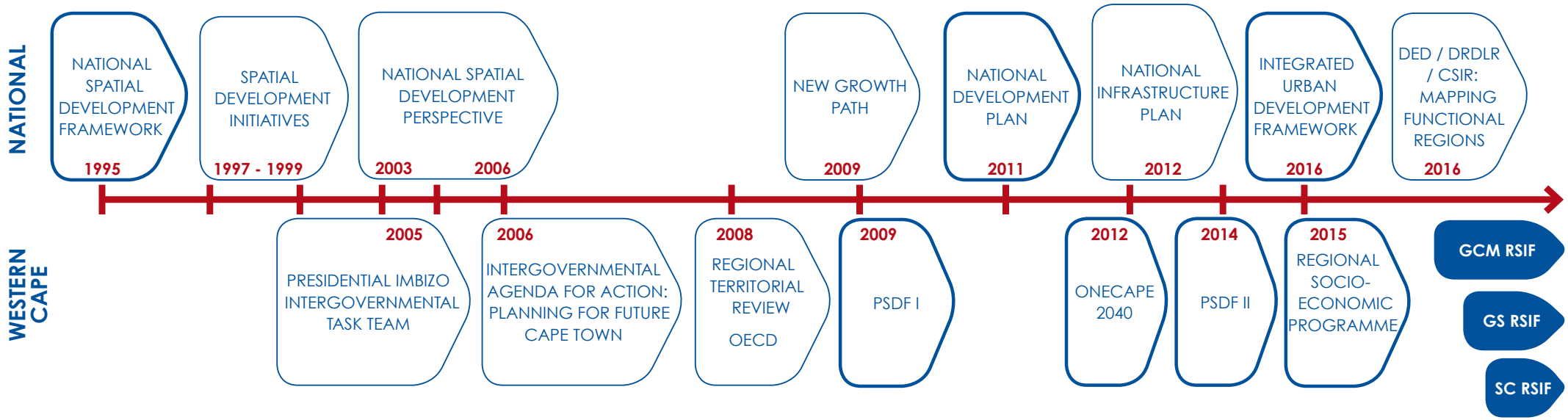


Diagram 6. GSRSIF institutional development process

area), Operation Phakisa, SIP 8 which supports sustainable green energy initiatives on a national scale through a range of clean energy options, and others that have potential cross-boundary/regional implications. Included amongst the implications are the changing (intensifying) nature of the functional relationship between the GSR and the Cape Town Functional Region as well as potentially significant social, spatial and environmental impacts that will need to be better understood and planned for in the Greater Saldanha Region.

Therefore, in line with the Transversal Approach adopted by the Western Cape Government to seek to strengthen and embed cooperative governance within and between provincial, local and national spheres or agencies of government, the GSRSIF has as a core challenge the task to engage with multiple agencies of government, state owned enterprises (SOEs) and the private sector who have a direct interest and/or are playing significant roles in the development trends being played out in the GSR.

1.8.2. Extending a Transversal Approach to Regional Development

The GSRSIF follows on the (May 2015) commencement of a PRSDF that is being prepared for the Greater Cape Metro Functional Region (the GCMRSIF) in accordance with LUPA's provisions. These two regional planning initiatives will pilot the roll-out of regional planning in the Western Cape. As such, the GSRSIF joins the GCMRSIF in attempting to set in place a recognised and accepted "Transversal Approach" – that is, a collaborative and multilateral methodology applied to manage and implement complex planning and development decisions, and related investment and sectoral management programmes across functional regions in the Province.

In order to be effective, such a Transversal Approach requires national, provincial and local government, as well as state owned enterprises and – ideally – the private sector to collaborate in finding a common spatial logic to the Greater Saldanha Region's sustainable development over the next 2 decades. Statutory stakeholders also need to work out the *modus operandi* of them applying coherent spatial strategies and development programmes (i.e. arrangements for cooperative spatial governance of the functional region). Given multiple and sometimes overlapping stakeholder jurisdictions, Provincial Government faces major challenges in delivering on the regional planning mandate that it shares with National Government. For regional planning to add value, it needs to complement, and not duplicate or infringe on the domain of municipal planning.

Whilst municipalities in the GSR are partnering with Provincial Government in the preparation of the GSRSIF, the challenge will be to secure the participation of National Government and state owned enterprises (SOEs) in the process. The ToR's stakeholder engagement programme provides various platforms (e.g. participation in Focus Group workshops and in Steering Committee meetings) for soliciting their active involvement.

However, it should also be noted that part of the challenge of arriving at agreements amongst all key role players regarding planning proposals and implementation of projects and programmes and, especially, **"who will do what, when"** may be to find the best way to frame such agreements in statutory terms and relate these to the constitutionally assigned roles and functions of national, provincial and municipal planning.

1.8.3. Specific Objectives

As a Province-led initiative, the specific objectives of the GSRSIF are put forward as follows: -

- To frame a Regional Agenda for spatial development in the GSR that is inclusive and supported by all main stakeholders and that creates enabling environment for economic growth and private investment / industrial development - something like that - to make the specific regional uniqueness clear - its for economic growth or more specific industrial development
- To identify specific regional-scale interventions that will promote, facilitate and assist in the effective management of socio-spatial and economic development in terms of the Regional Agenda. At the outset, these interventions are anticipated to address:
  - Regional transportation networks for passenger and freight movement on road and rail;
  - Regional-scale infrastructure (water, wastewater, energy and solid waste management) that is required to enable industrial development at scale to occur at Saldanha Bay/Vredenburg whilst also meeting the developmental needs of the other towns in the GSR as well as the needs of the primary sector (agriculture, fisheries and mining);
  - A networked approach to managing human settlement trends in the GSR, which are likely to be dynamic and responsive to economic development initiatives;
  - A clear framework for the provision and management of social facilities in the West Coast District, which is linked to the key aspects of accessibility of facilities to client communities as well as to standards of provision as related to actual or projected population concentrations in the District.
  - A framework for all relevant governance role-players to cooperate in the effective management of the GSR's ecological, cultural, heritage, scenic, marine and agricultural resources and assets, which form the base of the region's uniqueness and sustainable economic growth potential.
- To provide a 15-year Implementation and Budgeting Framework for specific projects or programmes required to implement the actions

necessary to achieve successful development at the Saldanha Bay/Vredenburg growth centre as well as at the other potential key development growth points in the GSR.

1.9. GSR Spatial Development Vision

Within the space economy of the Western Cape, the Greater Saldanha Region may be seen as a hinterland region whose functional linkages and relationships with the Greater Cape Metropolitan region are increasing in strength and complexity.

The growing importance of the Saldanha Bay/ Vredenburg growth centre is reflected in the area's recognition in OneCape 2040 as a "Regional Motor" for development, and this is endorsed by the PSDF.

Further, the outcomes of the JPI with respect to the West Coast District in late-2014 highlighted four key focus areas as illustrated in Diagram 7.

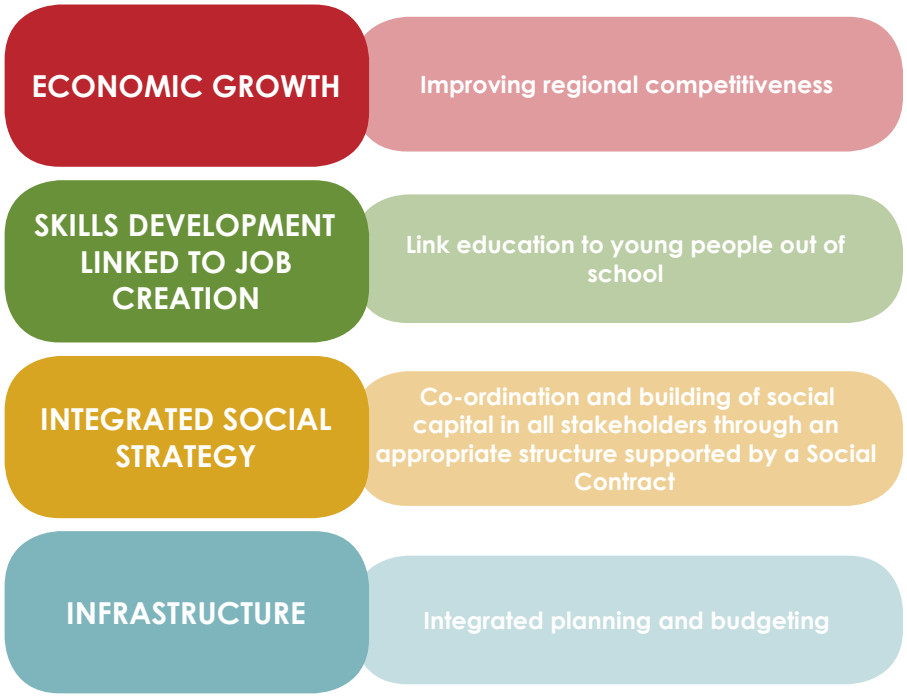


Diagram 7. West Coast JPI Focus Areas (Source: DEADP Presentation, December 2015)

Finally, the WCIP, through its work with a range of stakeholders in late-2015, noted that: "the clear consensus vision was of a West Coast which was developed around a strong industrial manufacturing and processing hub, servicing the marine, oil and gas sectors, while not compromising the quality of the local environment".

Based on these inputs, the following elements of a Spatial Development Vision for the GSR in 2040 are put forward:

- **Saldanha/Vredenburg has catalysed development of the West Coast industrial sector.**
- **This has significantly boosted economic growth in the region and has attracted and retained national and international investors.**
- **In turn, the growth achieved has substantially reduced levels of unemployment in the region.**
- **The expanded ports of Saldanha Bay and Cape Town function as complementary global freight hubs.**
- **SBIDZ has spilled over into the back-of-port surrounds, with an industrial base diversified from its minerals export and oil and gas origins.**
- **Regional rail and road networks channel the movement of freight between Saldanha/ Vredenburg and the GCM and West Coast regions.**
- **The regional industrial centre of Malmesbury on the N7 Cape Town - Namibia corridor is the southern gateway linking the GSR and GCM space-economies. It has a thriving agri-processing, logistics, commerce and services local economy.**
- **Piketberg, also on the N7, is the northern regional gateway linking GSR and northern West Coast markets. Its business profile mirrors that of Malmesbury's.**
- **Most people choose to live in the regional centres of Malmesbury, Piketberg, and on the Saldanha/ Vredenburg/Langebaan/St Helena Bay/Velddrif peninsula.**
- **These places are also where most job opportunities are for the graduates from the West Coast College.**
- **People now build or upgrade their own homes, or have the option of renting affordable accommodation.**
- **Local government focuses on overseeing the delivery of suitable urban land and protecting good agricultural land. It also supplies essential services and community facilities to households.**
- **The gap between rich and poor has narrowed, there is less informal settlement and overcrowding, and communities are more socially and spatially integrated.**
- **This has positively impacted on the stability of community and family formations and, because of this, there has been a notable decline in crime and social pathologies in the region (gangsterism; murder, rape and assault; substance abuse; teenage pregnancies; and a notable reduction in school drop-out rates).**
- **Sustainable technologies are widely applied in the built environment.**
- **Public transport is available within and between regional centres, as are NMT routes.**
- **Greening of the economy has taken off, and industrial activity no longer compromises the natural environment.**
- **A risk-averse approach has been followed to spatial development and the layout of key infrastructure in relation to reducing and, where possible, avoiding impacts in relation to climate change and the environment. Therefore, the region's significant biodiversity assets (i.e. marine, coastal, estuarine, aquatic, terrestrial) are secure and spatially configured in a functional ecological network.**
- **This regional ecological network delivers essential ecosystem goods and services and provides resilience against the risks of climate change, including drought and sea level rise.**
- **This network also provides the basis of the southern West Coast's attraction as a regional tourism destination that offers unique coastal, lagoon, estuary and mountain experiences.**

1.10. This Report

This report, the Status Quo Report, is the second in a series of reports that will make up the work done for the project. It follows the Inception Report submitted in March 2016.

The aim of the Status Quo report is to provide an overview of the current status of development, forward planning and identified development initiatives in the Study Area, addressing the following sectors or themes:

- Social
- Regional Economy
- Rural Development
- Urban Development, Housing & Social Facilities
- Environment
- Culture and Heritage
- Bulk Infrastructure
- Transportation and Freight
- Institutional Arrangements

In the original conception of the GSRSIF process, it was anticipated that the status quo phase would align with the West Coast Industrial Plan (WCIP) process (refer to Section 1.2 above). As noted, however, this did not materialise as anticipated and the WCIP report has, instead, been used to derive a portion of the information contained in this report.

1.10.1. Methodology: Work Done in Status Quo Phase

No primary data collection was undertaken in the course of the Status Quo phase and the work focused instead on the following:

- Desktop review of available information and reports
- Augmented by interviews with officials of the Saldanha Bay, Swartland, Bergrivier and West Coast District Municipalities
- Work reviewed by Technical Working Group and Project Management Team

1.10.2. Structure of the Report

Diagram 8 illustrates the structure of the report:

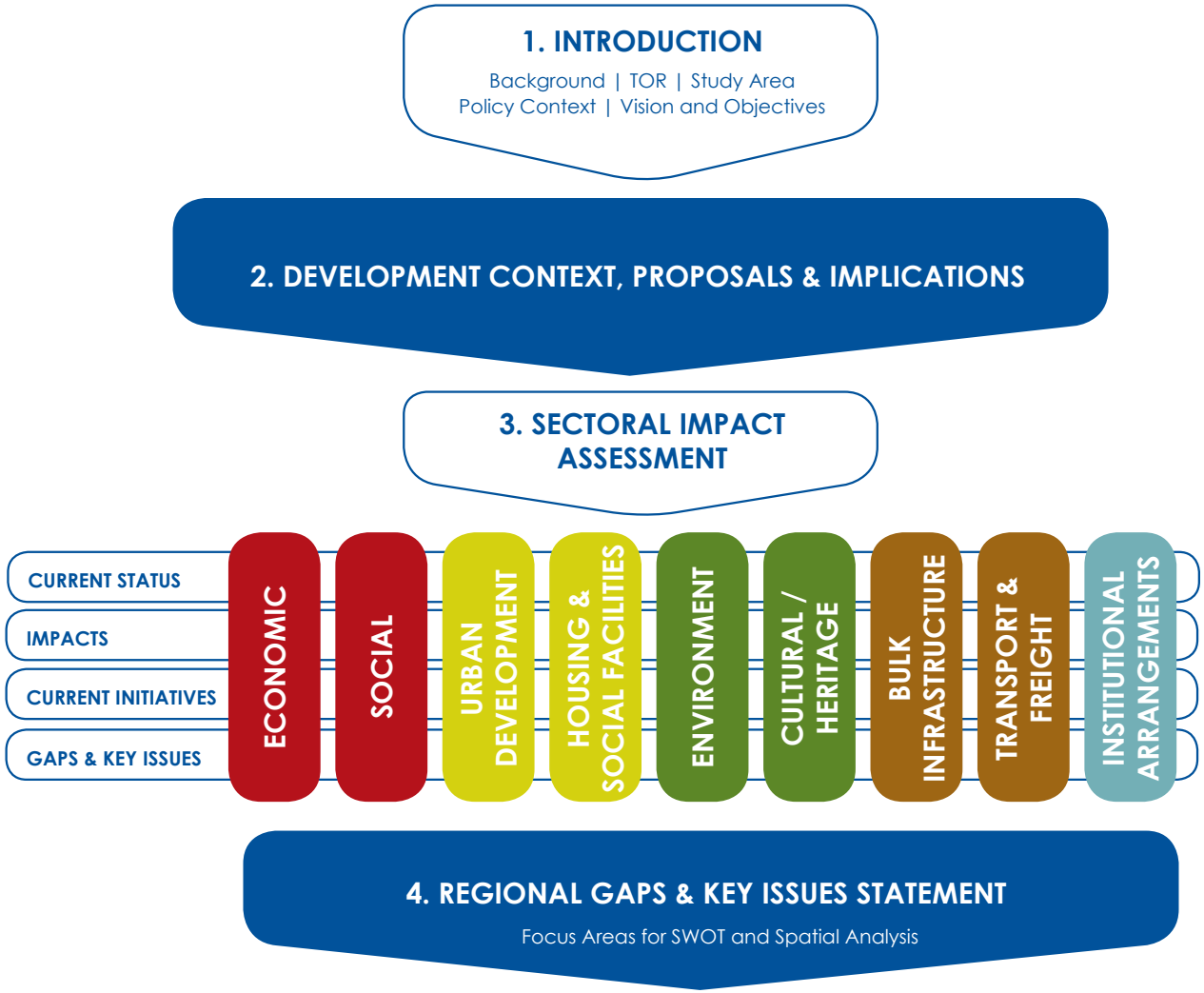


Diagram 8. Report Structure

2. Development Context, Proposals and Implications

2.1. Development Context

2.1.1. Africa and South Africa

Saldanha Bay forms one of the finest natural harbours along Africa's south-western coastline. It is South Africa's only deep water port. In the Southern African context Saldanha competes with the ports of Walvis Bay and Luanda. Over centuries Saldanha Bay has served as a harbour of refuge to passing sea trade, but from these origins its further development has consistently been constrained by the limited local availability of fresh water. Water remains the most pressing constraint to the port serving as catalyst to unlock the region's development potential.

Attempts to unlock the potential of the Greater Saldanha regional economy by developing the port of Saldanha have long been on the national agenda. In the apartheid era, Saldanha was punted as a regional city along the West Coast, as was the new 'city' of Atlantis. These were purported to be public investment initiatives forming part of the national decentralization policy, but their real rationale lay in the 'separate development' ideology that underpinned national spatial policy and practice at the time.

In the seventies, the Sishen – Saldanha railway line was completed, and Saldanha port was expanded, deepened and multi-purpose cargo handling facilities were developed. These infrastructural investments provided for a fundamental shift in the structure of the regional economy from its agricultural and fishing origins, to its current sectoral base in industry, fishing, tourism, business services, and harbor related activities.

In the nineties the region was targeted as a 'spatial development initiative' (SDI), a national policy designed to improve functional government in targeted regions. In terms of the SDI, Saldanha was punted as the growth node of the West Coast region, with industrial development underpinning efforts to grow the region's economy. As part of this initiative the Saldanha steel processing plant was commissioned in 1998.

In 2011 the National Planning Commission identified Saldanha as a presidential priority development region. The National Development Plan's (NDP 2012) strategy for the development of the national space-economy (see Figure 2 below) targets the Greater Cape Metro region as a national 'node of competitiveness' that has the potential for higher growth.

In this context the NDP identifies the Greater Saldanha region as a 'special intervention area', on account of its resource-related port and industrial development prospects that warrant its designation as a national 'growth management zone'.

The NDP also identifies the Western Cape's biodiversity assets as a 'resource critical region' that is vital for the provision of ecosystem services, underpins economic activity, and requires specific policies to ensure their sustainable use.

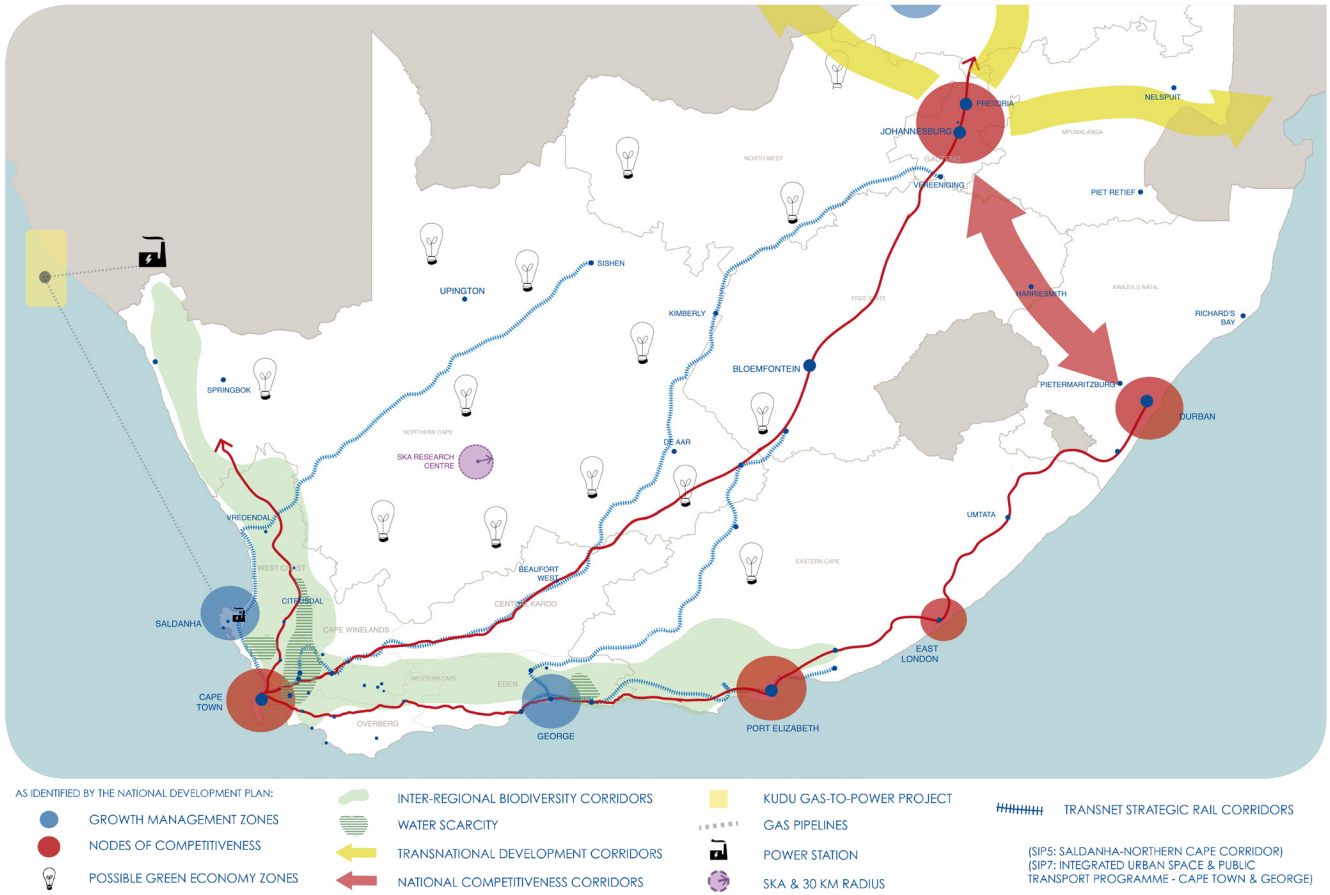


Figure 2. Inter- and Intra- Provincial Spatial Initiatives based on NDP and other National Strategies (PSDF, 2014)

The 2012 National Infrastructure Plan targets Greater Saldanha for the roll-out of 'strategic integrated projects' (SIPs). SIP 5 involves the development of the Saldanha-Northern Cape corridor through rail and port expansion, and increasing back-of-port industrial capacity by the development of an industrial development zone (IDZ) for minerals beneficiation and servicing the African maritime oil and gas sector.

The Saldanha IDZ was formally established in 2014, and plans are currently being prepared for its development as well as for the expansion of the port. An application is pending for Atlantis to also be declared a national 'special economic zone' (SEZ), targeted at attracting businesses producing in the green technology market.

Both Atlantis and Saldanha are targeted for the onshore processing of the Ibhubesi gas fields off the Namaqualand coastline (see Fig 3)

Whilst the Greater Saldanha region has long been on the national spatial development agenda, progress has been slow in meeting the ambitious targets set. Over decades a number of mega-project proposals have not materialized, for reasons Wesgro (2011) ascribed to: limited inter-governmental cooperation; lack of certain services; and environmental sensitivity.

The current global downturn in the commodities market impacts negatively on the export orientated Saldanha steel plant. It also raises questions over the prospects of attracting investments in the newly targeted oil and gas sector in the short to medium term. This is more so, given the recognition that in many circles, gas is seen as a transition fuel and global trends seem to favour investment in renewable energy sources/infrastructure. In this climate of investment uncertainty, progress has been slow in putting in place the infrastructure required to grow the regional economy.

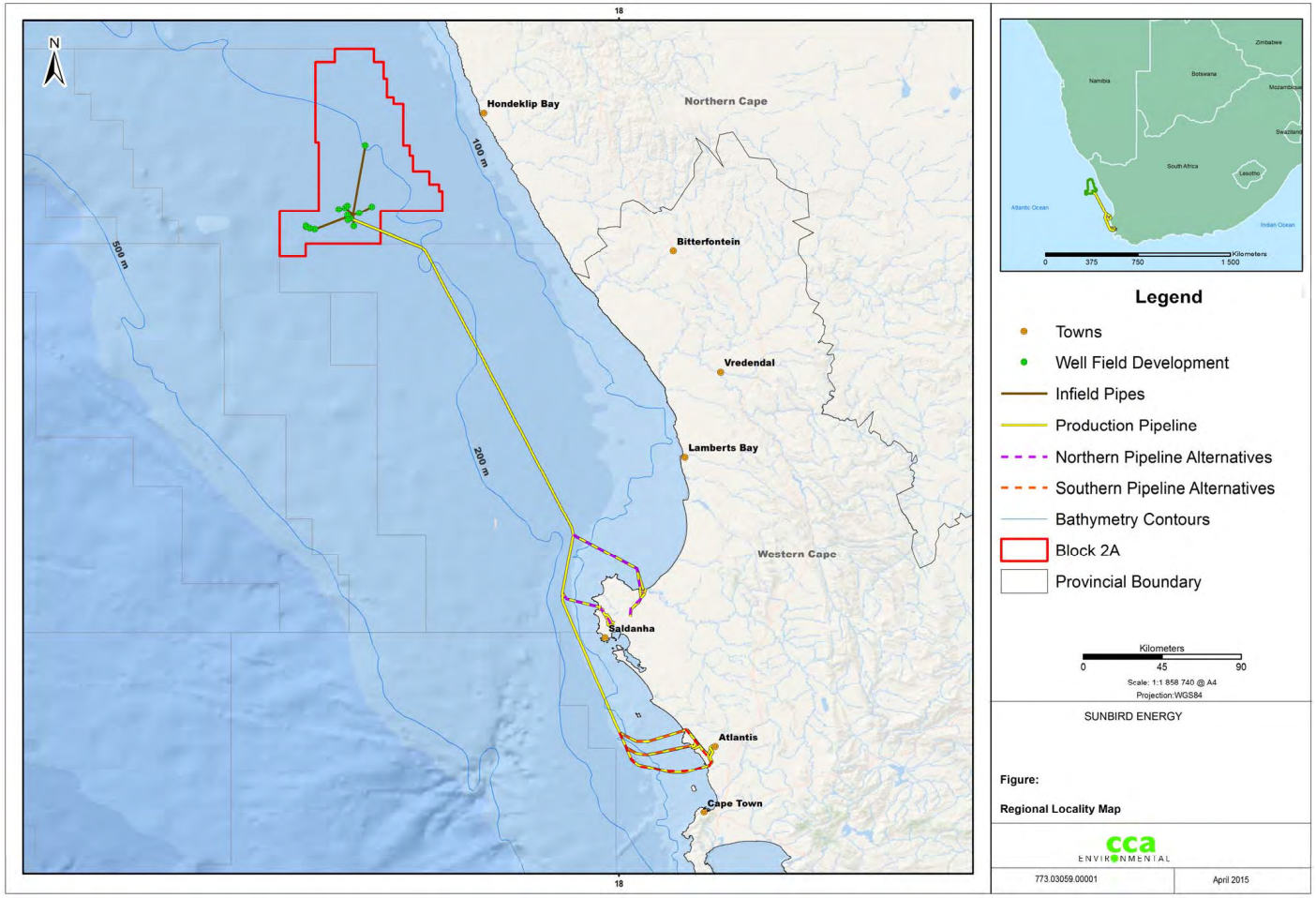


Figure 3. Proposed Development of the Ibhubesi Gas Project (CCA Environmental (Pty) Ltd, draft Environmental Impact report, Sep 2015)

Greater Saldanha is also a focus of Operation Phakisa's programme for the development of the 'ocean economy'. The region's contributions include: port infrastructure and logistics; aquaculture; commercial, artisanal and recreational marine industry; and related maritime tourism.

2.1.2. Western Cape

The Provincial Spatial Development Framework's (PSDF) strategy for the development of the Western Cape space-economy (see Figure 4) revolves around reinforcing the province's economic growth engine (i.e. the Greater Cape Metro functional region), and investing in new economic infrastructure to unlock the potential of the emerging regional economic nodes of Greater Saldanha and the Southern Cape.

In this context Greater Saldanha is targeted as the catalyst for the West Coast's economic development, as well as reinforcing the Greater Cape Metro economy by: providing extra regional harbour capacity; making available affordable industrial land; and providing an accessible coastal leisure destination.

The Provincial Strategic Plan (2015) spatially targets Greater Saldanha in its programmes for job creation and opening-up new economic opportunities. Saldanha/Vredenburg is the hub of Project Khulisa's initiatives to develop the oil and gas industry, the study area contributes to the Western Cape's unique tourism and leisure offering, and in future Western Cape agricultural products may be exported from an upgraded Saldanha port.

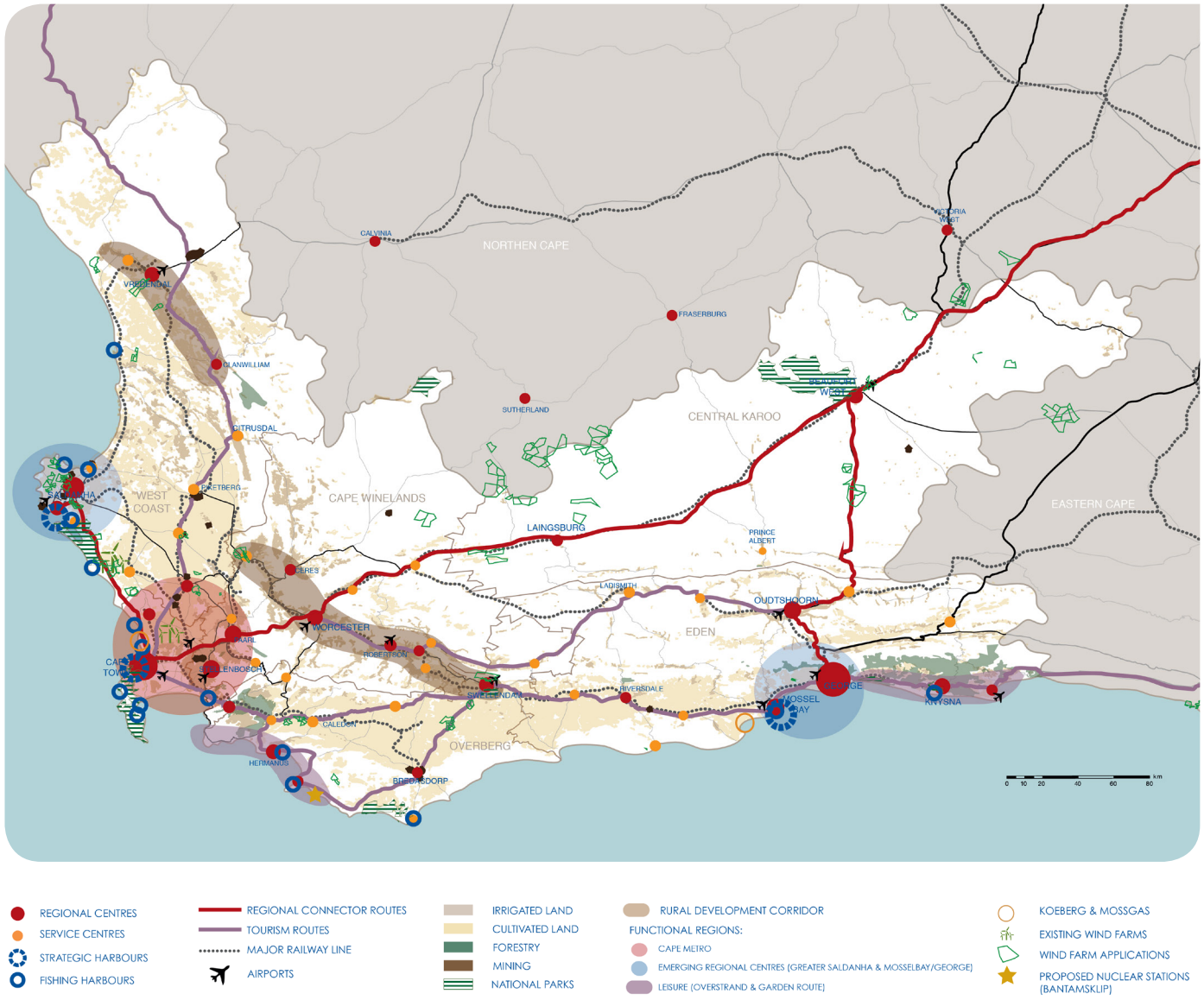


Figure 4. Western Cape Province - Space-Economy Synthesised and Consolidated Framework (PSDF, 2014)

2.1.3. Greater Cape Metro

Using daily commuting patterns as a surrogate for economic interaction, the 2014 Western Cape Growth Potential of Towns study modelled the delineation of functional regions. The study delineated what it labelled Southern West Coast (i.e. Greater Saldanha) and Cape Town functional regions (see Figure 5). However if weekly commuting patterns are used to model economic interaction, they form one functional region (i.e. Greater Cape Metro).

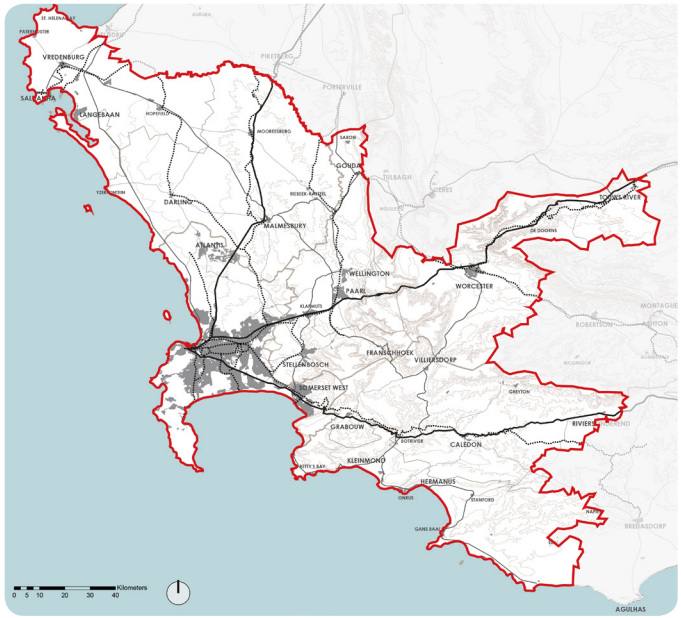


Figure 5. GCM Study Area (GCM RSIF, 2016)

Other yardsticks of how Greater Saldanha fits into this Greater Cape Metro functional region are:

i. Ecologically they make-up the bulk of the Cape Floral Kingdom – a bioregion classified as a global hotspot. Their interconnected terrestrial, aquatic & coastal ecosystems supply services that underpin the regional economy and are fundamental for human well-being (e.g. fresh water, climate regulation, soil formation, disaster risk reduction).

ii. They share and compete for the same external water source (i.e. Berg Water Management Area) with each other as well as with agricultural activities (food security). With rising water demands and supply constraints, a regional water crisis threatens.

iii. Saldanha municipal area's economic value chains into the Greater Cape Metro market are established in the energy, minerals and mining, fishing, hospitality and tourism, and transport and logistics sectors. Agricultural linkages are not currently of significance, but stronger regional linkages are emerging in the industrial, commercial and services sectors. The Swartland and Bergrivier municipal areas' agricultural and tourism sectors have well established regional linkages. As their industrial, commercial, services, and transport and logistics sectors grow, regional linkages strengthen.

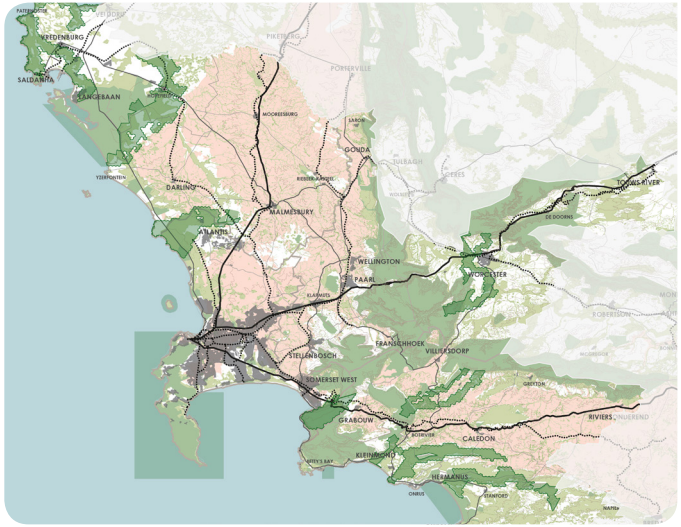


Figure 6. (i) Ecological regional systems (GCM RSIF, 2016)

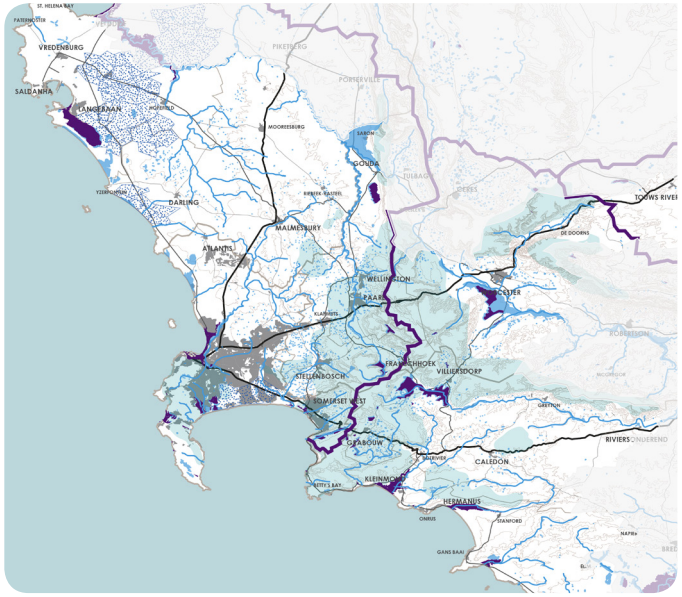


Figure 7. (ii) Regional water sources (GCM RSIF, 2016)

iv. Cape Town, which dominates the provincial space-economy, has established linkages with the network of regional nodes that surround it.

v. There is a functional differentiation between the Greater Cape Metro's regional nodes, and a complementary relationship between them (see Table 1).

vi. Transport and freight networks connect the Greater Cape Metro's economic nodes, but all transport modes are not provided for. Freight movement is predominantly road based, which contributes to escalating levels of traffic congestion. Saldanha/Vredenburg has established road connections with the GCM (i.e. R27 and R45/N7), limited rail connections, a port serving different freight markets to Cape Town port, and no intra-regional public transport system. Malmesbury is strategically located as the N7 regional gateway into the metro, as the southern gateway from the N7 into the Vredenburg/Saldanha sub-region and in relation to the development of Atlantis as a green technology SEZ.

vii. Accommodating some 4,5% of the Greater Cape Metro's population, Swartland and Saldanha are relatively small but their recent growth has outpaced the rest of the region. Migration into the GCM's urban centres is driving overall population growth, and as the port and IDZ are developed, Saldanha/ Vredenburg, Velddrif and Malmesbury are likely to be the focus of urban growth.

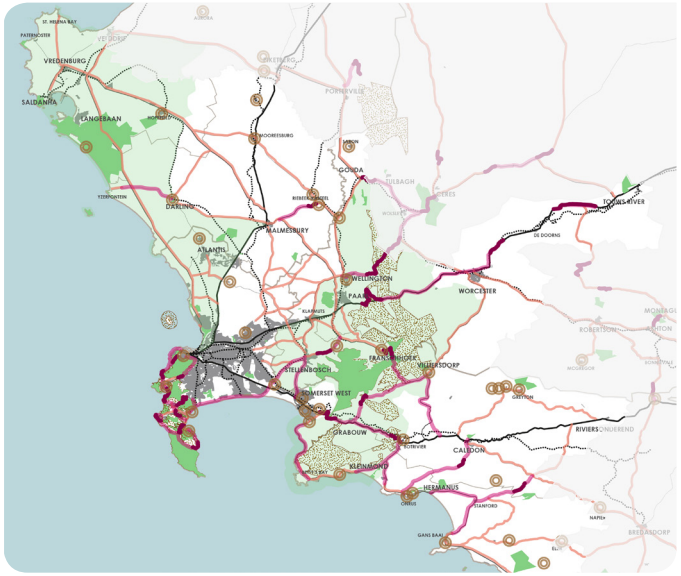


Figure 8. (iii) Regional economic value chains (GCM RSIF, 2016)

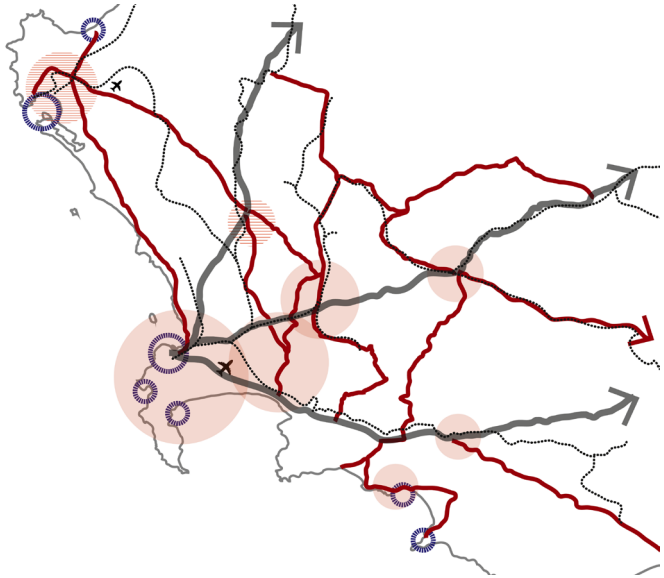


Figure 9. (iv) Regional space-economy (GCM RSIF, 2016)

Table 1. (v) Role and function of nodes within GCM

Regional Node	Role & Function in Regional Economy
CAPE TOWN	Economically diversified global city & port (air & sea)
STELLENBOSCH	Southern Winelands service & admin center, tertiary education & research, agri processing, multi-national HQs, tourism destination, tech industry, very high growth potential
PAARL / WELLINGTON	Northern Winelands service & admin center, tertiary education, agri processing & distribution, tourist destination, very high/high growth potential
MALMESBURY	Swartland service center, admin center, on SB-CPT freight routes, grain & dairy processing & distribution, very high growth potential
WORCESTER	Northern Boland service center, admin center, N/S & E/W regional logistics hub, specialist disability treatment, tertiary education, agri processing & distribution, high growth potential
CALEDON	Overberg services & admin center, agri processing & distribution, high growth potential
HERMANUS	Overstrand services, commercial & admin center, tourism & leisure hub, marine center, very high growth potential
VREDENBURG / SALDANHA	S West Coast admin, commercial & services center; iron ore export, developing IDZ, marine & fishing, tourism, deep water port, very high/ high growth potential

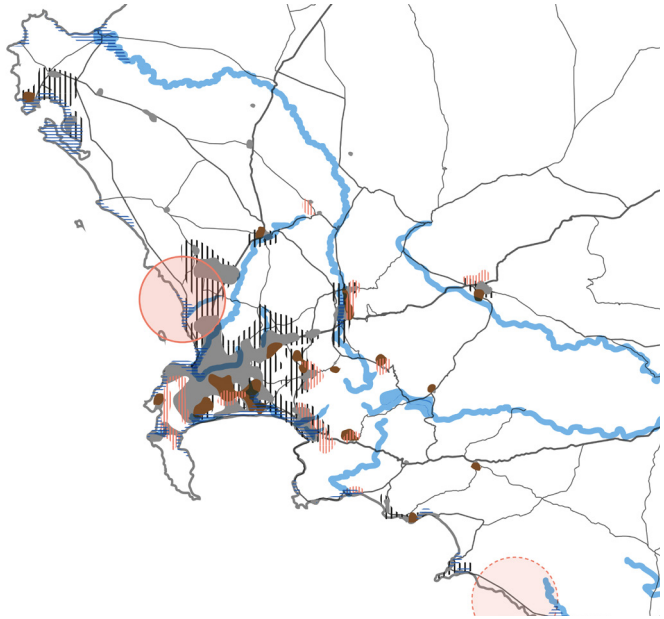


Figure 10. (vi) Regional space-economy (GCM RSIF, 2016)

2.1.4. West Coast

The West Coast District Municipality's SDF provides a strong sense that the GSR area can be seen as having potentially the greatest economic growth potential within the district.

The overall configuration of the WCDM-SDF illustrates three key development areas within the district (WCDM, 2014):

1. The Major Regional Growth Centre of Saldanha/Vredenburg;
2. The Lower N7 Regional Development Corridor; and
3. A Northern Rural Development Corridor

To a very large extent, the study area of the GSR is comprised of the two areas within the West Coast District that the SDF identifies as "key development areas /corridors": the Regional Growth Centre of Saldanha/Vredenburg and the Lower N7 Regional Development Corridor.

The Growth Centre of Saldanha/Vredenburg is anchored on the town of Vredenburg, assessed as having "very high growth potential" and a high social need in the 2014 Growth Potential Study undertaken for towns and settlements outside of the City of Cape Town. Saldanha itself was assessed as having medium growth potential allied to medium socio-economic needs.

Within the West Coast district, the conjunction of the two towns, together with the massing of potential development projects in the area (as represented by the Saldanha IDZ, port upgrades, projected upgrades of the Sishen-Saldanha iron ore programme etc.) and the coastal settlement areas seen as having tourism development potential (e.g. Langebaan, Paternoster, Laaiplek/Velddrif) represent the most significant area of spatial development potential.

As noted above, this potential is further amplified by the prospect of growing functional linkages

Figure 12. District spatial trends (Source: WCDM-SDF, 2014)

between this Regional Growth Centre and the Greater Cape Metropolitan functional area.

The Lower N7 Regional Transport Corridor contrasts with the Saldanha/Vredenburg growth Centre in so far as the assessment of this area's development potential is more explicitly related to functional linkages (transport-based) to the Cape Metro region and the towns within the Corridor's economic base being rooted in the agricultural sector. The towns of Malmesbury, Moorreesburg and Piketberg are all service centres with

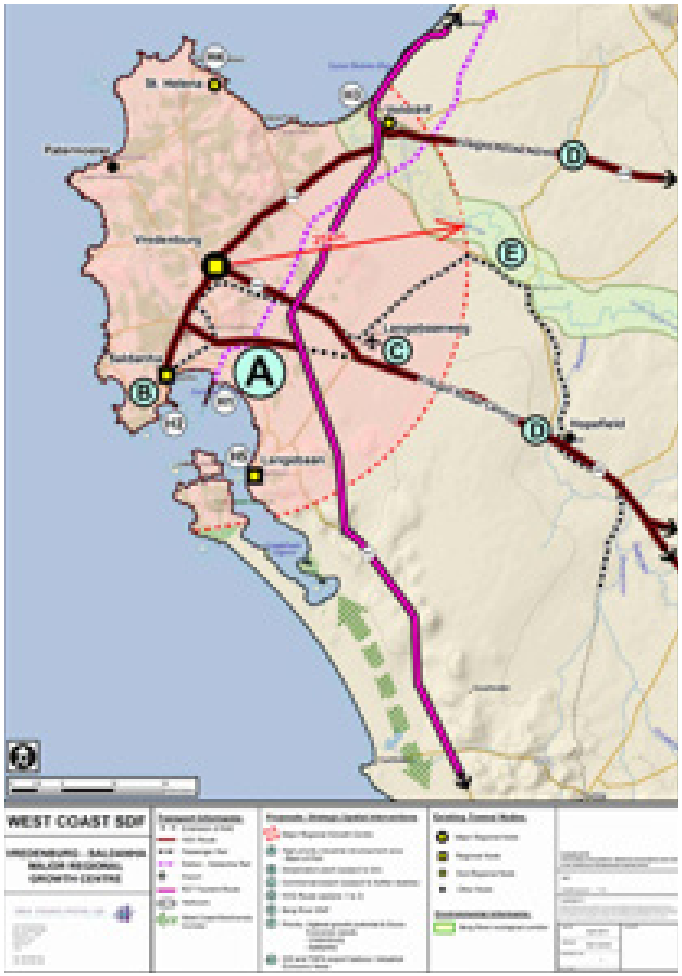


Figure 11. The Major Regional Growth Centre within the West Coast District (Source: WCDM-SDF, 2014)

Malmesbury, in particular, being singled out in the Growth Potential Study (2014) as having very high growth potential with a comparative advantage based in administration (it is the seat of the Swartland Municipality). In turn, Moorreesburg was assessed as having high growth potential, also with a comparative advantage in administration, while Piketberg was assessed as having a medium-level growth potential, with a comparative advantage in mining.

In sum, the GSR may be seen as the southern part of the West Coast District, which has the strongest functional linkages to the Greater Cape Metro region and thus is most open to the movement of people, goods and trade at a scale most likely to have a material developmental impact.

The GSR has a distinctive character as a composite area comprising important historical, scenic, ecosystem and heritage assets that lend themselves to a tourism and lifestyle-based economy, whilst also having a significant economic base in the agricultural and fisheries sectors as well as the mineral and industrial sectors.

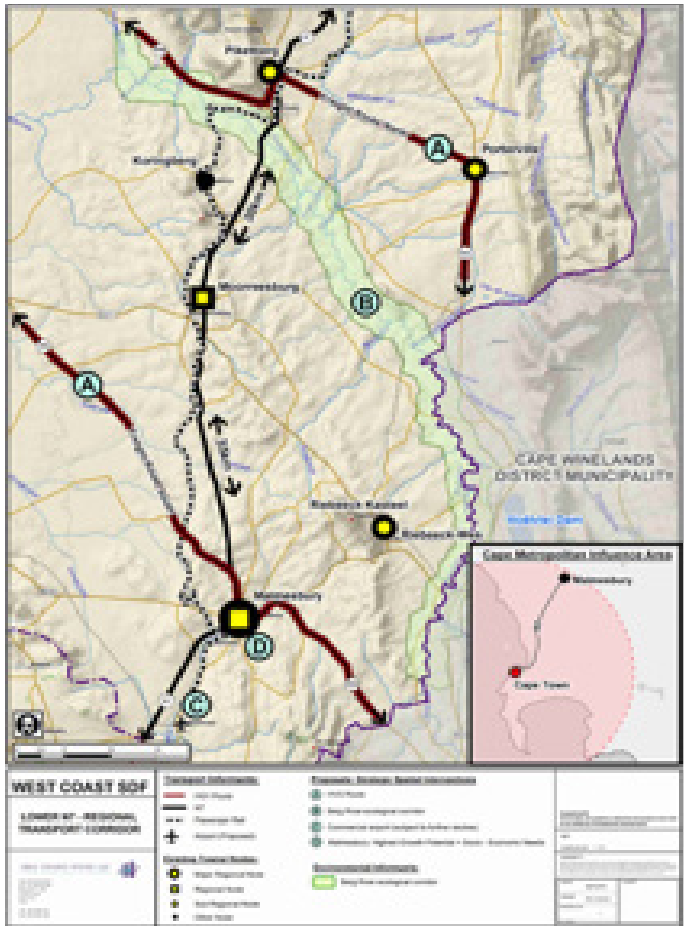


Figure 13. Lower N7 Regional Transport Corridor (Source: WCDM-SDF, 2014)

Within that composite area, the towns of Vredenburg and Malmesbury, in particular, appear to be growing in importance as commercial and business services centres.

2.2. Development Proposals

2.2.1. Saldanha Bay IDZ

Following negotiations between all 3 spheres of government (namely SBM, Western Cape Government, and the Department of Trade & Industry (DTI)) and the Transnet National Ports Authority (TNPA), the Saldanha Bay Industrial Development Zone (SBIDZ) was officially designated in 2013. The Saldanha Bay IDZ Licencing Company (SBIDZ-LC) was established shortly thereafter in October 2013 identifying them as the official public entity license holder and operator of this zone in the Saldanha Port area, which extends beyond the port itself to include an area of 330ha in total.

The SBIDZ is classified within the Department of Trade and Industry's (DTI) 'Special Economic Zones' (DTI, 2012) insofar as it falls within three of the SEZ categories namely:

Industrial Development Zone: A purpose built industrial estate that leverages domestic and foreign fixed direct investment in value-added and export-oriented manufacturing industries and services;

Free Port: A duty free area adjacent to a port of entry where imported goods may be unloaded for value-adding activities within the Special Economic Zone for storage, repackaging or processing, subject to customs import procedures.

Free Trade Zone: A duty free area offering storage and distribution facilities for value-adding activities within the Special Economic Zone.

The feasibility study concluded for the establishment of a Saldanha Bay IDZ revealed potential for a broad range of industrial project clusters including mineral beneficiation to renewable energy manufacturing and services to the upstream oil & gas industry. Specifically, these clusters were identified as:

- Offshore Supply Base and Marine Repair industry (including a Graving Dry Dock);
- Renewable energy industry (subsequently this sector has been earmarked for the nearby Atlantis SEZ)
- Blade manufacturing facility;
- Titanium and Zircon Complex;
- Hot Briquetting Iron (HBI) Plant;
- IDZ Customs Controlled Area/s (CCAs);
- IDZ Light Industrial Area/s.

A decision was taken by the three spheres of government to focus on the Offshore Oil & Gas Supply Base and Marine Repair Industry as Phase 1 of the IDZ. The SBIDZ can also offer a number of fiscal incentives made available by the DTI through the SEZ programme, including the CCA or free trade zone[1]. This is a key incentive as it gives companies manufacturing in the zone the ability to pay no import duties on assets used in manufacturing, or pay duties on any goods stored or used as raw materials in the manufacturing process. It will also give investors the ability to take advantage of export duty exemption on services rendered within the IDZ. Various tax benefits will also be evident. Value-added tax exemption on goods imported and used in the construction or maintenance of the CCA's infrastructure will be given and there will be reduced corporate income tax rates. The first phase of the IDZ involves two land areas (outside of TNPA Land) which have a combined area of 138 hectares.

The other identified clusters (excluding the Renewable Energy Sector which now appears to be the focus of the proposed Atlantis SEZ) require longer lead times due to resource requirements and legislative/regulatory implications. As such, these

1 The status as a CCA appears to have been awarded only recently, with the exact date unknown, but the SBIDZ currently claims to be able to offer this benefit on their website (www.sbidz.co.za, Accessed 20 May 2016)

Figure 14. The location of the proposed Saldanha IDZ and back of port area in relation to surrounding settlements

are intended to comprise the subsequent phases of the IDZ.

2.2.2. Back-of-Port Proposals

In addition to the SBIDZ, several large-scale, mainly industrial, projects have been proposed for the back of port area. A recently concluded study by WCG: DEDAT identified 31 proposed projects (including the IDZ and ports projects) that would place large-scale demands on resources and infrastructure, such as water, energy, transport or labour, or alternatively have large-scale impacts on land or maritime resources. A summarised description of the types of projects is included here, along with an evaluation of the risk of these projects occurring. The possible implications for social facilities and bulk infrastructure have been included in the relevant sections of this status quo report.

The infrastructure projects identified currently include infrastructure to support the industrial park, an oil and gas complex, a rail yard, and new port infrastructure to support rig and ship repairs. However, as the Port of Saldanha is operated as a part of the broader national ports system, the biggest risk to this infrastructure appears to the prioritisation of either Transnet plans to prioritise mineral export facilities, and subsequent delays in the infrastructure intended to support the Marine Fabrication industry.

As noted in the recent 2015 WC Municipal Economic Review and Outlook (MERO), the recent economic downturn has resulted in many of the expected timeframes being extended, with an associated delay in any investment related impacts. Capital spending related to the infrastructure development of the Saldanha Bay IDZ is likely to commence later than originally planned.

2.2.3. Other

Other notable development trends and/or activities in the GSR that have regional-scale implications are noted as including:

Agri-processing: the provincial focus on agri-processing potential through Project Khulisa raises the question of possible linkages to the Special Economic Zone (SEZ) policy framework, which – given its focus on promoting local beneficiation of primary commodities – provides potential opportunities to extend beyond the current SBIDZ through possible access to the SEZ Fund for other projects/enterprises. Also of likely significance to the GSR will be the plans by DRDLR and WCG: Dept of Agriculture to establish Agri-parks in the WC District. Doringbaai up the West Coast has been identified as a possible area for aquaculture in terms of Operation Phakisa, while Laaiplek in Velddrif, on the periphery of the GSR region, has been identified as a satellite Agri-park (WC 2015 MERO). In addition, the existing range of agricultural enterprises in Swartland and Bergrivier (perhaps especially the former, with the wheat industry and wine industry being prominent) and their linkages to logistics and processing plants are notable. All of these activities are likely to have significant implications for regional freight and logistics networks as well as enabling services such as public transport, and the provision of social and skills training facilities in the GSR.

The WCG's Regional Socio-Economic Programme (RSEP) and linked Violence Prevention through Urban Upgrading programme (VPUU): these programmes target local areas in the Saldanha Bay and Swartland municipalities in the GSR. While the activities of these programmes are local-based, they may well raise issues related to urban management that are regional in nature, including the need for a regional monitoring and evaluation (M&E) approach that picks up on issues such as potential unfunded mandates having to be absorbed by local municipalities because of infrastructure developed under the RSEP/VPUU initiatives.

Tourism: the GSR remains an area focused to a great extent on developing its tourism sector. This warrants attention being paid to the regional transport networks that afford tourists access to the various tourism assets of the region as well as to the wise management of the environmental, heritage, cultural and landscape assets of the region, which are fundamental to the tourism industry in the area. From a regional planning perspective, there is a particular need to deal with potential tensions and disjunctures between a commitment to furthering industrial-type development at Saldanha/Vredenburg and the need to preserve a functional level of ecological integrity in the area.

Major road upgrades (N7/R27/R45/R399): upgrades to these major routes will (and have already) set in motion the strengthening of logistical and functional linkages between the Cape Town metropolitan area and its hinterland areas in the GSR, especially the town of Malmesbury. East-west links that will be strengthened on the back of the R45 and R399 upgrades will serve to enhance the accessibility of the GSR at a broader regional and national scale.

Residential development and lifestyle estate-type developments (including retirement villages) may well experience heightened demand in a continuation of a trend already noted in towns such as Darling, Riebeek Kasteel, Malmesbury and Langebaan.

Table 2. Summary of large industrial projects interviewed

SECTOR	NUMBER	SHORT TERM PROBABILITY OF OCCURRING (< 5 YEARS)
Mining, quarrying & manufacturing	9 (7 involve processing of some kind)	Medium: delayed start dates due to lack of market finance, and difficulty in securing water rights.
Mineral storage	5	High: however these area subject to road and port infrastructure development and market demand
Transnet National Ports Authority projects	5	Medium: Delays probable due to global conditions and lack of market finance
Oil & gas sector storage and/or distribution	3	High: Developments underway, but future subject to importation terminal development. At least 2 are probable.
Oil and gas sector servicing	2	High: Development underway, but future subject to port infrastructure developments
Gas power plants	6	High: Maximum 2 expected to proceed, subject to DOE IPP process and LNG importation infrastructure developments
Fishing industry	1	High: subject to local market demand

2.3. Local and Regional Development Implications

From the above high-level overview of the development context and key trends characterising the GSR, the following issues are noted:

- The GSR – in particular the town of Saldanha and the port of Saldanha Bay – have long been seen at a national level as a key strategic economic asset that has considerable development potential that could be leveraged for the good of the national space economy;
- Based on this, investment decisions and related incentives have been made since the 1970s in the area, which have resulted in the development of the port of Saldanha, the Sishen-Saldanha iron-ore railway link, steel manufacturing and allied industrial enterprises that impacted on the structural make-up of the regional economy. These developments resulted in a diversification in the regional economy away from a principle base in the primary sector (fisheries, agriculture). These primary sectors themselves have, over time, come under pressure from global trading, production technology trends and environmental factors (diminishing fish stocks etc.).
- Recently, a further focus on the GSR has been promoted through the designation and development of the SBIDZ, and the inclusion of the broader GSR and West Coast district into the ambit of key national and provincial economic development programmes such as Operation Phakisa and Project Khulisa.
- Notwithstanding current negative global economic conditions relating to the oil and gas, iron ore and steel sectors, there appears to be ongoing commitment to the course set and further investments in the upgrade of the Saldanha Bay port and the SBIDZ seem certain to go ahead.
- The above factors, together with the commitment made by the WCG to upgrading key regional roads such as the N7, the R27, the R45 and the R399 are likely to result in the strengthening and deepening of functional linkages between the GSR and the GCM. Such linkages are likely to impact on the settlement trends in towns such as Malmesbury, Riebeek West/Riebeek Kasteel, Darling, and Langebaan.
- Within the Saldanha/Vredenburg growth centre, continued investment in the port, the Sishen-Saldanha railway, the SBIDZ and other industries is likely to set in motion further trends in relation to human settlement development in the growth centre as well as surrounding areas such as Langebaan and Velddrif.
- Moreover, an uptick in construction and development activity in the Saldanha/Vredenburg centre is likely to impact regionally on aspects such as an increase in demand for freight haulage of goods and materials across the GSR and further afield, requiring emphasis to be placed on the development of appropriate road and rail infrastructure in this regard.
- All of the above trends and activities are reliant, however, on a base of limited resources (water and energy) and are, furthermore, targeted in areas of critical biodiversity. These realities will need to be accounted for in planning and implementation as a prerequisite for further development.
- It is recommended that the cumulative impacts of all activities in the area must be considered in all specialist studies undertaken, in respect of environmental authorisation applications.
- Moreover, the cumulative impact of facilities that do not require atmospheric emission licenses must be considered, as part of the regional and spatial planning in the area.
- From a governance perspective, the above activities and the related crowding in of investor interest from state and private sector actors is likely to further place a premium on the abilities of National and Provincial Departments, municipalities and other roleplayers (such as Transnet and Eskom) to coordinate and integrate their planning and implementation programmes so as to achieve alignment and synergy, which will better facilitate the realization of the development potential of the GSR. Amongst other aspects, this will require all key stakeholders to "buy in" to a common vision for development in the GSR, and to subscribe to a common and accepted set of priority actions and investments.
- Moreover, should the above development trends unfold, there is likely to be a complex set of resulting social impacts and needs, including migration of work-seeking communities (international, national and regional); pressure on local communities; competition for jobs, especially in low-skill sectors; competition for access to scarce local services; demand for accommodation ranging from informal settlement to high-income; increased demand for various goods and services, including food stuffs and fresh produce; increased demand for local business and residential support services (such as legal and accounting services, medical, laundromats, catering etc.).
- All of the above trends and processes will, at base, require clear responsive strategies, including strategies to "spatialize" responses where possible, in order to manage and direct certain forms of development and land use and to facilitate important linkages (for example, to areas where fresh produce can be grown/promoted/sourced).

3. Sectoral Impact Assessment

3.1. Introduction

This section of the report covers a sectoral impact assessment of the study area. The structure of the assessment is loosely based on the three interrelated themes as set out in the 2014 PSDF, i.e.:

1. Sustainable use of the Western Cape's spatial assets and **resources**,
2. Opening-up opportunities in the Provincial **space-economy**, and
3. Developing integrated and sustainable **settlements**.
4. **Spatial governance**

For the purpose of this report the above themes have been interpreted into 9 sectors on which the assessment will focus, i.e.:

1. ***Social Demographics***
2. ***Regional Economy***
3. ***Rural Development***
4. ***Human Settlements***
5. ***Natural Resources and Environment***
6. ***Culture and Heritage***
7. ***Bulk Infrastructure***
8. ***Transport and Freight***
9. ***Institutional Arrangements***

Each sector is assessed in terms of:

1. A brief summary of the current status quo;
2. Current Initiatives such as Plans, Programmes or Projects that directly relate to the specific sector; and
3. Key gaps and issues that have been identified through the assessment that will inform the next phase of the GSRSIF process.

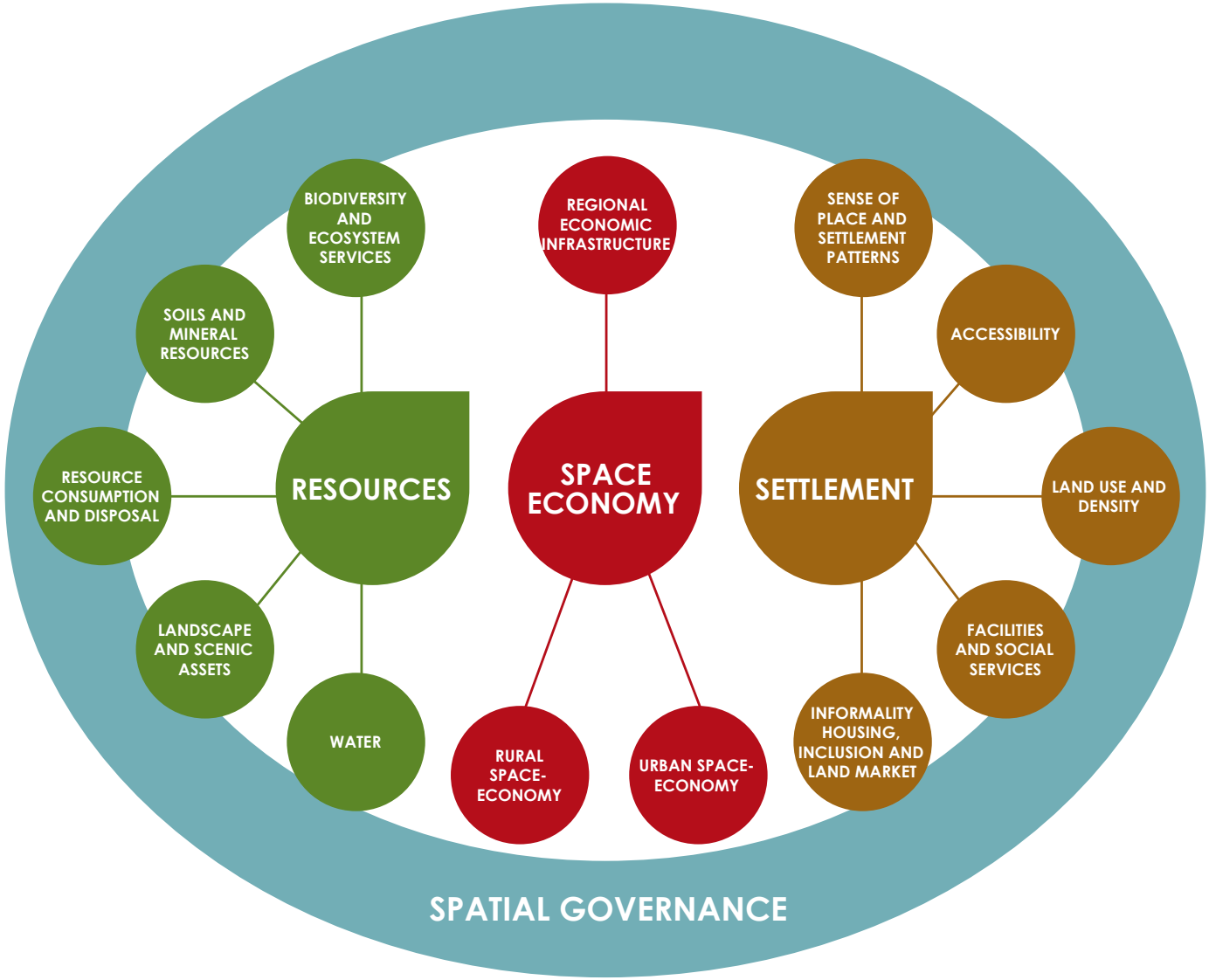


Diagram 9. The 3 spatial themes of the 2014 WCG PSDF and their associated elements, supported by spatial governance

3.2. Social Demographics

3.2.1. Current Status

Population Size

According to the 2011 Census data the total population of the West Coast District was 391 766 in comparison to 282 672 in the 2001 Census data. The Provincial Population Growth Projections (PWC, 2014) estimate that the 2014 population of the district was of the order of 410 045.

As illustrated in the accompanying chart, SBM and Swartland together account for just over half (55%) of the WCD population, with estimated population of 105,351 and 118,704 respectively in 2014. Bergrivier is smaller with only 64,892 inhabitants in 2014 (PWC, March 2014).

Population Growth Trends

Based on the official Provincial Population Growth Projections (PWC, March 2014), the following trends are projected:

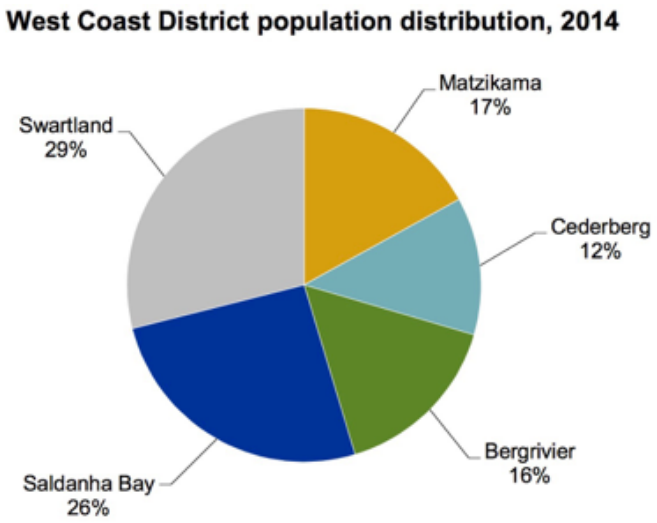


Figure 16. West Coast District population distribution, 2014 SOURCE

- Saldanha Bay Municipality will experience the highest growth rate in the GSR of 1.38% per annum over the period 2011 to 2040 and total population will increase from the 2014 estimate to approximately 148,000 people by 2040.
- Compared to its 4.7% annual population growth rate between 2001 and 2011, Swartland will experience slowed population growth of around 0.94% per annum between 2011 to 2040 to grow to approximately 150,000 people.
- Bergrivier Municipality's population will grow at a projected rate of 1.11% to reach an estimated total population of around 85,500 people by 2040.

Household access to basic services

Household service access in the entire WCD is high, with approximately 94% of households having access to electricity and 98% having access to piped water within 200m of their home. In terms of access to waterborne sanitation and regular kerbside refuse disposal however, service provision is below 80%. SBM stands out with coverage levels of 92% and 97% for these two services respectively. The combination of higher service levels, and greater job prospects, is believed to have contributed to the higher population growth experienced in the SBM area, with job-seekers migrating to the area, but also an increase in income equality (MERO, 2015).

Social Wellbeing

The Human Development Index (HDI) is a measure of human development, including life expectancy, education and income indices. In 2013 it averaged 0.71 in both the Western Cape, and the SBM. (MERO, 2015). This is higher than the average of 0.68 for the WCD as a whole.

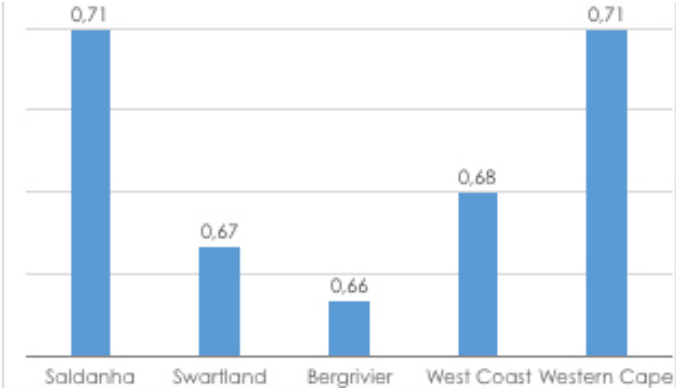


Figure 15. Human Development Index 2013 (WCG 2015 MERO)

DISTRICT / MUNICIPALITY	ELECTRICITY ACCESS	PIPED WATER ACCESS WITHIN 200M	WATERBORNE SANITATION	KERBSIDE REFUSE DISPOSAL
West Coast District	**94%**	**98%**	**78%**	**78%**
Matzikama Municipality	89%	96%	62%	70%
Cederberg Municipality	89%	98%	75%	61%
Bergrivier Municipality	95%	98%	72%	71%
Saldanha Bay Municipality	97%	99%	92%	97%
Swartland Municipality	98%	99%	77%	77%

Table 3. Access to services in West Coast Municipalities based on Census 2011 (Source: Own analysis using Census 2011 STATS SA)

Interestingly, from an overall health perspective, the WCD has a higher life expectancy score than the provincial average, and significantly higher than national life expectancy. This implies that of the 3 variables making up the HDI, education and income are of the most concern within the WCD. Income inequality has deteriorated in the GSR, as the demand for skilled and highly skilled labour has increased. The improvement in income in equality in the rest of the WCD is due to lower income growth in the upper income groups, rather than increased income among lower income groups.

Education is a key concern in the area, particularly in the context of potential development proposals which will result in increased demand for workers of all skills levels. While there has been an overall increase in matric pass rates, literacy rates in the WCD are however still relatively low. There is a trend towards employing skilled to highly skilled individuals in the region. Without improved education, it will be difficult for the local community to benefit from these job opportunities. Skills development and low skilled labour intensive initiatives are therefore required in order to further stimulate employment in the District.

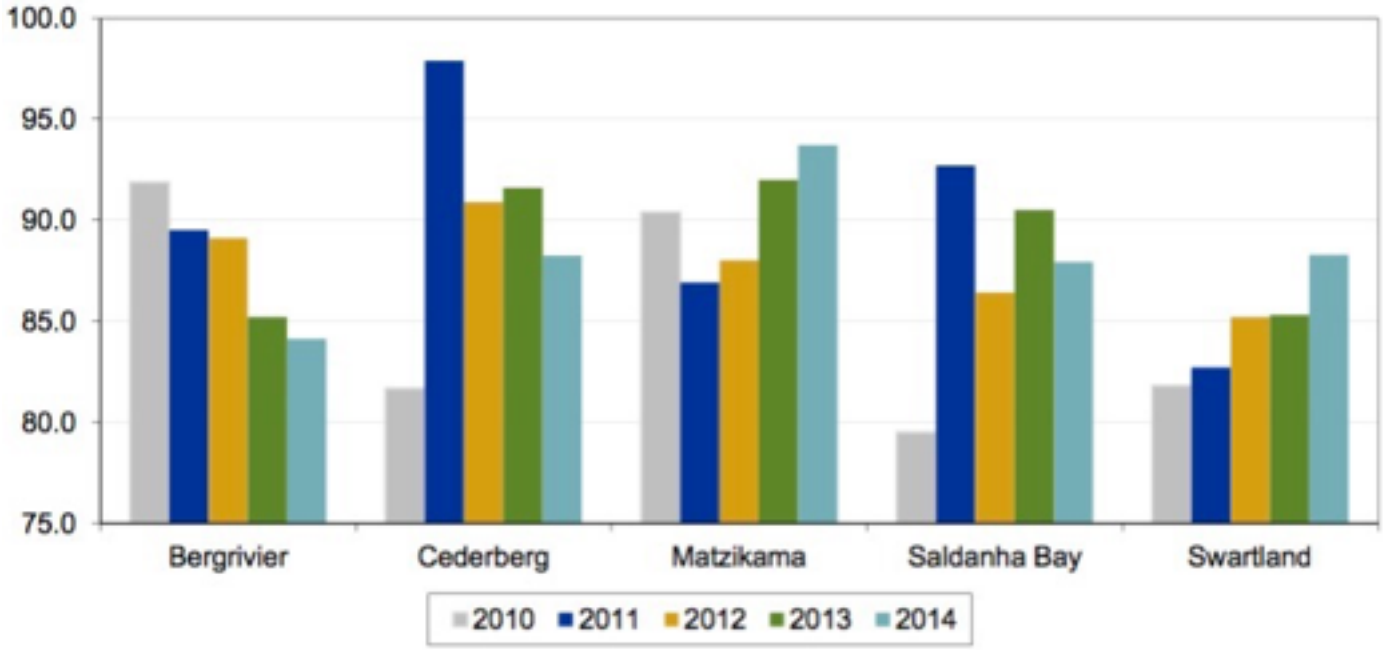


Figure 17. Matric Pass Rates in the West Coast District Municipalities

Crime

The impact of crime on the social fabric of a society is well documented. The WCG Municipal Economic Review and Outlook (MERO, 2015) quotes the World Bank in asserting that crime can hamper growth and investment and hinders capital accumulation. Moreover, over and above the financial impacts of crime on victims and property, the prevalence of crime also dictates that more of the state's resources must be directed at policing and the judicial and penal system instead of being invested in social advancement and productive enterprises.

Within the Western Cape, the West Coast District is noted as having experienced an increase in crime over the period 2011 to 2015, as illustrated in Figure 18. This is, however, in keeping with the Provincial trend as well as National trends over this period.

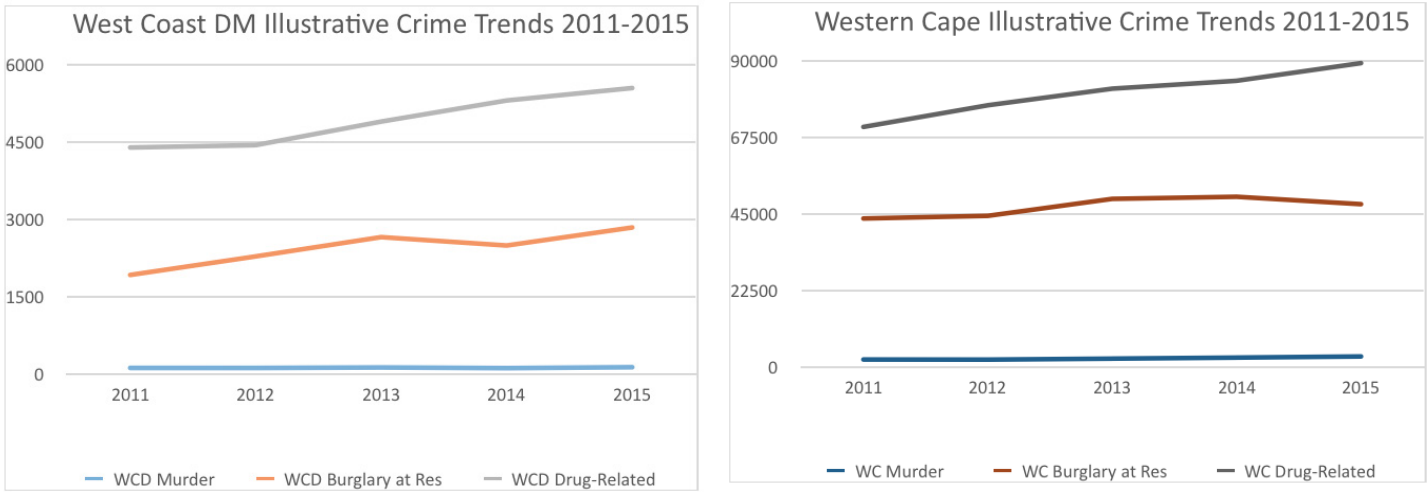


Figure 18. Illustrative Crime Trends WC vs WCDM – 2011-2015 (Source: SAPS Crime Statistics, 2015)

It is notable that drug related crime appears to be trending upward in WCD, which is confirmed in the map below. This illustrates the distribution of crime statistics across the GSR, with the areas colour coded in red being those that experience the highest levels of crime in relative terms, while those coloured green have relatively lower levels of crime.

From a spatial perspective, a comparison between the crime statistics for 2010 and 2015 indicates that levels of crime have remained largely similar except for the policing districts of St Helena Bay and Malmesbury, which have worsened over the period.

3.2.2. Impacts

- Population growth is projected to be uneven across the GSR, with most growth predicted to take place in SBM, most likely based on the predicted levels of migration drawn to the area on the basis of economic growth activity there
- Population growth will continue to place pressure on land and settlement, the adequate provision of facilities and the capacity of core institutions to render services
- The nature of changes in the sectoral breakdown of the regional space economy has resulted in job losses, mainly in the primary sector (agriculture an fisheries)
- People who have lost work in the primary sectors tend to have specific skill sets and work experience and it is notable that these do not match the skills requirements for the sectors where growth has, in fact occurred or is predicated to occur.
- Apart from SBM, where income inequalities have increased due to the shift in the nature of jobs (losses of unskilled jobs and growth in skilled jobs) and the relative increase in earnings of those employed, income inequality

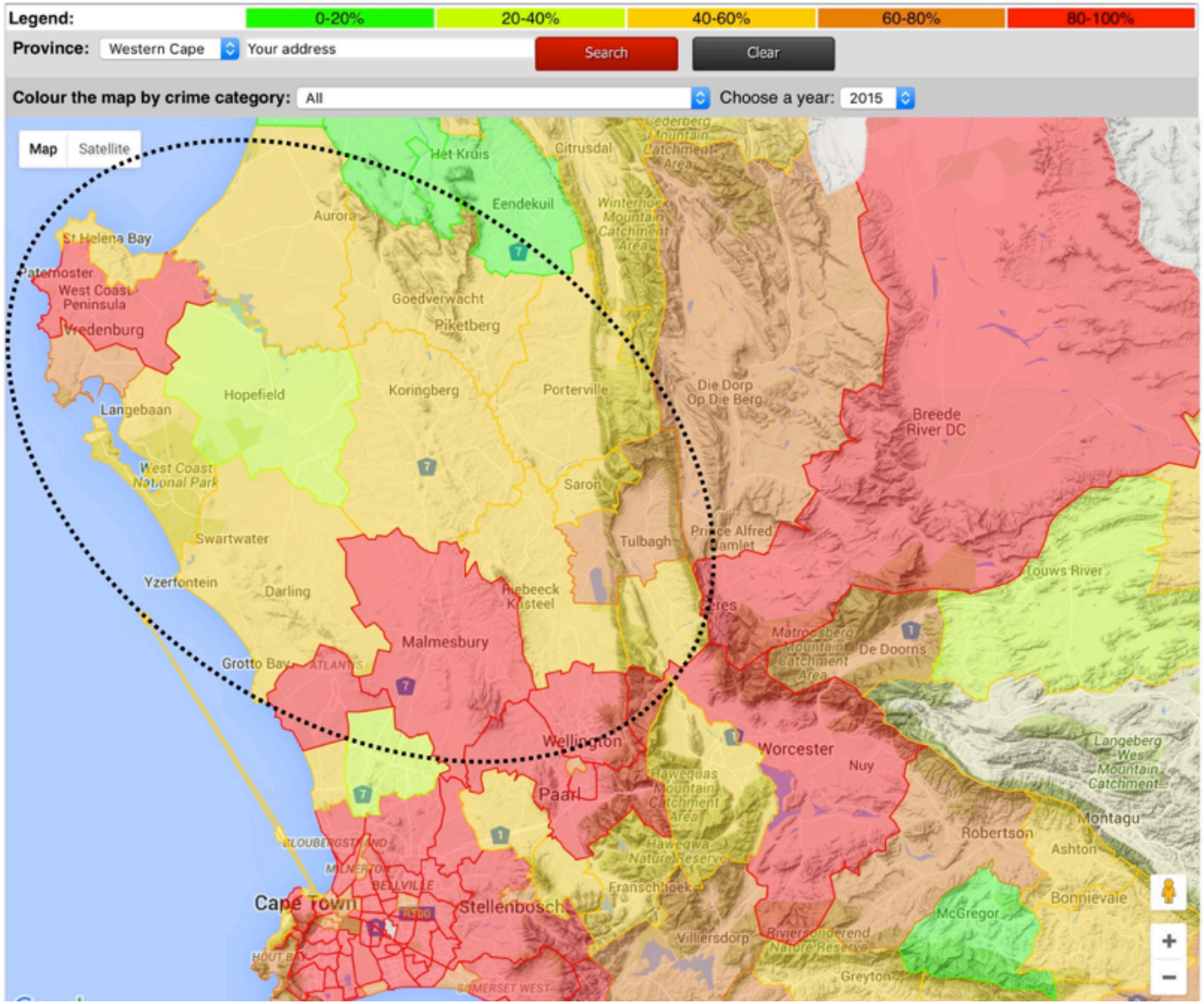


Figure 19. Relative Severity of Crime Levels (All Categories) in the GSR (Source: www.crimestatssa.com, accessed 5 July 2016)

in the remainder of the GSR has fallen. This is indicative of a general decline in economic performance and earning power across all skill levels.

- The increase in crime and associated social pathologies, especially that related to drugs, is evidence of communities under economic and socio-cultural pressure

3.2.3. Current Initiatives (Plans, Programmes and Projects)

RSEP/VPUU, which is aimed at improving the quality of life of communities through projects that are intended to upgrade selected urban areas (targeting a holistic approach to achieving socio-spatial transformation and upliftment). This programme is applicable currently in the Saldanha Bay and Swartland municipal areas.

3.2.4. Gaps and Key Issues

There is a need to understand better the distribution of social facilities: education and training facilities, health, safety and security as well as recreational facilities

3.3. Regional Economy

3.3.1. Current Status

The WCD economy is the third largest non-metro district within the broader Western Cape Province economy. From a gross value added (GVA) perspective, the District accounts for roughly 4.4 per cent of total provincial GDPR, making it a relatively minor contributor. However, the WCD plays an important role in the provincial economic growth plans. Frost and Sullivan (2011) note that Saldanha Bay is a critical resource for the sustainable growth and development of the Western Cape Province. In particular, its deep-water port and linked infrastructure have already encouraged the development of major industries that contribute positively to local employment and regional and national Gross Domestic Product.

The economy of the GSR has traditionally been driven by the agricultural sector and fishing activities. However the presence of a deep natural harbour, the regional connectivity in the form of the rail link with the Northern Cape (Sishen), and the historic investment in the Port of Saldanha have, in recent years, created potential for enhancing the economic growth through the manufacturing and tourism sectors (see Figure 21). The GSR has the opportunity to take advantage of the combination of natural strengths related to its port and proximity to natural resources, and the rapidly increasing activity up the West and East Coasts of Africa, to deliver on regional and national development goals. This potential has been accentuated by the classification of the GSR as a national Growth Management Zone in the NDP (due to the aforementioned factors) and the designation of two Strategic Integrated Projects (SIPS) relevant to the area in terms of the National Infrastructure Plan:

- SIP 5, a Geographic SIP which targets investments in the Saldanha - Northern Cape Development Corridor (focused on Saldanha Bay port, the SBIDZ, developing maritime support capacity for the oil and gas sector, and expanding the iron ore export operation and encouraging local beneficiation); and
- SIP 8, an Energy SIP that aims to support sustainable green energy initiatives and support bio-fuel production facilities, which has relevance for a number of LNG project initiatives in the GSR.

The WCD economy is well linked with both the international economy, and the Cape Metropolitan area. The area is therefore directly affected by changes in both the national and international market place. While the recent economic downturn has placed the local manufacturing base under

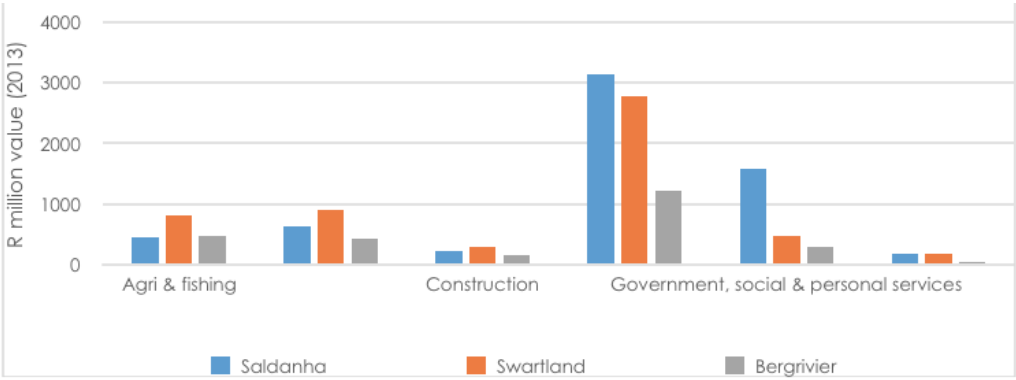


Figure 20. Regional composition in the WCD, by sector 2013 (WCG 2015 MERO)

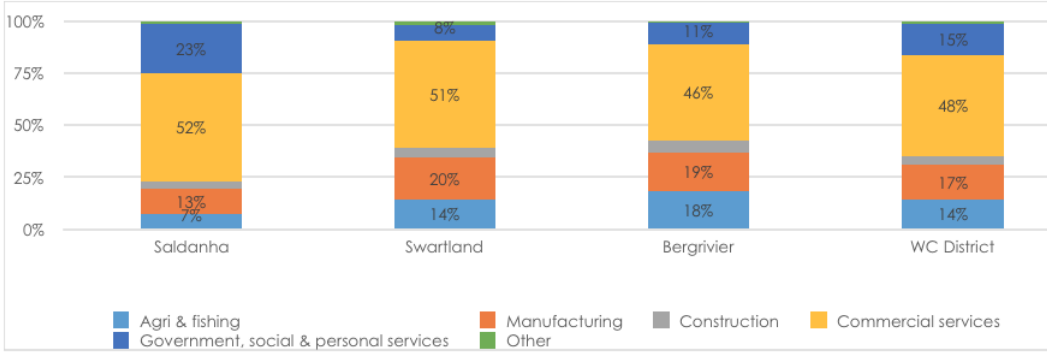


Figure 21. Sectoral composition of GDPR, by municipality (WCG 2015 MERO)

pressure, the regional economy has been boosted by the growth of the tertiary sector, namely financial and business services. The proposed developments around the SBIDZ outlined above have also boosted growth expectations for the area.

In light of recent economic trends, the province has downgraded the growth prospects for the region from an average of 2.9% to 2.6% per annum.

Saldanha Bay and Swartland are the leading municipalities in the district contributing a combined 60% of the WCD real Gross Domestic Product (Regional) (GDPR). The Bergrivier Municipal area is the 4th largest economy, accounting for 13% of WCD GDPR in 2013.

Figure 20 shows the **contribution** of each municipality to each economic sector in terms of GDPR. For example, while the rest of the WCD accounts for the dominant share of GDPR for the agriculture sector, SBM is responsible for the greatest share of the Government and Personal Services sector, which is very likely due to the fact that it is home to the Port of Saldanha Bay (Transnet) as well as SA military facilities and personnel (SA Military Academy and the SA Navy at Saldanha, Langebaanweg Air Force base).

The economic make-up of Swartland, Saldanha Bay and Bergrivier municipalities relative to the overall West Coast is shown in Figure 21, and illustrates some of the stark differences between the municipalities. Seventy-five percent (75%) of SBM's GDPR is due to commercial, government and personal services, in contrast to approximately 60% for the entire WCD. However, Swartland has a relatively stronger manufacturing component,

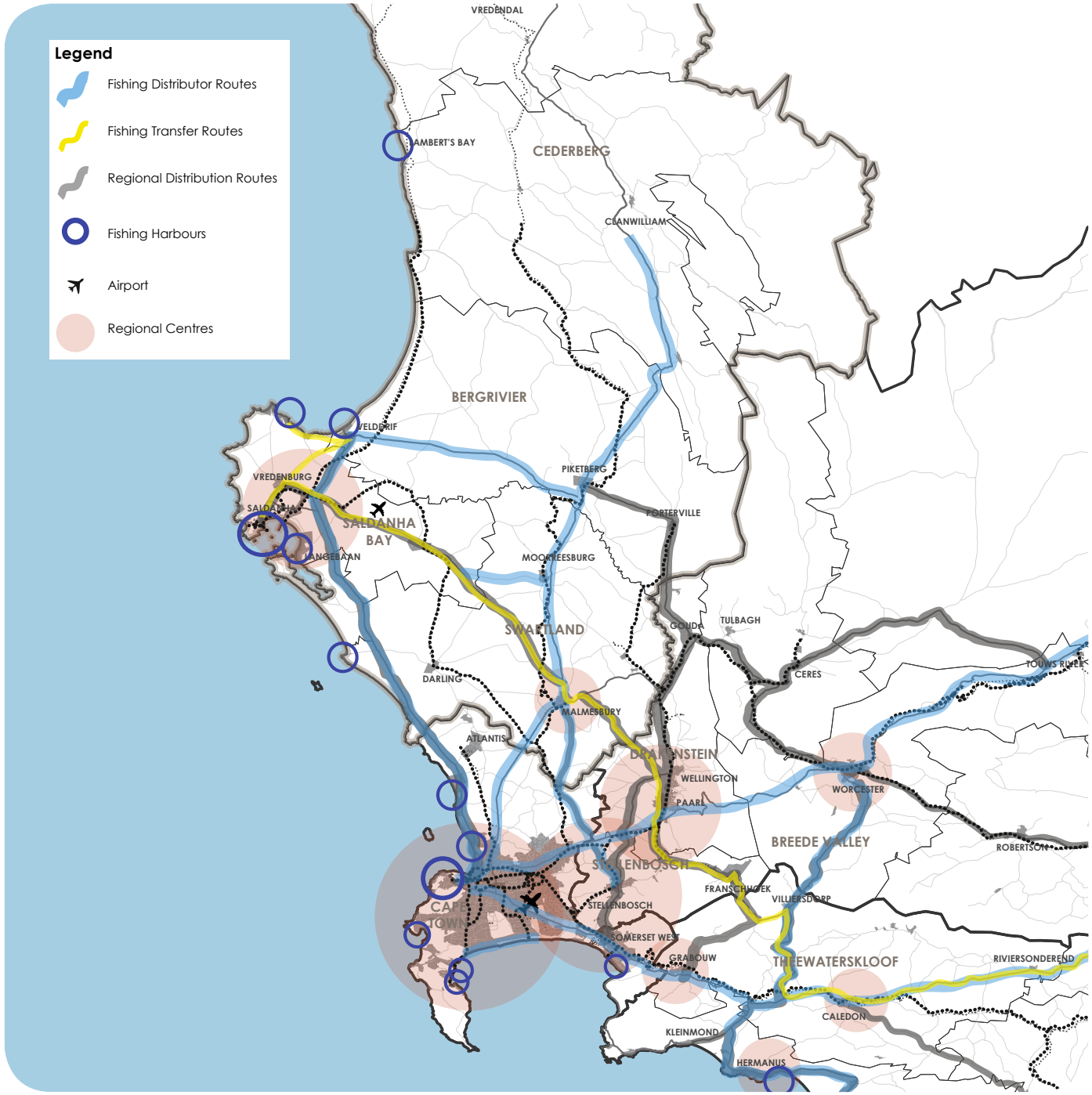


Figure 22. The regional space economy (Interpreted from WCG PSDF GIS Data)

accounting for 20% of their GDPR relative to SBM's 12%.

Employment and skills

There have been significant job losses over the past decade in the primary and secondary sectors, namely agriculture, fishing and manufacturing jobs within the WC District, with no equivalent gain in other economic sectors. This can largely be attributed to the shrinking of the manufacturing sector and increased mechanisation of primary sector activities, which has resulted in a loss of semi- and unskilled employment (WCG, Municipal Economic Review and Outlook 2015: 150) The net employment creation is occurring exclusively in the services industries of the WCD, notably that of finance, insurance, real estate and business services.

SBM stands out as the only municipal area to have a net positive employment creation over the period. However, the jobs which have been created are in the tertiary sector. These new jobs within the SBM and GSR have therefore occurred in the context of growing local unemployment, and a growing informal sector.

A comparison of the skills profile of the 3 municipalities within the GSR (see Figure 23) illustrates the importance of the informal sector, and the shrinking number of semi and unskilled job opportunities in the formal economy. This presents a real challenge in terms of the need to create more employment opportunities in this skill set, and to increase the skill level of the overall labour force.

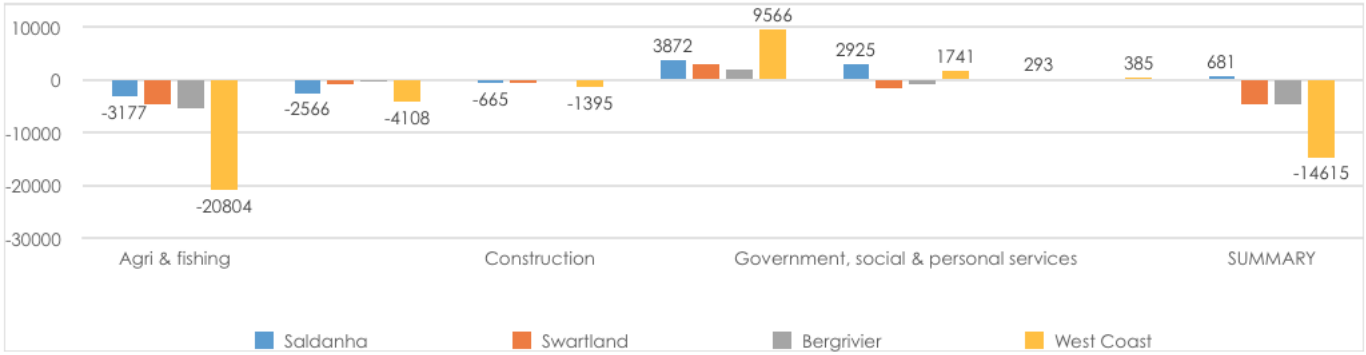


Figure 23. Sectoral employment creation, 2005-2013

3.3.2. Impacts of upcoming industrial projects on employment by skill level undertaken as part of WCIP

As noted in Section 2.2, the WCIP identified a number of prospective new industrial projects and allied enterprises that may develop over time in the Saldanha/Vredenburg growth centre. Because of this, there are significant expectations for improved job creation in light of the proposed new industrial developments within the SBM. In order to understand the implications of the potential job creation in the area on the local population in terms of skill level, Census 2011 figures were assessed to get an indication of the availability of local workers to fill the anticipated new positions.

It is important to note that the WCIP analysis focussed on the direct job creation that is expected to result from these industrial projects, and does not extend to a macro-economic analysis of the indirect jobs which might be generated in the provincial and national economy. Assuming all of the currently identified projects go ahead, approximately 29,000 person job years should be created over the period. Depending on project timing, this is expected to result in a maximum of approximately 6,000 individual job opportunities during the construction phase of the projects. Operational positions start up only once construction is completed, which results in a slight lag behind the capital positions. A total of approximately 10,500 full time equivalent operational positions is expected to be created by these projects.

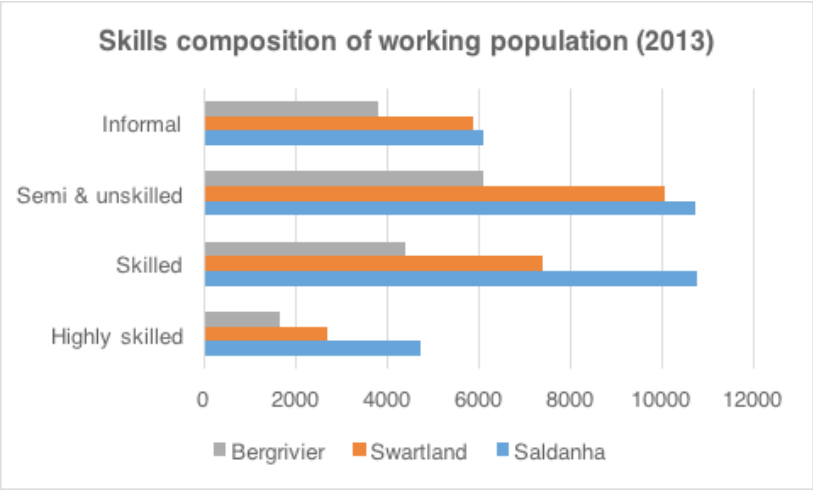
The WCIP also attempted to identify the type of skills that will be required. The graphs illustrated in Figures 24 - 26 should be regarded as indicative only, and additional verification is required from the individual project developers.

The three types of skill levels were equated to educational level, and are as follows:

1. Skilled: Requires a post school degree or diploma, and typically includes managers, professional and technicians;
2. Semi-skilled: Requires some post matric or school training, but not degree. This can be acquired on the job in necessary;
3. Unskilled: Positions that only require some secondary schooling, matric and lower.

These categorisations were used to analyse the skill level of the local unemployed population, based on the highest education level according to Census 2011 stats. According to Census 2011, the currently employed population in SBM was estimated at approximately 34,000. Of the working age population, an additional 12,000 are classified as unemployed or discouraged work-seekers, while an additional 22,000 are not economically active.

An analysis of the Census data was conducted to determine the "fit" between the jobs to be created, and the skill set of the currently unemployed population. The working age unemployed population was then cross-tabulated against the highest education level attained. Highest education



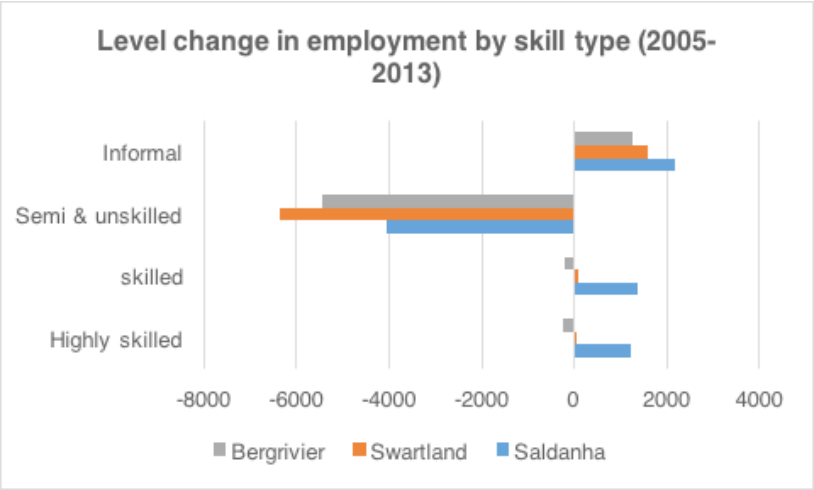


Figure 24. Skills profile - total and change (WCG 2015 MERO)

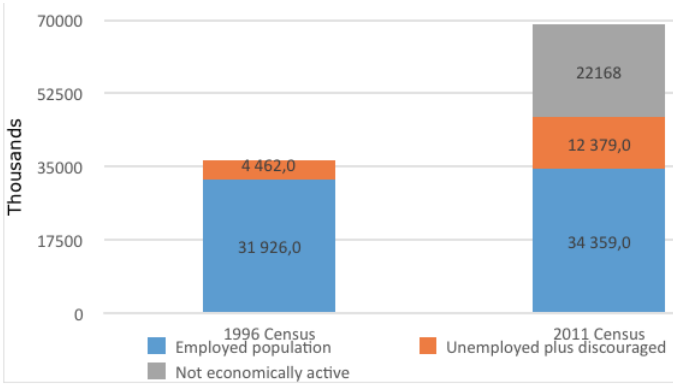


Figure 25. Total current employment levels (all skills levels)

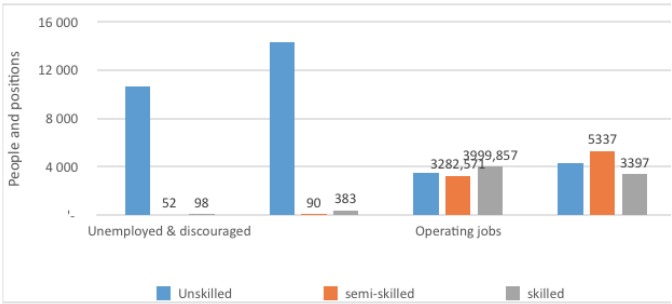


Figure 26. Comparison of local unemployment and possible direct jobs

level was grouped into unskilled (matric and lower), semi-skilled (some form of post-secondary training), and skilled (a formal tertiary qualification of some kind).

Figure 26 shows the extent of local unemployment amongst the unskilled section of the population, and the extremely low levels of skilled and semi-skilled people who are currently unemployed. This led to the assumption that, for each of the skilled and semi-skilled jobs created, one new household will move into the area. Conversely it was assumed that all of the unskilled positions could be filled from the currently unemployed population within SBM.

This is a significant assumption, given the typical tendency for increased migration of job seekers to an area where development is happening. However, this assumption is justified as some of the semi-skilled positions could potentially be filled by unskilled locals, with on-the-job or other suitable training provided by the individual projects to meet their own specific requirements.

The category of not economically active was included to give a complete picture of the current situation. The definitions of discouraged versus not economically active are quite contentious, and so both have been included here to show the comparative scale of both.

3.3.3. Gaps and Key Issues

- The need to develop a better understanding of the likely growth path for the various sectors of the regional economy in the medium to longer term and the investment plans of key role-players such as the National Ports Authority and Transnet.
- This is allied to the need to understand better the types of skill sets that will be required over the short - medium - long terms in the various sectors of the economy.
- Need to clarify what institutions are in operation (and where these are located relative to the distribution of need) that may assist with skills training.

3.4. Rural Development

3.4.1. Current Status

The GSR, together with the Cape Functional Region, contributes significantly to the Western Cape Province's agricultural economy, which accounts for 55%-65% of South Africa's agricultural exports and 20% of the country's agricultural production). This is despite legacy challenges including historical resource over-allocation (e.g. water) and depletion (e.g. topsoil) driven by the imperatives of a resource dependent economy, an agricultural economy for many years supported by input subsidies, single channel marketing and fixed commodity priority, and the impact of apartheid on the socio-economic fabric underpinning the entire agri-sector. Such challenges or the manifestation thereof continue to threaten the robustness of the sector in the GSR.

Rural Land Use

Within the 1 million-plus hectare rural area of the GSR, land usage is predominantly agricultural, with dry-land cultivation (57,2%) proportionally distributed between the municipalities and irrigated cultivation only comprising 3,9%. Irrigation occurs predominantly in the Bergrivier and Swartland municipal areas. Livestock grazing of usable natural veld is dominant in the Bergrivier municipal area, while occurring equally in the Saldanha and Swartland municipal areas.

Other dominant uses include formal conservation (4,5%), municipal commonage (some 5,543ha of commonage land is attached to towns and settlements in the GSR), state land, comprising some 48,657.8ha (this excludes National Park Trust properties of around 4,161.4812ha given that such properties form part of the West Coast National Park), land currently subject to the TRANCRAA process in terms of the Transformation of Certain Rural Areas Act (Act 9 of 1999), church land, and admiralty reserve along the GSR coastline, which comprises of coastal land sections and off-shore islands. Such reserve includes a significant extent of land which is currently not surveyed/quantified.

Rural land tenure in the GSR is characterised by predominantly private-owned farm holdings with a high entry cost as well as a stable land holding cadastre as dictated by the commercial agricultural production type/enterprise (i.e. 20-800ha), while smallholdings in close proximity to urban areas reflect a fragmentation of such cadastre (i.e. <20ha).

Current trends include:

- Land holding consolidation in urban agri-sectors (e.g. small grain) in response to maintaining global competitiveness and escalating farm operating costs, subdivision of uneconomical irrigated land due to limited property size, and subdivision demand outside of urban edges for non-agricultural uses and in coastal areas for lifestyle living.
- Non-agricultural and non-conforming use being more prevalent in the proximity of urban areas, especially those having development expectations (e.g. Saldanha-Vredenburg), with both farms and smallholdings (e.g. abutting the R45 inland of the "back of port" area) reflecting non-conforming and mixed use.
- Limited usage of municipal commonages (e.g. community allotments).
- Limited access to and availability of state land (e.g. emerging farmer settlement), and poorly managed land utilisation of and access to Admiralty Land (e.g. community-based eco-tourism, seaweed harvesting).

LAND USE	HA	% OF TOTAL CWCBR
RESIDENTIAL	9301,12	2,45
BUSINESS	269,62	0,07
INDUSTRIAL / TRANSPORT	2221,69	0,59
MINES & QUARRIES	435,02	0,11
CULTIVATED DRY-LAND AGRICULTURE	119410,61	31,58
COMMERCIAL IRRIGATED LANDS	1235,87	0,33
USABLE VELD	176288,37	46,62
COMMERCIAL PLANTATIONS	1349,62	0,36
IMPROVED GRASSLANDS	6643,87	1,76
FORMAL CONSERVATION	49586,68	13,11
WATER BODIES	9438,88	2,50
BARE ROCK AND SAND	1986,65	0,52
TOTAL AREA (CWCBR)	378168,00	100

Table 4. Breakdown of Land Use in the CWCBR (Source: CWCBR Status Quo Report, 2007)

Coastal Land Use

The coastal areas of the GSR fall within the Cape West Coast Biosphere Reserve (CWCBR) (see Figure 28). Notable land uses along the coast include:

- Minor resorts (Ganzekrall, Grotto Bay)
- Agriculture (dryland cultivation and/or land usable for grazing)
- Coastal settlements and minor harbours
- Private Protected Areas
- The West Coast National Park (27,000 ha)

Land cover data for the CWCBR indicates the following spatial budget of land uses as recorded in the CWCBR Status Quo Report, June 2007:

From the above, the balance of land use in the coastal areas is broadly seen to be as follows: -

- 13.11% is under formal conservation (protected areas)
- Up to 80.65% of the area is used for agricultural purposes

Fishing

Fish and West Coast rock lobster lands at the ports of Hout Bay, Cape Town, Saldanha, St. Helena Bay, Laaiplek, Lambert's Bay, as well as at the Yzerfontein, Langebaan and Eland's Bay stations. The West Coast contributes significantly to this fish stock and the national catch. The GSR economy, given three of the main fishing ports and supporting on-shore fish processing facilities, derives substantial benefit from this sector, with the livelihoods of labour-sending and coastal fishing communities throughout the region heavily dependent on this sector.

Characteristics of the West Coast fishing industry include (DAFF, 2014):

i. Decline in catches and resource depletion in the main West Coast fisheries' resources over the past years, having a significant economic

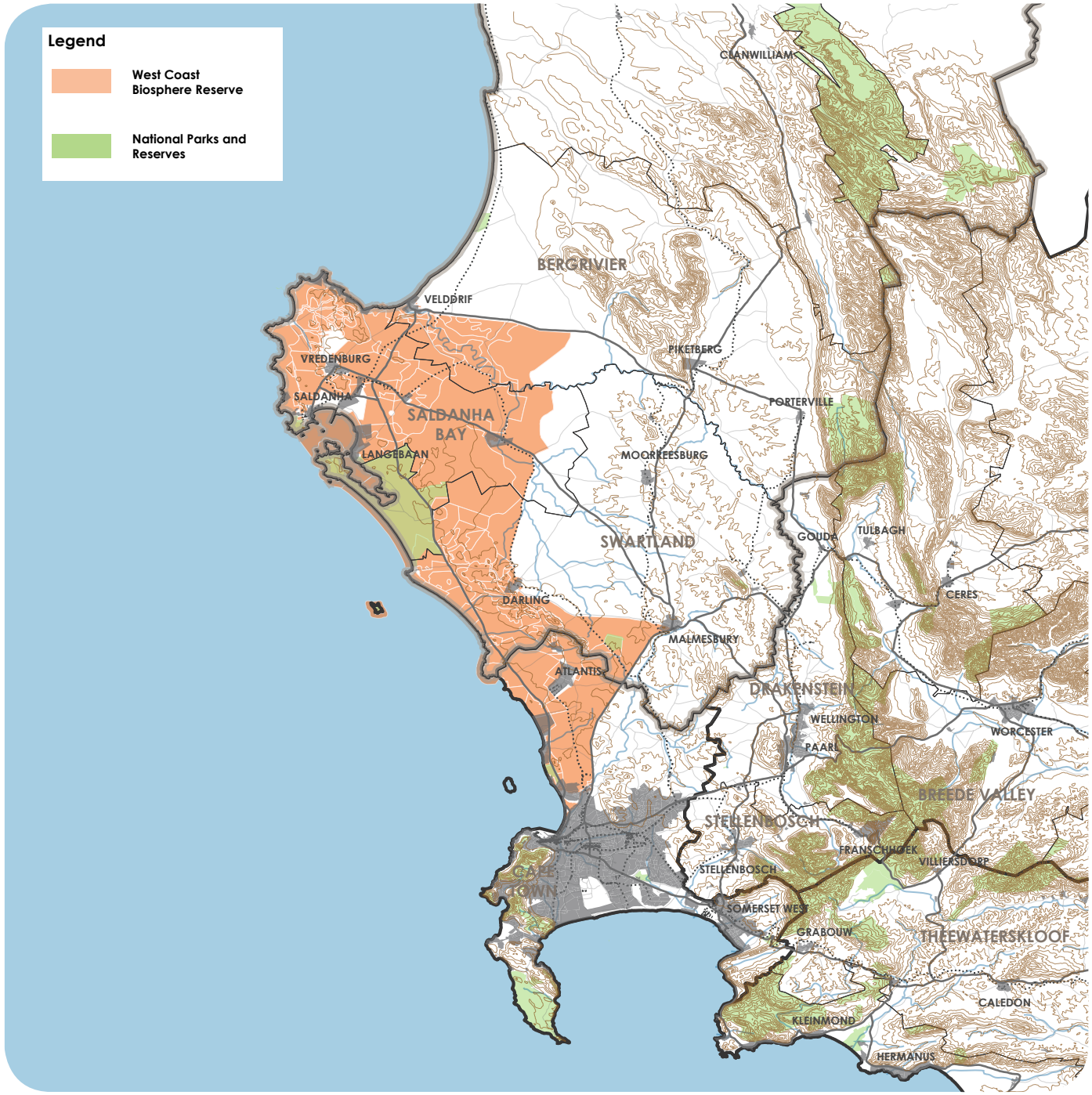


Figure 28. The West Coast Biosphere Reserve and surrounding national parks and reserves (Interpreted from WCG PSDF GIS Data)

effect on GSR communities. Operational Management Procedures have been introduced to restrict Total Allowable Catches (TACs) and reduce the number of quota holders in order to manage resource stocks and effect their recovery.

ii. Increase in fresh beach-cast kelp harvesting, given the food demand for on-shore abalone production, especially given the node of such farming at Cape Columbine. Dry beach-cast kelp is harvested for high-value plant growth stimulants marketed nationally and internationally.

iii. Experimental fisheries on the West Coast have included the harvesting of whelks, three spotted crabs and red bait.

iv. Illegal gillnet fishing in the Berg River Estuary.

v. Significant on-shore and near-shore mariculture development at Saldanha Bay, Cape Columbine and St Helena Bay including mussel, oyster (including pearls) and seaweed cultivation and on-growing (e.g. West Coast Abalone, Blue Ocean Mussels, West Coast Seaweeds, etc.)

Mining

Mining is a leading economic driver for infrastructure development in the region. The significance of mining and mineral processing and handling within the GSR, its rural areas and labour-sending communities vests in the following:

- Heavy mineral sands mined by Namakwa Sands north of Lutzville are processed at the "back-of-port" processing plant in Saldanha Bay, with the final product exported through Saldanha Port.
- The Bridgetown mine on the Berg River, with this mine producing metallurgical lime (i.e. for the Saldanha Smelter).
- The transport of all Namaqualand – Northern Cape dimension stone through the GSR to the Saldanha and Cape Town ports for export in the form of unprocessed blocks (30 tons) - offering an opportunity for a dimension stone beneficiation plant, with cutting and packaging of the final product for export (e.g. tiles, wall cladding).
- Mineral occurrence (Council for Geoscience, 2013), including Limestone/Dolomitic Limestone, Agricultural and Metallurgical Lime, Phosphate, Gypsum, Construction Materials (sand and aggregate
- Offshore Oil and Gas: Potential for the further development of the petro-chemical industry related the on-shore transfer and storage of future off-shore oil and gas at Saldanha, possible refining and including a transfer pipeline to Cape Town and sea transport to other coastal ports.

The mining sector is characterised by the fact that minerals are place-bound, which reduces that element of choice. Because access to strategic minerals is often deemed to be of high importance, this adds a premium on the need to carefully consider benefits and impacts of making use of the resource, where found. This is especially the case as haulage distance in relation to construction materials impacts directly on construction and development economic feasibility, which can bring pressure to bear to favour the utilisation of resources in close proximity to urban/ industrial areas.

Tourism

As stated in the 2014 PSDF, the Western Cape's tourism economy is nature and heritage based, built on a foundation of a high-quality landscapes and unique environmental settings. The same applies to the West Coast region, where the unique landscapes and rural settings provide a range of popular tourism activities such as (WCD SDF, 2014):

- Coastal towns (holiday & breakaway locations)
- Adventure/Recreation (hiking in Cederberg, water sports)

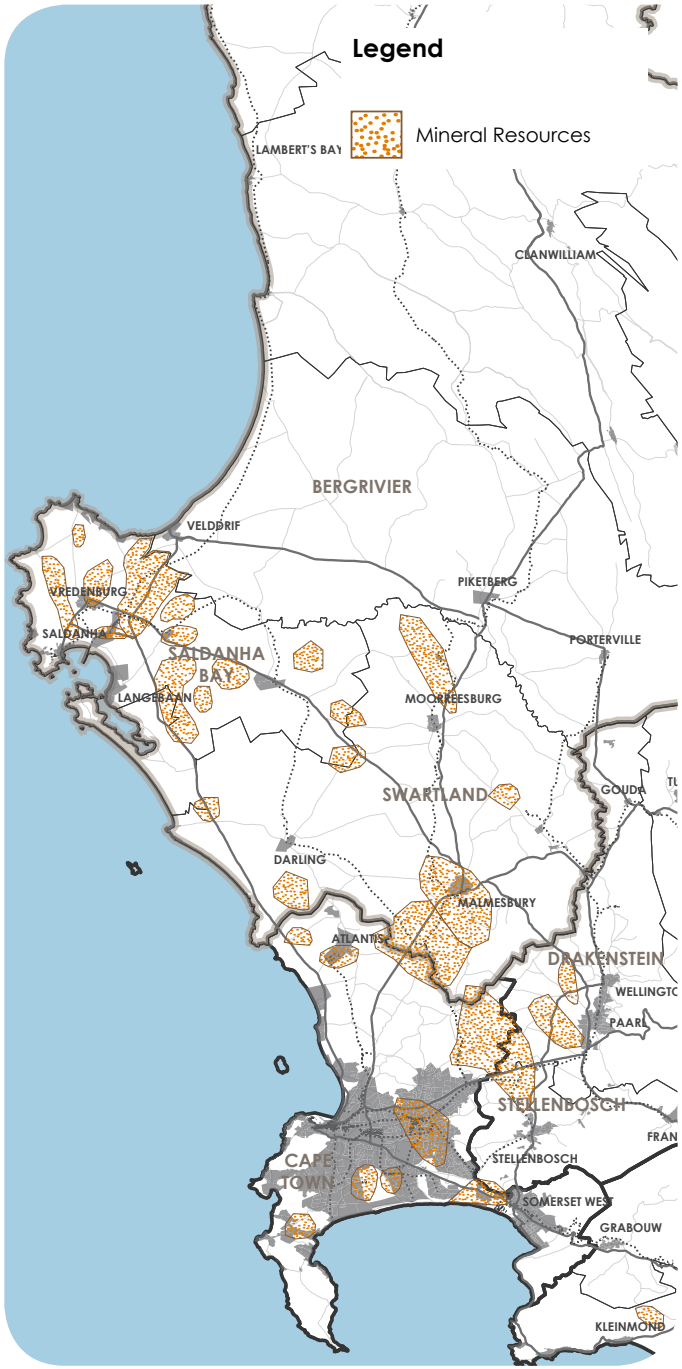


Figure 29. Regional Mineral Resources (Interpreted from WCG PSDF GIS Data)

- Nature/ Conservation areas (West Coast Park, Cederberg Wilderness, Fossil Park, Vanrhynsdorp Succulent Nursery, Knersvlakte, etc.)
- Cultural (Missionary towns, koi san, etc.)
- Agri-tourism (wine & olives – Riebeeck Valley, guest farms, camping, fishing, etc.)

Sightseeing tours are offered along the Cape West Coast focusing on the unique flora and fauna, birding, vineyards, fossils and whale watching.

According to a regional profile of the region compiled by Wesgro in 2014, the West Coast holds a rich share of domestic travelers and accounted for 77.3% of respondents in 2014 who traveled to the respective towns along the region. The domestic market was led by the Western Cape (59.6%), followed by Gauteng (18.5%) and KwaZulu-Natal (5.2%). The region also welcomed a share of 21.4% from the international market and was largely represented by visitors from Germany (30.7%), the United Kingdom (28.5%) and the Netherlands (10.1%). Half of travelers visiting the area indicated overnight stays with an average length of stay of one to three nights.

3.4.2. Impacts

The attractive rural setting of the GSR rural areas (e.g. Piket-bo-Berg, Riebeek Kasteel, Riebeek-Wes, coastal areas, etc.). is becoming a sought-after investment for lifestyle – living, the economic spin-offs of which, if appropriately harnessed, can be a catalyst for rural development and the socio-economic upliftment of rural settlements and their residents. However, cadastral fragmentation in certain rural areas poses a non-agricultural development threat, particularly within and adjacent to smallholdings and areas with a development expectation (e.g. Saldanha-Vredenburg region).

Figure 30. The church of Goedverwacht outside Piketberg

Figure 31. The Wittewater Moravian Church

High unemployment rates in the rural areas, together with high dependency on social grants and the displacement of the farm worker population given the recessionary climate, agri-mechanisation, farm property consolidation and non-agricultural use poses threats to the future sustainability of the GSR's agricultural economy and social status.

The successful takeoff of the Saldanha/Vredenburg growth centre and positive development trends in areas such as Velddrif, Malmesbury, Piketberg that may result from this or from the investments being made in the regional transportation network will result in an increase in demand for fresh produce and foodstuffs to be supplied to these areas. in the case of fresh produce in particular, it would be

Figure 32. Degrading historical buildings in Wittewater

Figure 33. Scenic landscape

advantageous if this could be sourced from areas as close to the main localities of demand.

3.4.3. Gaps and Key Issues

- Explore climate change adaptive measures in relation to reducing risk (i.e. flooding and fire), food and water insecurity, loss of biodiversity and sustainable agriculture through a "climate smart agriculture" approach within rural areas and settlements.
- Mining - Construction materials (e.g. aggregates, construction sand) are fundamental to the lifespan of urban and rural development and must not be periphalised but rather considered as an integral regional land use with appropriate reservation and measures to manage the resource.
- If not appropriately managed, coastal development pressures, especially around sensitive estuarine habitats, present a real threat to the ecological integrity, landscape quality and tourism value of the GSR's coastal assets.
- Two key tourism challenges in the region have previously been reported as being (i) poorly defined tourism routes/corridors; and (ii) underutilised tourism assets. These aspects and potentially other issues relating ot the tourism potential of the region need to be further explored.
- More up-to-date land cover data to determine the balance of land uses in the GSR is required. This will assist in determining the relative shift in land cover and land use in the GSR over a time period and assist with the identification of key rural land use trends.
- The potential to integrate rural development with regional infrastructural development (e.g. rail, road, renewable energy) and improve urban-rural linkages, including improved rural public transport and provision of temporal and permanent social services.
- The need to embed agrarian and fisheries reform and rural livelihood programmes as IDP priorities, together with co-coordination of existing socio-economic and LED initiatives.

Figure 34. West Coast District Tourism Route Maps (www.capewestcoast.org)

3.5. Human Settlements

3.5.1. Urban and Rural Settlement

The settlement pattern in the GSR spans urban and rural places in a hierarchy of settlement that is reflective of the historical settlement processes that took place in the area. Most often, these processes led to settlements being established at intervals alongside trade routes, near to water sources and/or close to areas of potential economic activity (e.g. land suited to agriculture or coastal locations suited to launching of boats).

The hierarchy of formal settlement in the GSR, together with each town's functional classification and its assessed/projected growth potential as proposed in the Growth Potential Study of Towns in and its assessed/projected growth potential as proposed in the Growth Potential Study of Towns in the Western Cape (GPS: University of Stellenbosch, 2014) is recorded in the WCDM SDF in Table 5 and Figure 35 overleaf:

Within the GSR the following is noted: -

- The study area hosts two towns with assessed Very High growth potential in Vredenburg and Malmesbury, which are also classified as Regional Centres with primary administrative functions.
- Saldanha is currently assessed as having medium growth potential, with its economic base being in the transport and industrial sectors.
- The other settlements listed function either as agricultural service centres, fishing centres, centres dependent on tourism, or a combination of these.
- Many of the smaller settlements are not optimal due to limited functionality (e.g. a predominance of residential uses without a balancing range of economic and social development opportunities).

Table 5. Composite Hierarchy, Functional Classification and Growth Potential of Towns & Settlements in GSR (Source: WCDM SDF, 2014; GPS, 2010-2015)

Hierarchy	Order	Towns	Functional Classification	Growth Potential
Major Regional Nodes	1	Vredenburg	Regional Centre	Very High
		Malmesbury	Regional Centre	Very High
Regional Nodes	2	Saldanha Bay	Fishing/Industrial	Medium
		Langebaan	Tourism	High
		Moorreesburg	Agricultural Service Centre	High
Sub-Regional Nodes	3	Piketberg	Agricultural Service Centre	Medium
		Darling	Agricultural Service Centre	Medium
		St Helena Bay	Fishing/Residential	Medium
		Velddrif	Fishing/Tourism	Medium
		Porterville	Agricultural Service Centre	High
		Riebeek West	Agric. Service/Tourism	High
		Riebeek Kasteel	Residential/Tourism	High
Local Nodes	4	Hopefield	Agricultural Service Centre	Medium
Rural Nodes	5	Dwarskersbos	Tourism	Medium
		Paternoster	Tourism	Medium
		Jacobsbaai	Tourism	Medium
		Yzerfontein	Tourism	Medium
Rural Settlement	6	Koringberg	Residential	Medium
		Goedverwacht	Residential	Low

- All of the existing settlements are characterised by less than optimal densities of land development, which results in sprawling settlement footprints and imposes higher costs on service provision as well as resulting in greater distances to be traveled for commuters.
- As is the norm in South Africa, the urban form is fragmented along racial and class lines and the poorest people, in the main, reside in peripheral locations, which makes accessing work and socio-cultural opportunities more costly.
- From a regional perspective, the growth centre of Saldanha/Vredenburg has historically not been strongly connected to the GCM region but this is, however, in the process of changing with the prioritisation of upgraded road linkages to this area being noted.
- A number of coastal settlements in the GSR have been negatively impacted by the decline in the fishing industry along the West Coast while the development of others continues to be driven by the tourism industry. This latter trend has resulted in pressures on settlement expansion and, again, a tendency for settlements to expand.
- Uniformly, all the current SDFs of the District and Local Municipalities acknowledge these issues and have set in place policies to promote integration, densification of land development and spatial transformation.
- Notwithstanding the above, however, it also appears that the urban edges provided for in existing SDFs were generous and in cases forward settlement planning has run ahead of take-up/demand.

Legend

- Regional Cluster
- Regional Centre
- Fishing / Industrial Settlement
- Fishing / Residential Settlement
- Fishing / Tourism Settlement
- Tourism Settlement
- Agricultural Service Centre
- Agricultural Service / Tourism Centre
- Residential Settlement
- Residential / Tousism Settlement

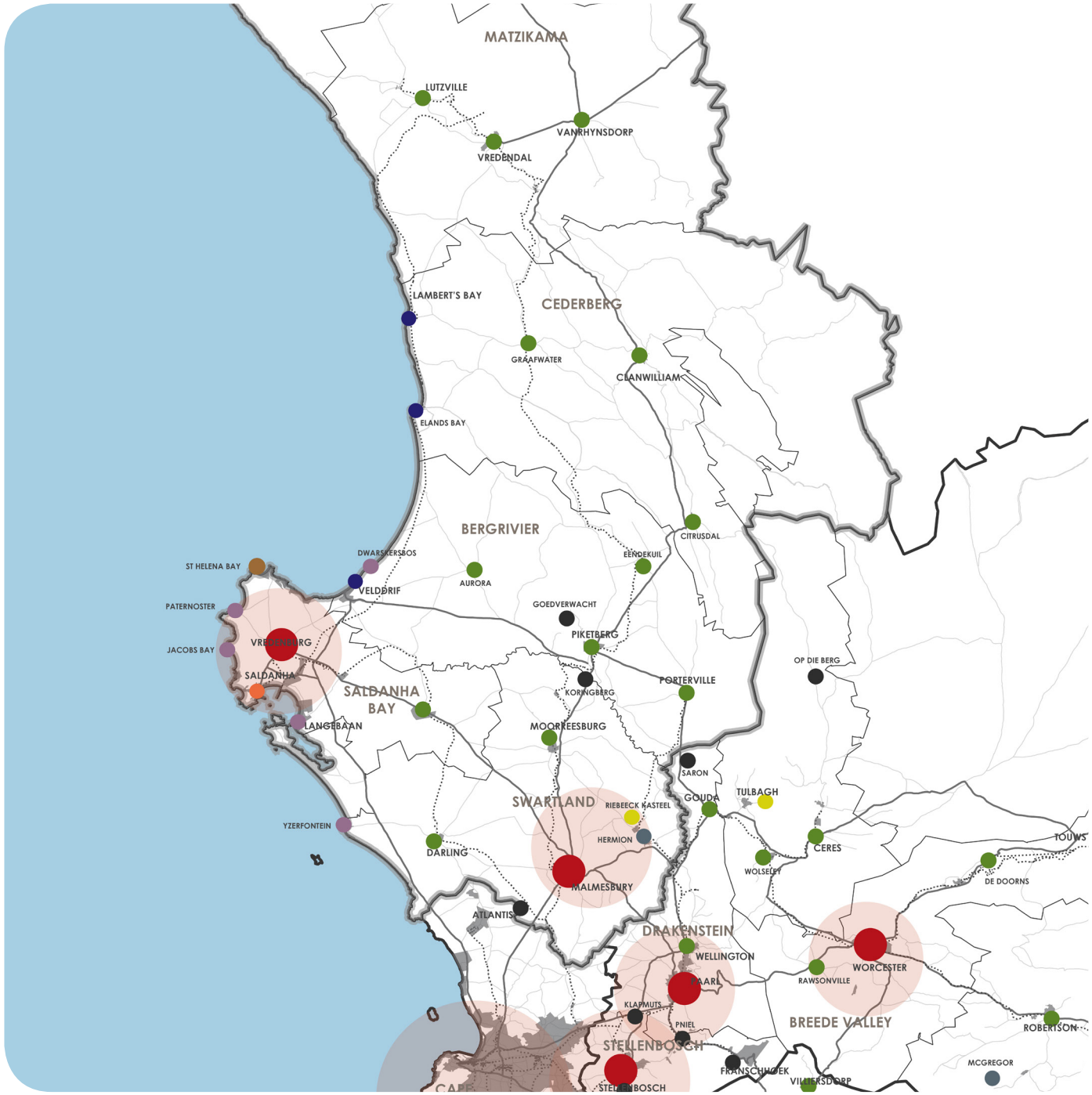


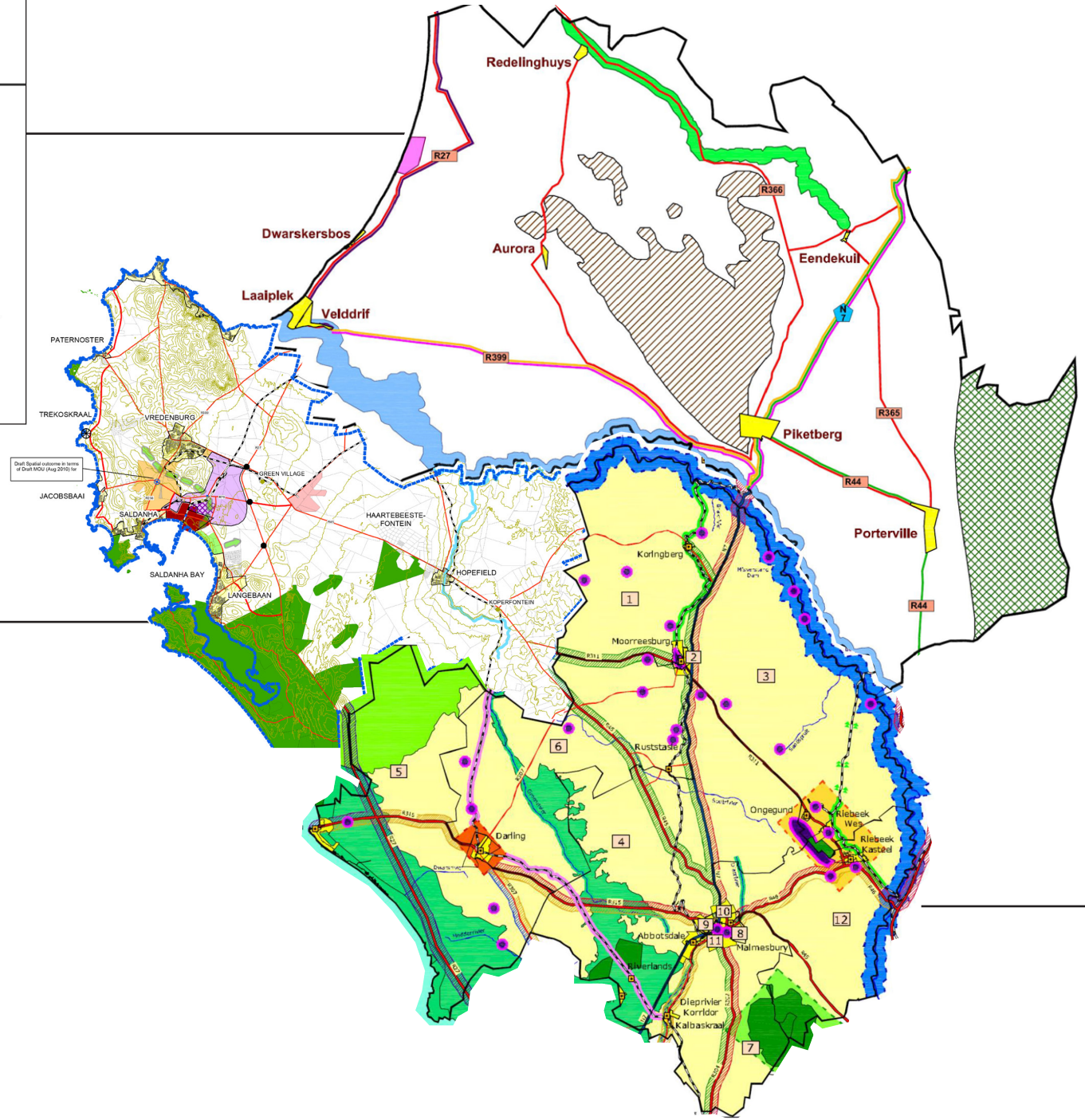
Figure 35. The role and function of settlements as identified by the 2012 GPS Study (Interpreted from WCG PSDF GIS Data)

BERGRIVIER SDF 2012

TOURISM ROUTES & ATTRACTIONS

LEGEND:

- Urban Areas
- Flower Route
- Adventure Route
- Cultural Route
- Bird Route
- Wine Route
- Bergriver Corridor
- Verlorenvlei Corridor
- Rocharpan
- Piketberg
- Great Winterhoek Mountains



SALDANHA BAY

SPATIAL DEVELOPMENT FRAMEWORK

SPATIAL MANAGEMENT CONCEPT

- MUNICIPAL BOUNDARY
- URBAN AREA
- CONCEPTUAL INDUSTRIAL EXTENSION
- CONCEPTUAL URBAN EXTENSION
- OPEN SPACE CORRIDOR
- AIRFIELD
- PROTECTED AREAS
- LANGEBAANWEG AIRFORCE BASE
- SALDANHA STEEL
- OPEN SPACE
- PORT AREA
- ROADS
- RAILWAY
- NODES
- RURAL NODES
- BRIDGES
- NATURE ORIENTATED DEVELOPMENT

SWARTLAND MUNISIPALITEIT

STRATEGIE 4: Versterk & ontwikkel landelike toerisme

SLEUTEL

Toerisme Ontwikkelings Areas

- Agri-toerisme [Riebeek Vallei]
- Veldblomme [Darling]
- Voëllewe [Dassenelland]
- Sport & ontspannings toerisme [Bergrivier]
- Bewarings- en erfenis area [Paardeberg Bewaringsgebied]
- Erfenis terreine

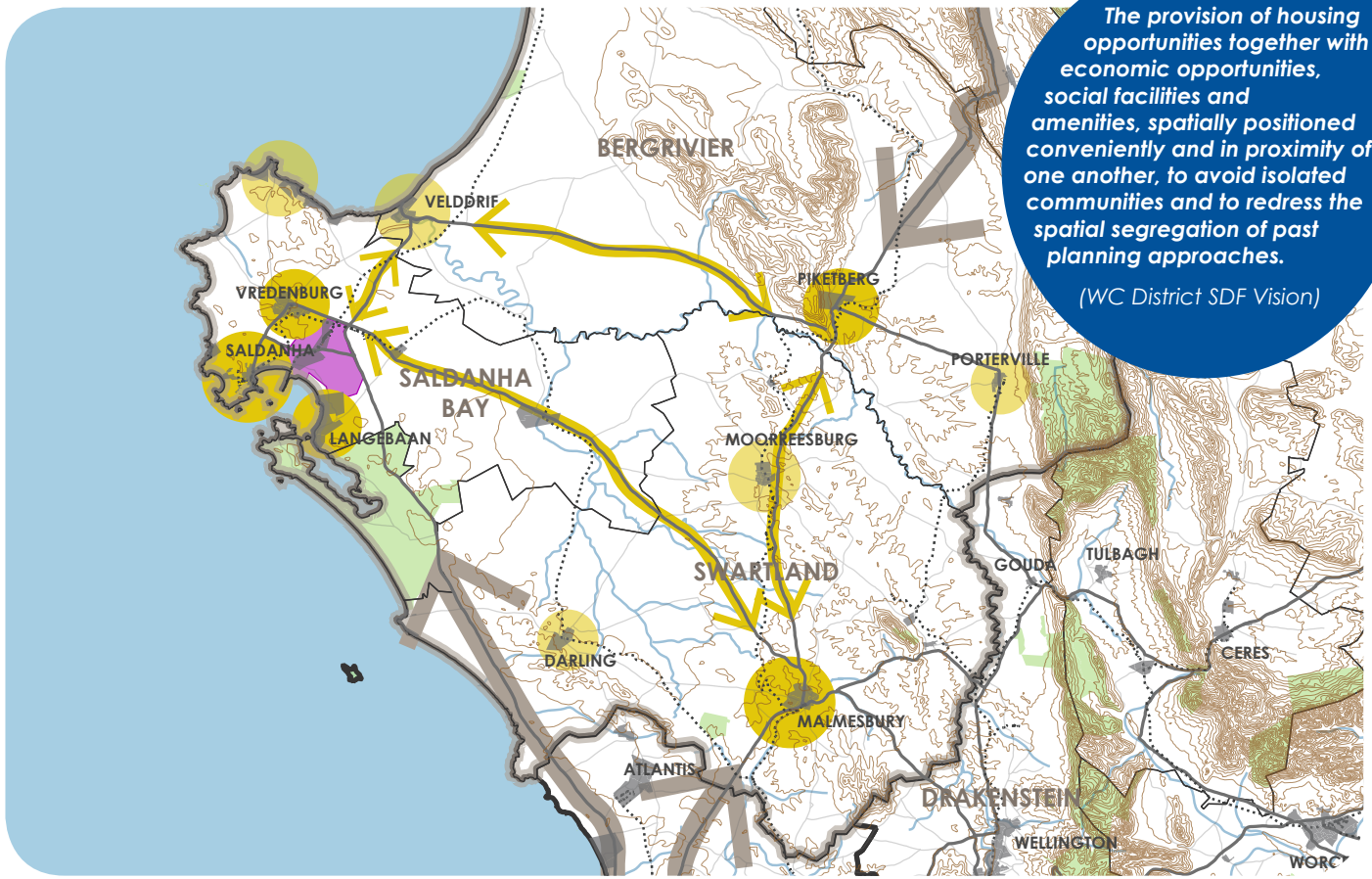
Voorgestelde Toerismeroetes

- Swartland Koringroete: Koringberg - Moorreesburg - Malmesbury - rigting Durbanville [N7], [R302], [R304] & Moorreesburg - na rigting Hopefield [R311] & Malmesbury - na rigting Hopefield [R45]
- Swartland Wynroete: Malmesbury - Moorreesburg - na rigting Piketberg [N7] - na Porterville - Gouda - Hermon[R44] - na Riebeekvallei & Malmesbury [R46] - na Darling [R315] & rigting Durbanville [R302 & 304]
- Swartland Slingerpad: Yzerfontein - Darling - Malmesbury - Riebeek Kasteel - Hermon [R315 & R46] & Malmesbury - Philadelphia [DR1111] & Darling na Mamre [R307]
- Weskus Bewaringsroete: [R27]
- Sendingstasie kultuurroete: Darling - Mamre [R307]
- Blommeroete: Darling - Hopefield
- Landboulandskaproete: Riebeek na rigting Porterville & Mooreesburg na Koringberg
- moontlike verlenging van toerismeroetes
- 1 - 12 Swartland Wyke

3.5.2. Housing

The GSR, as with the Western Cape Province and other provinces in South Africa, experiences serious challenges in terms of establishing sustainable human settlements to address the growing demand for housing and to redress the imbalances in the provision and spatial positioning of economic opportunities, social facilities and amenities. Spatial challenges relate specifically to the availability of suitable land for housing development in the context of sensitive environmental and agricultural resources. Other factors include the locality and availability of state owned land for housing development purposes.

The number of informal dwellings and the extent of informality in the West Coast District is increasing and the current spatial implications of these informal areas include a total area of more than 115 hectares. In the Saldanha Bay Municipal area, the number of informal dwellings are already creeping towards 5000 and in Swartland the number is close to 1000 (WCG, Human Settlement Demand Profiles, 2015). Moreover, officials of Saldanha Bay Municipality have highlighted that companies engaged in construction work have been seeking to set up special camps to accommodate workers. These areas have been sought, in the main, in specific localities close to construction projects and have not been directed to existing urban areas, to date. The impact of establishing so-called construction communities in camps not integrated with the existing urban areas should be considered as some residents of



The provision of housing opportunities together with economic opportunities, social facilities and amenities, spatially positioned conveniently and in proximity of one another, to avoid isolated communities and to redress the spatial segregation of past planning approaches.

(WC District SDF Vision)

Figure 36. Mapping of towns that have been prioritised for future housing delivery in relation to regional commuter routes and linkages (Interpreted from various municipal HSPs)

LOCAL MUNICIPALITY	MEDIUM-TERM BUDGET ESTIMATES		
	HUMAN SETTLEMENTS DEVELOPMENT GRANT APPLICATIONS		
	2016 / 17	2017 / 18	2018 / 19
SALDANHA BAY.	R40 100 000	R98 325 000	R42 420 000
SWARTLAND.	R27 150 000	R45 025 000	R49 250 000
BERGRIVIER.	R23 280 000	R26 250 000	R27 400 000

Table 7. MTEF Human Settlement Development Grant Allocations (Source: WC Provincial Notice 7576, 2016)

MUNICIPALITY	HOUSING WAITING LIST
CEDERBERG	4298 HOUSEHOLDS (JULY 2014)
MATZIKAMA	7787 HOUSEHOLDS (FEB 2013)
SALDANHA BAY	7734 HOUSEHOLDS (APRIL 2013)
SWARTLAND	16 332 HOUSEHOLDS (JUNE 2014)
BERGRIVIER	4267 HOUSEHOLDS (JULY 2014)
WEST COAST DISTRICT	± 40 500 HOUSEHOLDS

Table 6. West Coast District municipal housing waiting lists

these camps may seek to remain in the general area once the construction phases of projects are completed. Appropriate management of these situations is important in order to avoid further informal settlement development resulting.

The Medium-Term Budget framework for Human Settlement Development Grants for prospective beneficiaries in the GSR is recorded in Table 7.

3.5.3. Social Facilities

According to the 2014 WC SDF the distribution of regional/provincial medical facilities through the West Coast is considered to be sufficient, with travel distances of less than 100 km to the nearest facility, with the exception of the northern parts of the Matzikama Municipality.

Tertiary education facilities in the West Coast District include FET Colleges in Vredenburg, Vredendal, Citrusdal and Malmesbury. Secondary and primary schools are distributed throughout the study area and are generally accessible to all surrounding towns and neighbourhoods.

The capacity of existing schools is unknown and will require a review by the PGWC Education Department to ensure that existing schools be extended or new schools planned to accommodate the demand of the growing population.

3.5.4. Key Impacts and Challenges

- Expansion of urban areas & urban edge vs brownfield and infill
- Construction Communities - close to site or in town? Temporary vs. Permanent?
- Maintaining housing price affordability for locals
- Lack of regional acknowledgment of industrial development implications on housing demand / commuter patterns
- Uncertainty around growth scenarios –avoiding oversupply of erven and over-generous urban edges is a key concern. There need to be

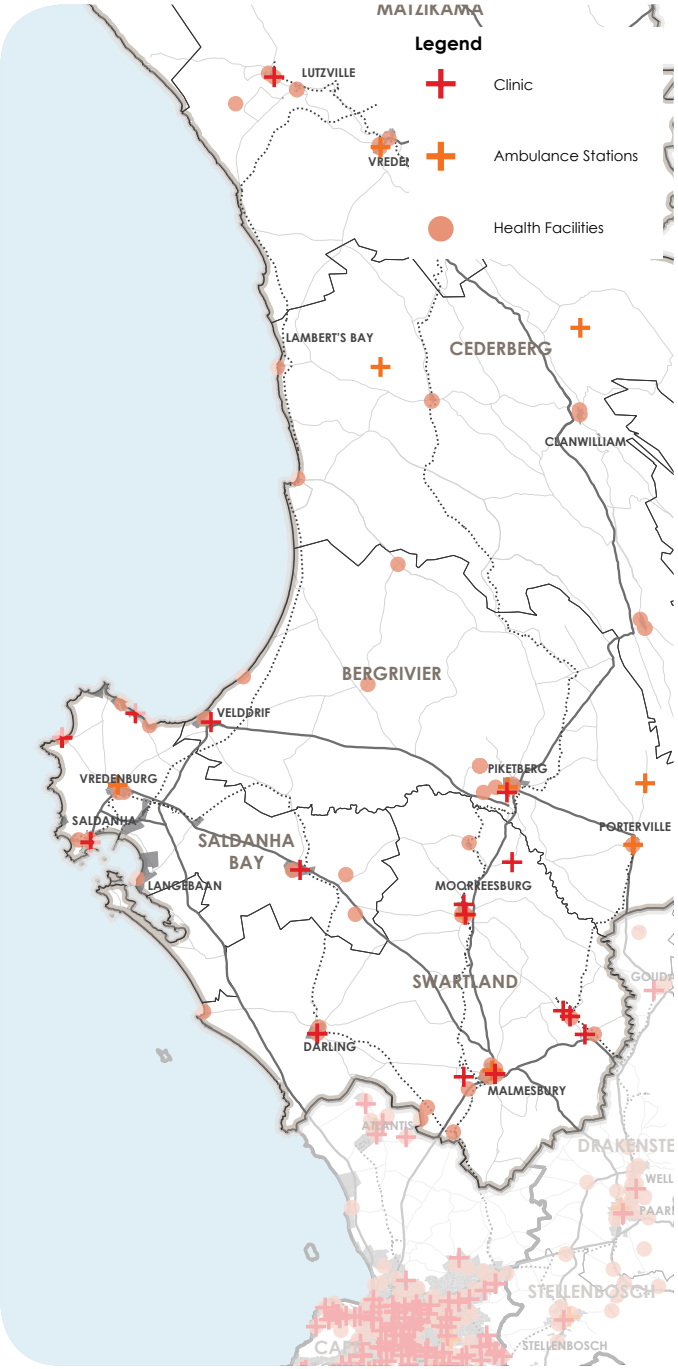


Figure 38. Health facilities (Interpreted from WCG PSDF GIS Data)

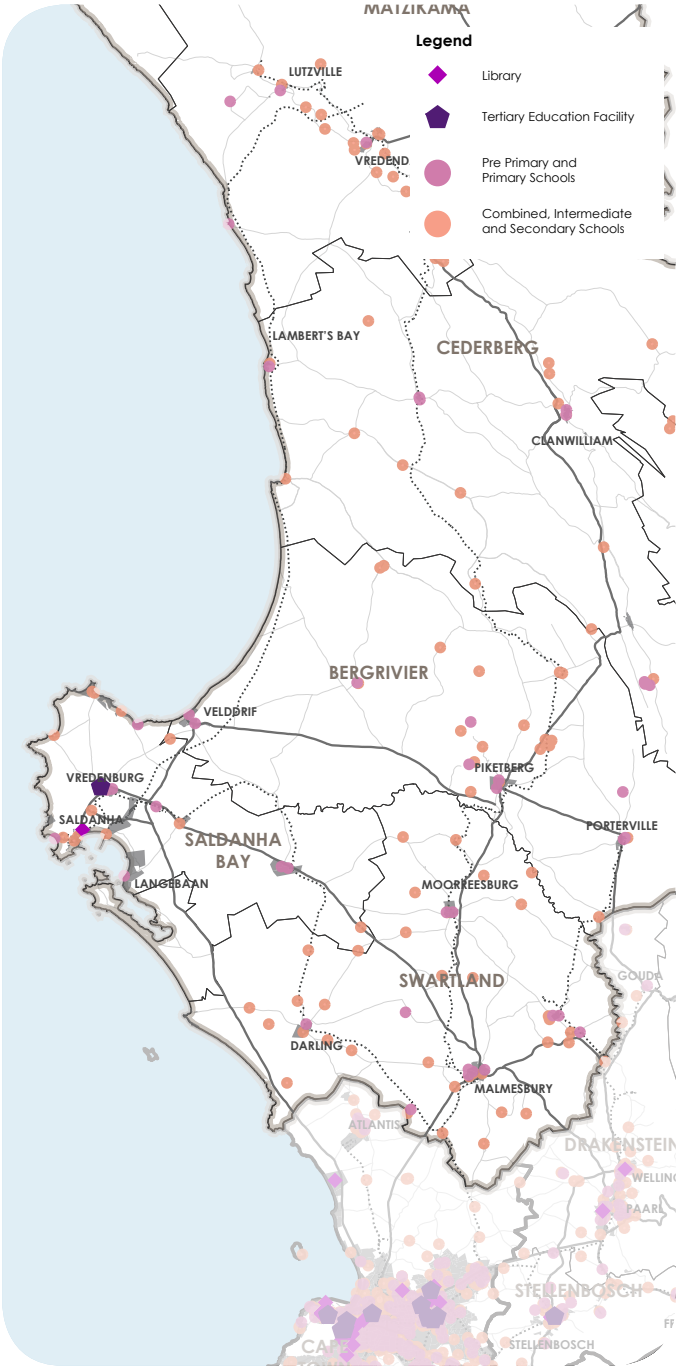


Figure 37. Education facilities (Interpreted from WCG PSDF GIS Data)

sound, appropriate and non-biased measures put in place to control all types of growth (industrial, residential, any other economic structure) to ensure that urban growth does not expand to a point of degrading the natural resources.

- Institutional capacity to manage CRU projects - Institutional Housing Subsidies to enable 3rd party management
- Constraints due to availability of water and adequate services
- Design guidelines for architectural standards
- Lack of clear design strategies for increased densities and mixed housing developments
- Demand for improved provision of regional public transport

3.5.5. Current Initiatives (Plans, Programmes and Projects)

3.5.5.1 Provisional Restructuring Zones

Provisional Restructuring Zones

Saldanha Bay and Swartland municipalities have adopted proposed Provisional Restructuring Zones (PRZs) and this had been endorsed by the WC

Figure 40. Proposed restructuring zones in Malmesbury

SALDANHA BAY	SWARTLAND	BERGRIVIER
Variety of housing types	Subsidised housing only in Malmesbury, Moorreesburg & Darling	Provision of subsidised housing focused in Piketberg, Porterville and Velddrif
Increase densities from ±14 - ±15 within urban edge	Facilitation of construction of second dwelling units on single res plots through overlay zones	Precinct development of private vacant serviced plots
Vredenburg & Saldanha - priority areas for housing	Amendment of SDF/urban edge	Target 550 houses p.a.
Corridor development between Vredenburg & Saldanha	Restructuring zone within Malmesbury & CRU in Abbotsdale & Riebeek West	Agricultural villages or housing in urban areas for farm workers
Restructuring Zones for Community Rental Units (CRU)	Higher quality designs through relaxation of zoning parameters	

Table 8. Summary of current status of housing for each of the local municipalities within the study area (based on SDF/HSP plans)

Human Settlements MEC. Formal proclamation in the Government Gazette still needs to take place after final approval of the national minister.

3.5.5.2 RSEP/VPUU

Saldanha Bay and Swartland municipalities form part of the RSEP/VPUU programme, which aims to implement projects to upgrade and improve the quality of urban environments in stressed areas in order to improve social and economic conditions for resident communities and engender improved public safety outcomes.

3.5.6. Gaps and Key Issues

- Need for better understanding of current and proposed new policy instruments in regard to the development of new housing opportunities
- Need for a better understanding of the levels of availability of social facilities relative to accessibility across the GSR (and wider WCDM)
- The impact of socio-spatial fragmentation and urban form on social cohesion and social pathologies needs to be better understood

Figure 39. Underdeveloped housing project in Velddrif

3.6. Environment

3.6.1. Current Status and Impacts

The following sub-sections provide the status quo for key environmental attributes of the study area.

Water

The West Coast is characterised by a semi-arid Mediterranean climate with an average rainfall of 260 to 280 mm per annum. This region is water scarce, with limited surface water resources. The Berg River is the major surface water resource in the area. Groundwater is also used, mainly from the Langebaan Road Aquifer System.

Scarcity of potable water is identified as a challenge in respect of delivery of basic services in the GSR in general, with certain exceptions. For instance, in regard to the prospect of future developments, the Saldanha Bay Municipality IDP (2012-2017) notes that "with the projected industrial growth in the municipal area taken into consideration, there may be insufficient bulk water supply for industrial purposes in future." A Water Master Plan has been prepared for the West Coast District Municipality and projections are that in the near future water demand may exceed supply.

The Berg Water Management Area in general is already in deficit under current climate conditions. This is also the water management area that is expected to show the highest population growth in the Province.

Dams in the catchment and extraction of water from rivers have resulted in a reduction in freshwater inflows into rivers, streams and estuaries. In addition, the Berg River estuary and Langebaan lagoon systems are both vulnerable to impacts of groundwater abstraction.

Desalination is seen as an option for water supply but the understanding of environmental impacts in the local context is limited. There are risks associated with the release of brine solution and associated chemicals. Energy demand implications,

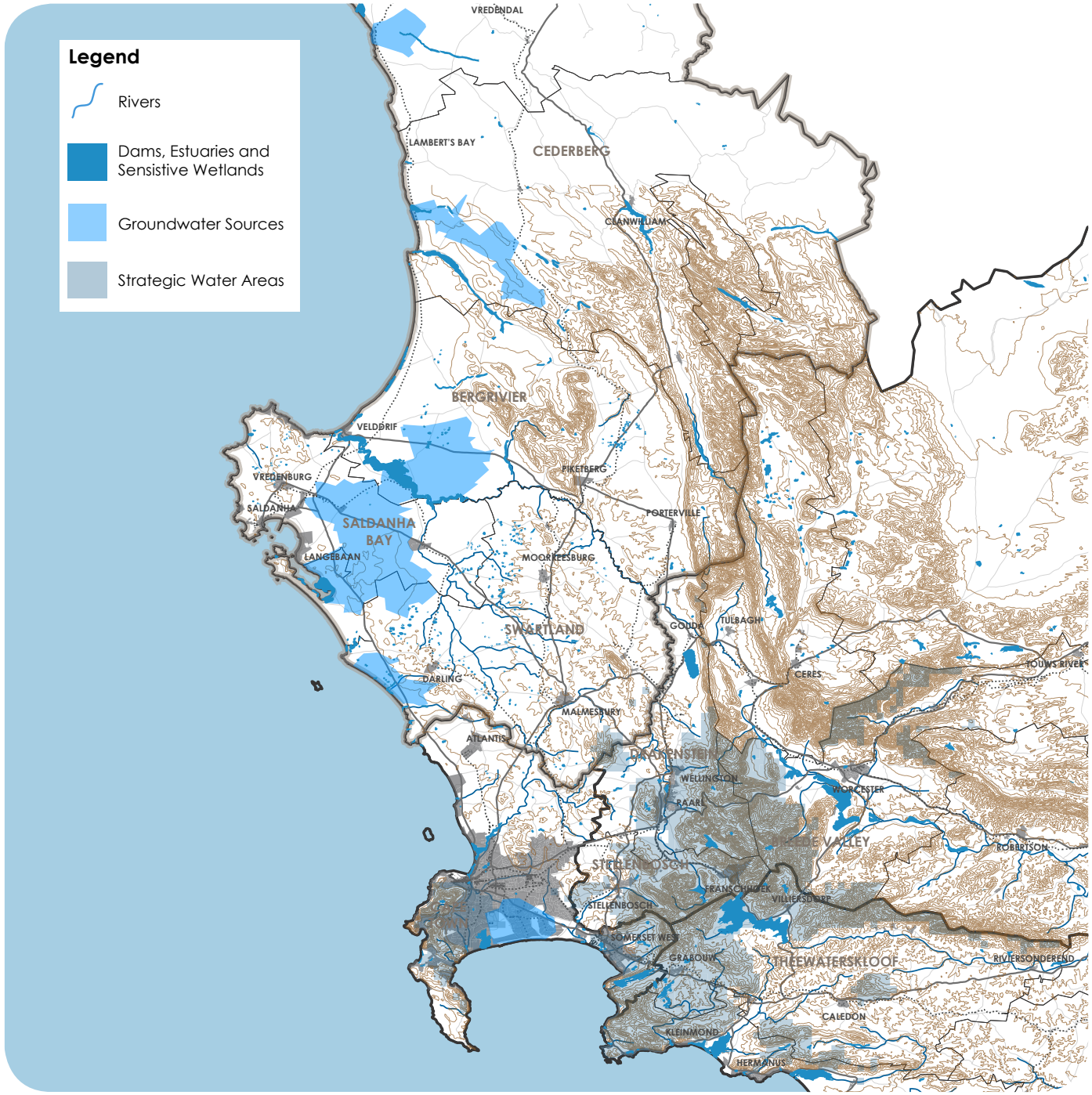


Figure 41. Regional water resources (Interpreted from WCG PSDF GIS Data)

particularly in light of rising costs of electricity, concerns about greenhouse gas emissions and climate change are also important.

3.6.1.1 Coastal Development

Coastal development in Langebaan and Saldanha extends almost to the water's edge. This places stress on the marine environment due to increased risk of erosion, trampling and habitat loss and also places infrastructure at risk. In addition, large volumes of storm water may be generated, which enters the bay and lagoon.

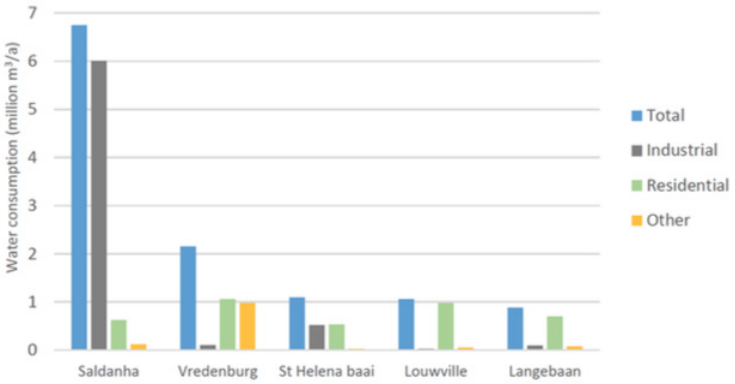


Table 9. Industrial and residential water consumptions (2012 - 2013) for main towns in the Saldanha Bay Municipality from Withoogte Scheme (GreenCape Water Project, 2015)

DEADP initiated a study to determine setback lines with a view to managing development in the coastal zone. A risk-based approach using different time horizons was applied to identify zones of High (1:20 year), Medium (1:50 year), and Low (1:100 year) risk in urban areas. A generic setback has been proposed for coastal areas beyond urban boundaries and adjacent to estuaries.

In addition, a setback line has been proposed for the Berg River Estuary. Given the sensitivity of the coastal environment, particularly the intertidal zone, a setback line has been proposed in the EMF on the seaward side of the coastline. This line is indicative as it has not been formalised in any way. It is based on local knowledge and research gained through the Saldanha Bay State of the Bay project. A setback of 30 m is suggested.

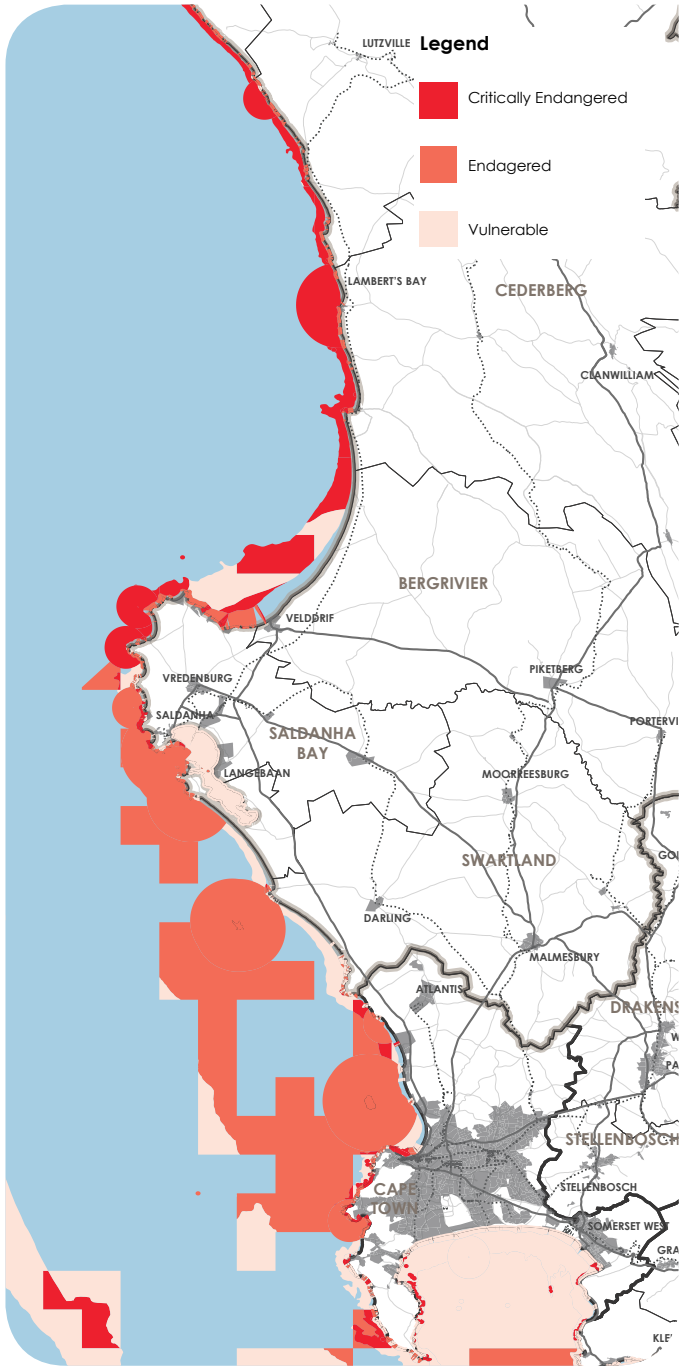


Figure 44. Coastal and Benthic Threat Status (Interpreted from WCG PSDF GIS Data)

3.6.1.2 Terrestrial and Aquatic Ecosystems

The spread of alien invasive plants on land is a concern: in particular, the alien wattles Acacia cyclops (Rooikrans), Acacia longifolia (long-leaf wattle) and Acacia saligna (Port Jackson), a number of Eucalyptus species, Manitoka and prickly pear. There is a high density of alien vegetation (13% of the total Berg River catchment area), chiefly around Langebaan, Langebaan Road and Hopefield.

Figure 42. Shoreline erosion along the West Coast at the Leentjiesklip Caravan Park (State of the Bay Report, 2012)

Figure 43. Satellite image of Small Bay in Saldanha, showing little or no setback zone between the town and the Bay (Referenced in State of the Bay 2012 Report - Google Earth)

Most of these major rivers have been modified through abstraction and construction of storage facilities to improve water security. Wetlands have also been degraded or even lost through human activity. Development of areas surrounding wetlands limits their ecological roles, one of which is to reduce floods which impact communities, infrastructure and assets; and the other is to support the infiltration of water into aquifers.

3.6.1.3 Marine Pollution

Organic nutrient overloading in Small Bay and St Helena Bay is mainly the result of fish processing plants (e.g. Sea Harvest monthly discharges range between 50 000 and 90 000 kl).

Sewage discharge is by far the most important waste product in terms of continuous environmental impact that is discharged into Saldanha Bay. According to the 2012 State of the bay Report, although there has been improvement in water quality since 2006, sewage pollution counts still exceed guideline levels for recreational use in some parts of Small Bay. The highest sewage pollution counts are routinely recorded at the beach sewage outlet (Bok River) and in Hoedjiesbaai and Pepper Bay. Coastal erosion of Langebaan Beach may exacerbate risk of sewage pollution via broken or leaking sewage holding tanks.

Concentrations of several contaminants (nitrate, ammonia, metals and faecal coliforms) in Saldanha Bay's stormwater runoff are well above water quality guidelines, adding to the Bay's pollution levels (Anchor Environmental 2010).

According to the State of the Bay study, conditions in Small Bay remain very much poorer than those in Big Bay or Langebaan Lagoon. The most severely-impacted sites within Small Bay in 2011 remain the Yacht Club basin and the base of the ore terminal. These sites are prone to the accumulation of pollutants due to restricted water movement.

Volumes of ballast water discharge from ships are greatest at the iron ore terminal and have increased steadily. The volume of ballast water discharged to the Bay has doubled since 2004, with almost 23 million tons being discharged in 2013. Risk of oil spills will increase with any increase in shipping traffic. The Ramsar Secretariat, in a letter dated March 2008, expressed concern about potential negative effects of Transnet's proposed iron ore terminal and infrastructure expansion in the Port of Saldanha to double its current capacity. The lack of an effective oil spill contingency plan by the National Ports Authority and the South African Maritime Safety Authority to deal with major oil spills in the Lagoon was specifically noted.

3.6.1.4 Coastal and Marine Ecosystems

The building of a breakwater in the late 1970s between the mainland and Marcus Island has resulted in changes in the flow dynamics in Saldanha Bay. Evidence shows that Small Bay is ecologically degraded and that there is a tendency for accumulation of pollutants in this area. This is considered to be due to the reduction in the movement of water in and out of this section of the Bay as a result of the construction of the breakwater and the ore terminal.

Langebaan Lagoon also runs the risk of being placed on the Montreux Record should ecological changes and development threats to the integrity of this Ramsar site increase.

3.6.1.5 Climate Change

A concern that is related to climate change is that of sea level rise and erosion. The coastline is a dynamic and sensitive environment affected by events such as coastal erosion, storm surges, sea level rise and storm wave run-up and dynamic ecological processes, for example mobile dune systems. Frontal dunes play an important role in protecting properties inland. Another important consideration is that of climate change implications for the coastal zone. The Langebaan Main beaches south of the Alabama slipway are severely affected by erosion and generally lose sediment every winter. This erosion has caused sewage infrastructure to be exposed and poses risks to private property.

Anticipated effects of climate change and shoreline erosion on the study area are:

- Increased coastal erosion and under-scouring of house foundations, retaining walls and access roads - damage to coastal properties.
- Decrease in net primary productivity. The marginal agricultural areas of the study area, that is central Hopefield area and Saldanha-

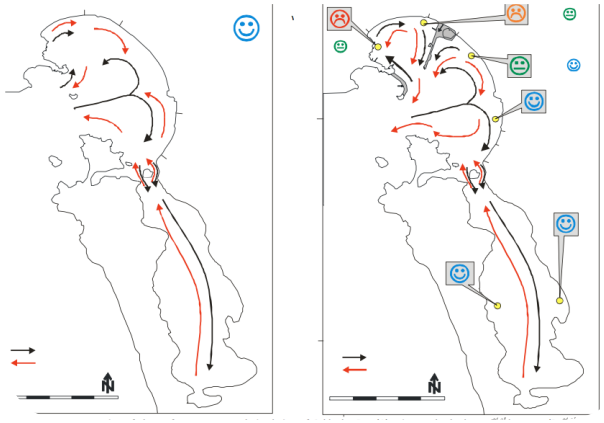


Figure 45. Schematic representation of the surface currents and circulation of Saldanha Bay (A) prior to the harbour development pre 1973 and (B) after construction of the causeway and iron-ore terminal. (Sourced from State of the Bay Report, 2012)

Figure 46. Coastal erosion at Paradise Beach near Club Mykonos (Sourced from State of the Bay Report, 2012)

Vredenburg will be impacted in the shorter-term by increases in average maximum annual temperature and lesser annual rainfall/water availability, negatively affecting existing crop type production and livelihoods.

- Increasing temperatures and longer periods of drought also bring an increase in risk of severe weather events and flash-flooding, all of which impact on human settlements, infrastructure and service delivery.

3.6.1.6 Air Quality

The recent air pollution modelling undertaken for the purposes of the IDZ feasibility study, have shown particulate emissions to be of concern at certain locations in the Saldanha area. This was mostly as a result of industrial operations, whilst dust emissions from agricultural areas are also of concern. Other "hot spots" in terms of particulate levels were found to be where iron ore handling is taking place in the area.

- Dust from iron ore is of significant nuisance to local communities. Local communities have expressed their concerns regarding human health, in respect of the dust. The potential drift distance of particles is dependent on the particle size and weight, as well as the terminal settling velocity of the particle, and the degree of atmospheric turbulence.
- Furthermore, the IDZ study indicated that odour nuisances can be associated with the fish industry in both Saldanha bay and St Helena. In recent years, inter-governmental task teams (IGTTs) were appointed to address these complex matters.
- Finally, the link between air quality and climate change must be recognized in the planning for this region.

3.6.2. Gaps and Key Issues

3.6.2.1 Water

More detailed information on the groundwater reserves within Saldanha needs to be incorporated into the EMF to provide a more comprehensive understanding of the water availability as well as the constrictions thereof.

The ecological reserve determination for the Berg River is also an important addition to the EMF. This information is vital to understand both the water availability as well as any interactions between the Berg River and groundwater within the region.

GREENCAPE 2014-2015 STUDY: In response to a water availability constraint, one of the first solutions to consider would be to reduce demand through improving water efficiency. A preliminary investigation into the potential for a "Water Exchange Network" in which waters of different qualities are cascaded (used and passed on) between major industrial users has been completed for Saldanha Bay. The results suggest freshwater intake can be reduced by up to 15% and effluent reduced by up to 76%. A pre-feasibility study is warranted

3.6.2.2 Coastal Development

The coastal setback line/management zone as determined in 2013/14 (WCG: DEADP, 2014) affects the entire coastline of the GSR.

The coastal setback / management line developed by DEADP should be incorporated into the EMF. Although the determination and modelling of the coastal risk was not effective for Saldanha Bay, the setback line should still be used as a best practice guide as part of the zone determination of the EMF.

3.6.2.3 Terrestrial and Aquatic Ecosystems

The spatial orientation, overall importance and possible pressures on the terrestrial and aquatic ecosystems should be updated with additional information provided from varying sources. Such sources include: CapeNature CBAs (2016), CWCBR Industrial Conservation Corridor, CapeNature Information on Threatened Vegetation in *Arcelor Mittal/Saldanha Steel* and *Namakwa Sands/ Tronox cadastres*, Berg River ecological reserve determination, Revised ecosystem status (CapeNature, 2014).

3.6.2.4 Marine Pollution

Additional information on sources and risks of marine pollution may be available from the Strategic Environmental Assessments being undertaken for the Ports Authority as well as for aquaculture in and around Saldanha Bay. The current status and possible trends and concerns may be augmented by these reports as well as others that apply to the marine areas along the entire GSR coastline.

3.6.2.5 Coastal and Marine Ecosystems

The Strategic Environmental Assessments being undertaken for the Ports Authority as well as for aquaculture in and around Saldanha Bay may provide more detailed insights into coastal and marine ecosystems as well as into the pressures resulting in the disturbance and degradation of these ecosystems.

3.6.2.6 Climate Change

The WCDM Climate Change Response Framework provides insight into the risks and potential adaptations envisaged and these will be further elaborated on in subsequent phases of this project.

Further reference will also be made to the Flood Hazard Index, recently released for the province.

3.6.2.7 Air Quality

The air quality information for the GSR should be updated with air quality monitoring data as this becomes available to the project.

In addition, the air quality information should include an emission inventory of all point and mobile sources (including vehicles). This is required to establish a baseline to inform future

development in the West Coast region, especially in terms of undertaking airshed planning.

It should be noted that the new oil and gas industry infrastructure and expansion, will contribute to noise (during construction), odour and fugitive emissions such as volatile organic compounds (VOCs) that are normally associated with the oil and gas sectors.

Section 18(1) of the National Environmental Management: Air Quality Act (No. 39 of 2004) makes provision for the Declaration of Priority Areas where it is reasonably believed "that ambient air quality standards are being, or may be, exceeded in the area, or any other situation exists which is causing, or may cause a significant negative impact on air quality in the area". The activities in the area may likely impact on air quality, if not managed effectively. As such, the declaration of a priority is to be considered, particularly if likely negative impacts on air quality in the area affects the "national interest". Section 18(2) of the NEM: AQA makes provision for the latter.

Airshed planning, as a tool for further development in the region is highly recommended, as this will aid the decision-making process to grant or refuse applications in the region.

In line with this, an Air Quality Management Plan for the Saldanha IDZ is recommended to be developed to address all air quality related impacts that could likely arise as a result of the activities in the region.

Furthermore, a buffer zone to separate any proposed housing developments that are planned to be built close to agricultural sectors (like Malmesbury), is recommended. This is essential to ensure that agricultural crop spraying does not pose a health risk.

3.7. Culture and Heritage

3.7.1. Current Status

The study area incorporates two distinctive regional landscapes. The West Coast or 'Sandveld' forms part of a flat, low-lying coastal plain, of mostly poor sandy soils. The plain is interspersed at Darling and the Vredenberg Peninsula with weathered granites giving rise to the characteristic hilly topography and scenic granite outcrops. The Swartland consists of a gently rolling landscape formed by the weathered Malmesbury Group shales, the wheatlands providing a notable 'bread basket' for the region and the country as a whole. The main historical towns being Malmesbury and Mooreesburg. Perdeberg, Kasteelberg and Piketberg are prominent landscape features of the Swartland with the Cape Fold Belt framing expansive views to the east (Winter and Oberholzer 2013).

The study area incorporates a number of coastal landscapes of high natural beauty and biodiversity value. These include the coastal promontory and bay at Bokbaai and Bokpunt, the Yzerfontein Vlei, the Saldanha Bay-Langebaan Lagoon including the West Coast National Park, the Cape Columbine coastline including a series of rocky promontories and associated lighthouses, and the Berg River Estuary (Winter and Oberholzer 2013).

Figure 47. The wheatlands of the Swartland region.

The coastal zone including the Vredenberg Peninsula is of high archaeological significance and sensitivity. Shell middens and scatters of other archaeological material dating to the Later Stone Age Period occur within 5km from the coastline generally near rocky shores, shallow coastal estuaries and granite outcrops (ACO In Winter and Oberholzer 2013).

Figure 48. Flowers in bloom at the West Coast National Park

The Vredenberg Peninsula has made a major contribution to the understanding of the archaeological sequence of southern Africa, particularly in the last 2000 years when Khoisan herders occupied the landscape. Examples of important archaeological sites dating to the pre-colonial period include Kasteelberg which is a well-researched pastoralist site worthy of being declared a provincial heritage site, and Paternoster North Site A which is a declared provincial heritage site. Oudepost on the Churchhaven Peninsula was established as a VOC outpost during the 17th century and archaeological data from this site contributes to an understanding of interaction between early colonial settlers and indigenous Khoisan at the Cape (Various authors In O'Donoghue et al 2016).

The Vredenberg Peninsula is of exceptional palaeontological value with the presence of calcretes deposits resulting in a well-preserved fossil record. The mining of calcrete deposits has revealed fossil remains of international heritage significance. Elandsfontein is a provincial heritage site with prolific fossil and archaeological material of international significance including very rare early human remains. The West Coast Fossil Park possesses exceptionally well-preserved fossil faunal remains and possibly the greatest diversity of 5 million year-old fossils in the world (Various authors In Winter and Oberholzer 2013).

Figure 49. Images of the West Coast Fossil Park

The region possesses a number of noteworthy cultural landscapes in terms of their historical, architectural, aesthetic and scenic value. These include the Darling Hills, Kasteelberg Slopes, Paardeberg Slopes and the Potberg Peninsula. The scenic route network of the region includes the West Coast Flower Route and the Swartland Wine Route as well as Botmaskloof Pass (Winter and Oberholzer 2013).

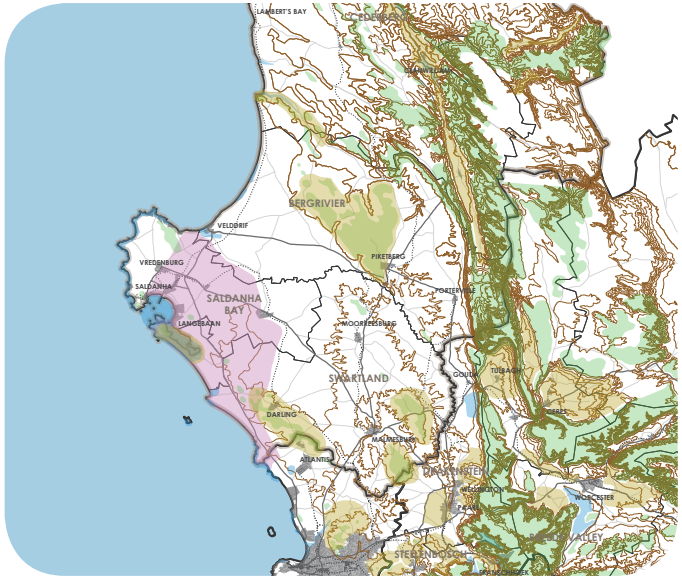


Figure 52. Cultural landscapes (Interpreted from Winter & Oberholzer data for PSDF, 2013)

Figure 50. Characteristic West Coast architecture

The historical built environment of the region includes a number of farmsteads spanning the 18th, 19th and early 20th centuries. There are some 500 sites identified as being worthy of formal protection, the vast majority being of local heritage value. Proposed heritage areas have been identified for Malmesbury, Riebeeck Kasteel, Riebeek West, Mooreesburg, Hopefield, Koringberg, Darling, Paternoster and Churchhaven (O'Donoghue et al 2016; Pentz 2016; Winter and Oberholzer 2013).

3.7.2. Impacts and Challenges

Development trends and pressures affecting landscapes and townscapes of heritage significance and sensitivity include:

- Ribbon development along the coastline resulting in the loss of scenic character and a heightened risk profile for infrastructure and services on both public and private land areas.
- Urban sprawl resulting in the loss of character of coastal towns and their relationship with their setting, e.g. St Helena Bay, Stompneus Bay and Paternoster.
- The inappropriate siting of development in relation to ridgelines and granite outcrops, e.g. Langebaan and Vredenburg (GIBB 2016).
- Privatization of the coastline by gated holiday estates resulting in the loss or restriction of public access of people to the coastline (Gibb 2016).
- Large scale infrastructural development including major road infrastructure, power lines, wind and solar energy farms impacting scenic landscapes.
- Agricultural operational changes resulting in the relocation of farm labour to housing settlements, larger economic units leading to the consolidation/abandonment of smaller farms, redundancy or unsuitability of existing structures and lack of maintenance of heritage fabric.

Figure 51. Darling town setting within sensitive scenic landscape

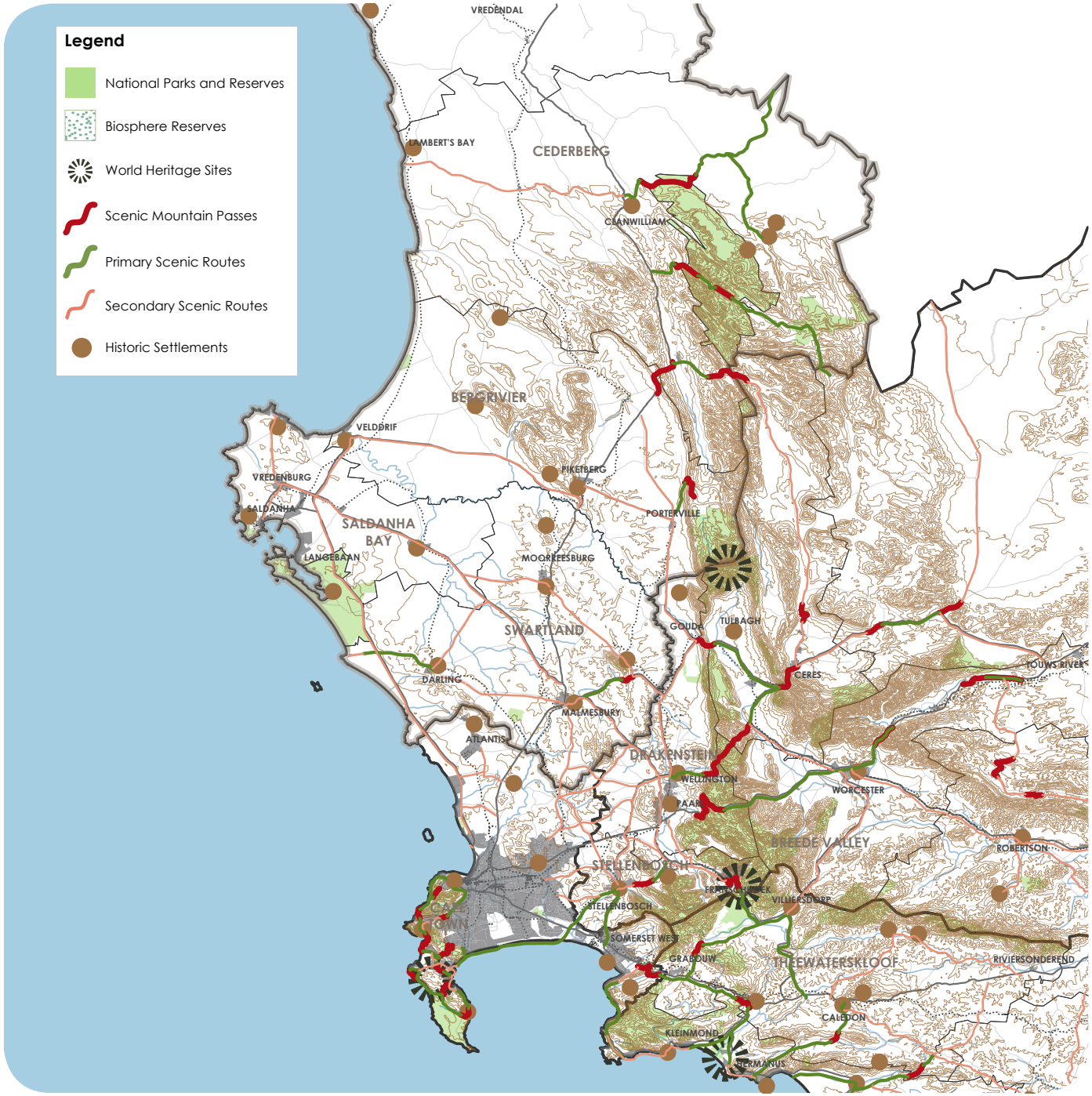


Figure 53. Heritage and cultural resources (Interpreted from Winter & Oberholzer data for PSDF, 2013)

- Filling stations and large industrial type structures poorly sited in relationship to scenic routes and ridgelines (Pentz 2016).
- Heavy freight traffic impacting the Botmaskloof Pass and the historic centers of Swartland towns, e.g. Malmesbury and Riebeek West.
- Increased mining activities impacting palaeontological material.
- Urban sprawl along the coastline impacting archaeological resources. For instance, at Jacobsbaai and Paternoster highly significant shell middens have been impacted by housing developments in the last 16 years.

3.7.3. Gaps and Key Issues for Examination at Spatial Analysis Phase

The type and level of available heritage information is fairly comprehensive due to the recent heritage surveys under taken in the study area. However, there is a lack of consolidation of spatial data from these surveys. Furthermore, the scenic and cultural landscape analysis is very coarse grained and may need some ground-truthing.

Key issues for examination at the spatial analysis phase include the following:

- The ground-truthing and clarification of scenic and cultural landscapes identified as having potential regional or provincial heritage significance. This should be done in consultation with the heritage consultants responsible for the heritage surveys of the Saldanha Bay Municipality and Swartland.
- The consolidation of spatial data on heritage resources incorporating the survey information for the Swartland and Saldanha Bay Municipalities.
- The overlaying of spatial data on heritage resources with the spatial data on development patterns and trends in order to further refine

3.8. Bulk Infrastructure

The infrastructure context of each sector is described below, exploring both the current and projected demand and proposed infrastructure solutions. It focuses on bulk and regional infrastructure, and therefore does not discuss the adequacy of current municipal household services.

3.8.1. Water Current Status

The GSR is served by the Western Cape Water Supply System (WCWSS), which includes the Berg Water Management Area (WMA) and associated urban areas (Cape Town, Stellenbosch, Paarl and Saldanha). Under the current planning scenarios, it is projected that water demand in this area will surpass supply in the short term unless effective measures are taken to manage water supply and demand.

The Voëlvlei Dam is under pressure to meet the current requirements. The West Coast District Municipality has already exceeded their current allocation from the Berg River for the last number of years. They applied for an increase in the licensed volume to 30 million m3/a in 2011, but the awarding of this license is still pending.

The Withoogte Scheme currently abstracts more raw water from the Berg River system than it is licensed to, but with the implicit permission of the Department of Water and Sanitation (DWS). Given the pressure on water supply, there has been an assessment of current water requirement and scenarios which have been used to inform the WCWSS Intervention Implementation Programme, with a time-frame of 7-13 years. These interventions are in different stages of development, but the ones most relevant to the GSR include:

- Adoption of measures and strategies to reduce overall water demand
- Berg River-Voëlvlei Augmentation Scheme (phase 1)
- desalination of seawater
- large-scale water reclamation
- other possible interventions to be considered for implementation at a later stage include:
  - Large-scale Table Mountain Group (TMG) aquifer development
  - Langebaan Road Aquifer Artificial Recharge Scheme.

Desalination would most likely be located in Saldanha and feed the immediate vicinity. It would reduce demand on Withoogte and is therefore a supplementary supply option for the Withoogte scheme.

The recent WCIP investigated the sensitivities of the future supply options at Saldanha, and found that they are dependent on a determination of the WCWSS system yield and the water rights allocation from the Berg River System to the Withoogte system. This is a process being undertaken by the DWS and has not been concluded. Green Cape reports that the WCDM has requested an additional allocation of 12.9 million kl/annum. If this increase in rights were granted, then the Withoogte WTW would need to be upgraded to treat an additional 35 Ml/day. If the additional allocation is not granted and water conservation and demand management cannot reduce existing demand to cover any additional demand, then various options exist, such as increased groundwater use, large scale treated effluent, and a water exchange network). The reuse of second class water could reduce the demand for potable water, but only to the extent of available effluent from the Saldanha WWTW.

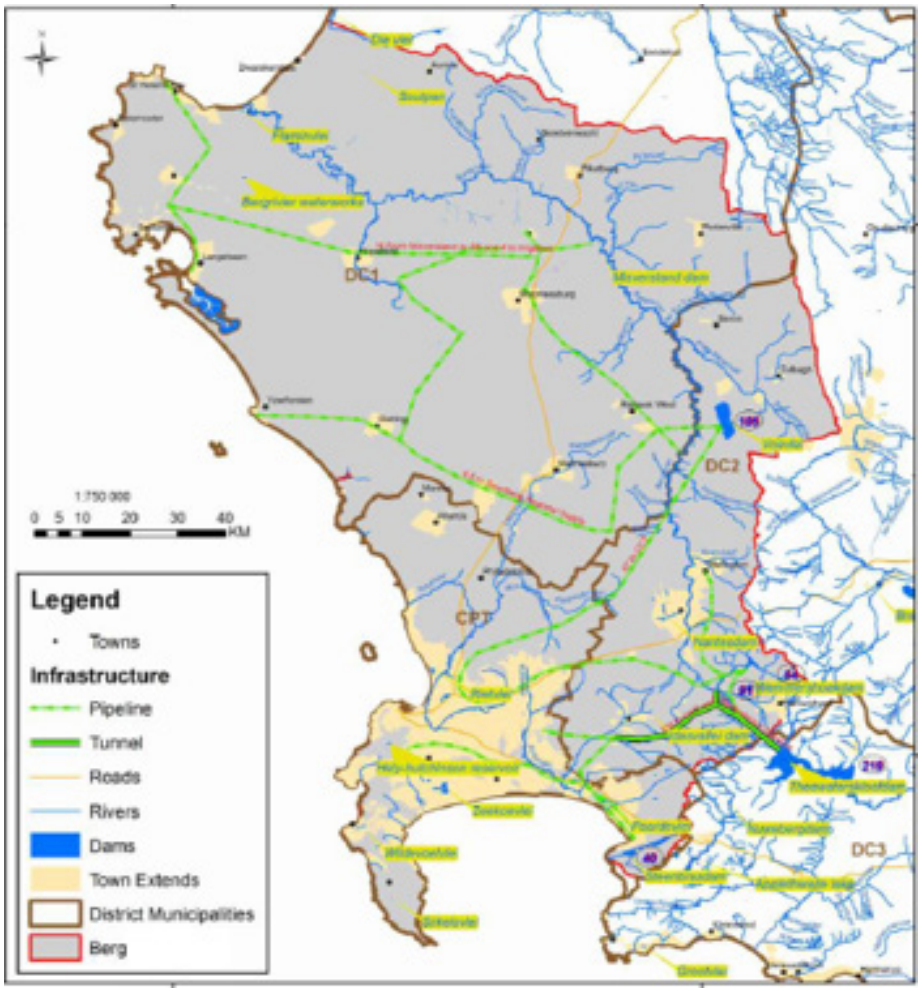


Figure 54. Dams and major pipelines of the Western cape Water Supply System (Figure 2.1 of Green Cape, 2015: 13)

Of the supply options outlined above, the furthest along currently is the transfer of approximately 23 million m3 per annum from the Berg River to the existing Voëlvlei Dam. This would include the following:

- A crump weir, abstraction works and 4 m3/s raw water pump station on the Berg River;
- A rising main pipeline from the Berg River to Voëlvlei Dam;

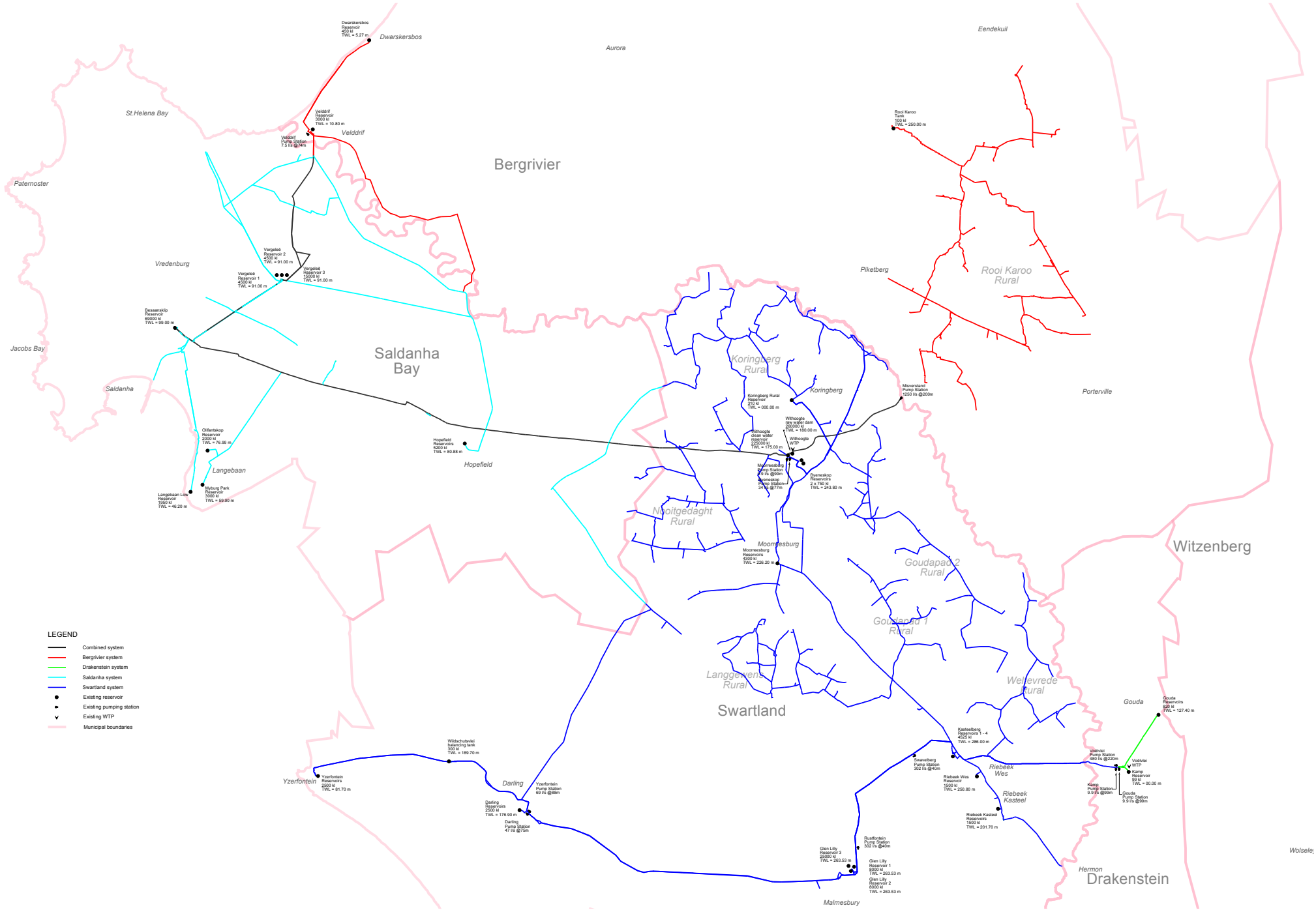


Figure 55. WCDM Bulk Schemes (GLS, 2015)

- A new summer release connection at the existing Swartland Water Treatment Works to facilitate summer releases; and
- A new connection to existing outlet infrastructure so that water can be released to the Berg River during the summer months under gravity, thus eliminating the need to utilize the existing canal from which water losses occur.

3.8.2. Wastewater Current Status

The condition of the wastewater infrastructure within the GSR appears to be more problematic. The 2013 Green drop score and condition of each waste water treatment works (WWTW) is summarized in Table 10. The WWTWs for Riebeek West, Kasteel and Ongegund have insufficient capacity to cater for the current and projected future requirements, and there are plans to construct a new Riebeek Valley WWTW. The new WWTW will replace the existing WWTWs at these three towns, which will be decommissioned. New WWTWs are also required at Jocobs Bay and Britannia Bay is an immediate priority.

Domestic and industrial effluent (after any on-site treatment process) is generally discharged into the municipal wastewater treatment works. Plans are underway to construct two WWTWs at St. Helena Bay and at Jacobsbaai, while the capacity of the Saldanha WWTW is currently being upgraded from 2.5 Ml/day to 5 Ml/day in response to anticipated IDZ demand. With the upgrading of Langebaan Wastewater Treatment Works (WWTWs) constrained due to lack of space, and upgrading required at the Vredenburg WWTWs, the possibility of a centralised wastewater treatment facility that is capable of handling industrial waste has been discussed.

A significant wastewater issue in Saldanha Bay is the need to dispose of industrial effluent that is not suitable for treatment at the Saldanha WWTW, specifically brine. The proposal is that industrial brine be discharged at sea through the same marine outfall that will be constructed to discharge brine from either new industrial projects or the proposed desalination plant. The need for the Saldanha Regional Marine Outfall Pipeline (SRMOP) is therefore widely accepted, and is likely to involve some form of public-private partnership.

Environmental regulations require that there is only one outfall of effluent into the sea. This shall require coordination of the plans for construction of the desalination plants, the wastewater treatment plants and the interventions planned by the private sector, particularly the rare earth mineral beneficiation project which will generated large volumes of brine/saline effluent.

WTW	2013 BLUE DROP SCORE / TREND	STATE OF INFRASTRUCTURE
Withoogte WTW	95%	Good, but inadequate capacity. Upgrade capacity of Withoogte WTW if additional bulk water is allocated to the WC DM from the WC WSS.
Swartland WTW	95%	Good
Piketberg	87.5% / increasing	Good
Porterville	95%	Good

Table 10. Water Treatment Works within the GSR

	LANGEBAAN, ST HELENA, SALDANHA, VELDDRIF	HOPEFIELD	MOORREESBURG, VREDENBURG, PIKETBERG	KORINGBERG	YZERFONTEIN, DWARSKERSBOS	RIEBEEK VALLEY	MALMESBURY, DARLING	PORTERVILLE
Re-used water	Yes	Yes	Yes	n/a	n/a	Yes	Yes	Yes
Ground water	yes	Yes	Yes	Yes	yes	Yes	Yes	Yes
Surface-water – local	n/a	Yes	n/a	n/a	n/a	n/a	n/a	yes
Water trading	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Desalination	Yes	n/a	n/a	n/a	Yes	n/a	n/a	n/a
Rainwater harvesting	n/a	n/a	Yes	n/a	n/a	Yes	n/a	yes
Transfer schemes	yes	yes	yes	yes	yes	yes	yes	n/a

Table 11. Potential water sources by town (DWS 2016 water reconciliation strategies for SBM, Swartland and Bergrivier LM towns.)

3.8.3. Water Gaps and Key Issues

It must be noted that the wastewater generated in the GSR annually is, on average, 28% of the total water demand. This is much lower than the expected return factor of around 70%. It is unlikely that this volume of water is being lost through steam. Two possible explanations are that a) industries that are using large quantities of water within their process are treating their effluent onsite before discharging to the receiving environment or that b) wastewater is either not reaching the treatment works or not being adequately recorded at treatment works. What is clear is that wastewater volumes must be investigated prior to any decision regarding the re-use of water or alternative water sources can be made.

Potential synergies for re-use of industrial effluent may exist between industries. This will require more detailed information around the temperature and chemical properties of the wastewater streams, and is understood to be the subject of a proposed study by Green Cape, under the auspices of DEDAT.

Given the importance of water and the potential reuse of wastewater in the Saldanha Bay area, and the unusually low return flows from the current large industrial water users, special attention was paid in the WCIP to verifying this aspect of the study. The water balance seems to confirm that only 32% of water consumed by industrial users is discharged to the wastewater treatment works in SBM. However, Arcelor-Mittal claims to have zero effluent discharge status, and therefore no discharge to the wastewater treatment works. Taking this into account, average industrial return flows from large water users (excluding Arcelor-Mittal) increases to 44%. The total volume of water returned to the wastewater treatment works in comparison to the volume of water consumed by SBM does appear to be low. After speaking to industry contacts, while unusual, this doesn't appears to be unreasonable. Further research would need to be conducted into the following possible reasons for the low volumes of wastewater received:

- Some industries may be discharging illegally to the receiving environment;
- Wastewater treatment works are receiving greater volumes than are being reported;
- Wastewater is being diverted at the wastewater treatment works to the receiving environment without any treatment.

In addition to the areas above, it is suggested that further research is conducted into Arcelor-Mittal's zero effluent discharge status in order to ascertain if wastewater is discharged at any point in time. Anecdotal evidence suggests that this does occur from time to time, so it will also be useful to determine the receiving environment (sea, wastewater treatment works, etc.) to which the effluent is discharged.

Table 12. Current wastewater treatment works and condition in the GSR (Source: DWS 2016 water reconciliation strategies for SBM, Swartland and Bergrivier LM towns)

WWTW	2013 GREEN DROP SCORE / TREND	STATE OF INFRASTRUCTURE
Langebaan	79.6% / increasing	Good condition, but inadequate sludge drying capacity
Vredenburg	83.7% / increasing	Good, but requires expansion
Paternoster	59.4% / increasing	Very good
Saldanha	80.2% / increasing	Good, but inadequate capacity
Velddrif	40.9% / decreasing	Good
Dwarskersbos	32.5% / decreasing	Average, urgent need to address rapid decline in Green Drop score
Shelley Point	74.85%	Average to good
Laingville	76.3% / increasing	Average to good, required immediate expansion
Hopefield	80.9% / increasing	Good
Malmesbury	75.5% / increasing	Excellent
Chatsworth	60.3% / declining	Average
Kalbaskraal	68.4% / steady	Average
Koringberg	64.9% / declining	Poor, and urgent need to upgrade capacity
Riebeek West	62.4% / declining	Poor
Ongegund	62.8% / declining	Good
Riebeek Kasteel	64.5% / slight decline	Poor
Moorreesburg	69% / declining	average

3.8.4. Energy Current Status

The Western Cape Infrastructure Framework (2013) identified certain energy transition strategies, which included the following:

- Introduce Infrastructure so that natural gas can be used as a transition fuel.
- Align energy generation infrastructure with a point of gas import (e.g. Saldanha Bay).
- Procure land for gas-based energy system, including port facilities, gas plants (3 envisaged) and gas pipelines (e.g. Saldanha Bay).
- Develop the renewable energy sector.
- Shift transport patterns to reduce reliance on liquid fuel.

All of these have relevance for the GSR study area. Only the last point, namely shifting transport patterns to reduce liquid fuel requirements, is not addressed within this section.

The country's two wind demonstration sites are both situated in the Western Cape at Darling and Klipheuwel, with a proposed third wind farm in Koekenaap (100MW).

Ankerlig Power Station is one of five gas turbine power plants in South Africa, and is located close just north of Atlantis. Due to the high cost of diesel and a desire to lower the carbon emissions of our electricity, plans are in place to convert Ankerlig to use LNG. Irrespective of the source of LNG, this would most likely require the construction of a gas pipeline from the Saldanha port to the Ankerlig site just north of Atlantis.

In this regard, an early assessment of the possible impact of this pipeline was conducted in 2014. This study found that although the proposed pipeline route passes through areas designated in the Cape West Coast Biosphere Reserve as Buffer Zones and Core Zones (i.e. through the West Coast National Park), it is understood that the proposed pipeline will be placed within an existing servitude currently housing a crude oil transmission pipeline connecting the Strategic Fuel Fund SFF facility with the Milnerton Caltex Refinery (CSIR, 2014). While the footprint of the pipeline is noted as being relatively limited and there is an available servitude, it is likely that the environmental impact is still to be assessed in relation to construction guidelines.

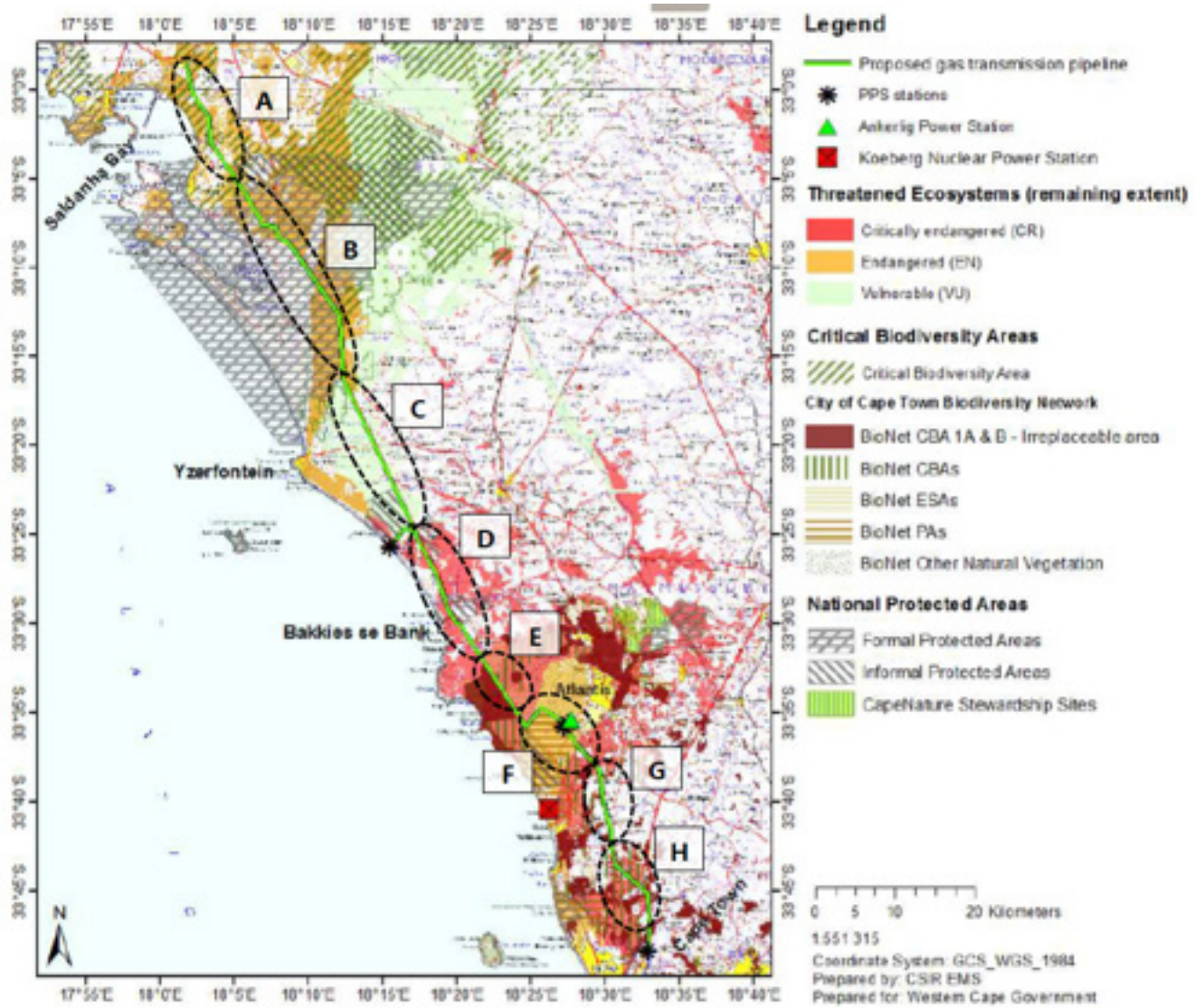


Figure 56. Terrestrial ecology for the environment that may be affected by the proposed gas pipeline (CSIR, 2014:183. Figure 6.4)

Only Section C of the proposed routing in Figure 56 is through a medium sensitivity area, with sections A, B and F characterised as high, and R, G and H rated as very high.

In terms of future generation capacity, based on the recent WCIP analysis, at most 2 new gas to power projects may be located within the back of port area. However at this stage the siting of these gas-powered plants within South Africa remains uncertain. The Department of Energy has issued a

request for expressions of interest to be submitted by 20 June 2016) "for development, financing, construction, operation and maintenance of a 600MW gas-fired power plant located in one of the major ports, i.e. Coega, Richards Bay or Saldanha Bay".

Condition of bulk electrical infrastructure

The electrical power system consists of electricity generation, transmission and distribution, all currently being managed by Eskom. All three of these system aspects are important for the GSR: gas fired power generation is planned for the region, which is subject to sufficient distribution capacity at substations, and all future industrial developments will require a suitable transmission network.

There is no current evidence to suggest that, outside of the Saldanha area, the bulk capacity of the network is a concern. Eskom's Transmission Development Plan for the Western Cape consists of extending the 400kV network and introducing 765kV injection, and installing additional transformers at existing and new substations. The most significant plans in the GSR include the 2 Aurora Wind Phase transmission project which was expected to be completed by 2017. The upgrading of the Blouwater substation in Saldanha is only expected in 2021 (Eskom, 2013).

The transmission capacity of the Aurora substation is 450 MVA, and the baseline electricity notified maximum demand at the Aurora substation is about 447 MVA, although there is uncertainty as to how much of this notified demand is currently used. Eskom's Transmission Ten-Year Development Plan for 2013-2022 indicates that the next project to augment transmission capacity at Saldanha will be the upgrading of the Blouwater substation, which will be supplied by two 400kV transmission lines from Aurora in two phases. This is assumed to increase the capacity at Blouwater by 500MVA.

Most of the future industrial users will receive electricity supply through a high voltage connection directly from Eskom. The Saldanha Bay area is fed from the 400MVA Aurora substation via a 132kV line to the Blouwater substation. This substation is already constrained on transmission capacity and will require an upgrade to be able to distribute electricity from power generators in the area. There is a 132 kV substation in Blouwater Bay that distributes electricity to the industrial areas. The towns of Vredenburg, Saldanha, St Helena Bay and Velddrif are supplied through 66kV networks while Langebaan, Jacobsbaai and Paternoster are supplied through 11 kV networks. There is currently 66MVA available capacity at the substation in Blouwater which has been allocated to the rare earth mineral beneficiation project.

An initial analysis of the proposed industrial developments investigated under the WCIP process suggests that the upgrade of the Blouwater substation and the installation of a single 400kV transmission line should be sufficient to satisfy the projected demand to the Saldanha Bay area. Given the assumption that Blouwater substation is nearing capacity, any increase in demand (irrespective of if the proposed industrial developments proceed) would require the immediate upgrading of Blouwater substation and the transmission line. However, Eskom's Ten-Year Plan indicates that this upgrade is only planned for 2021.

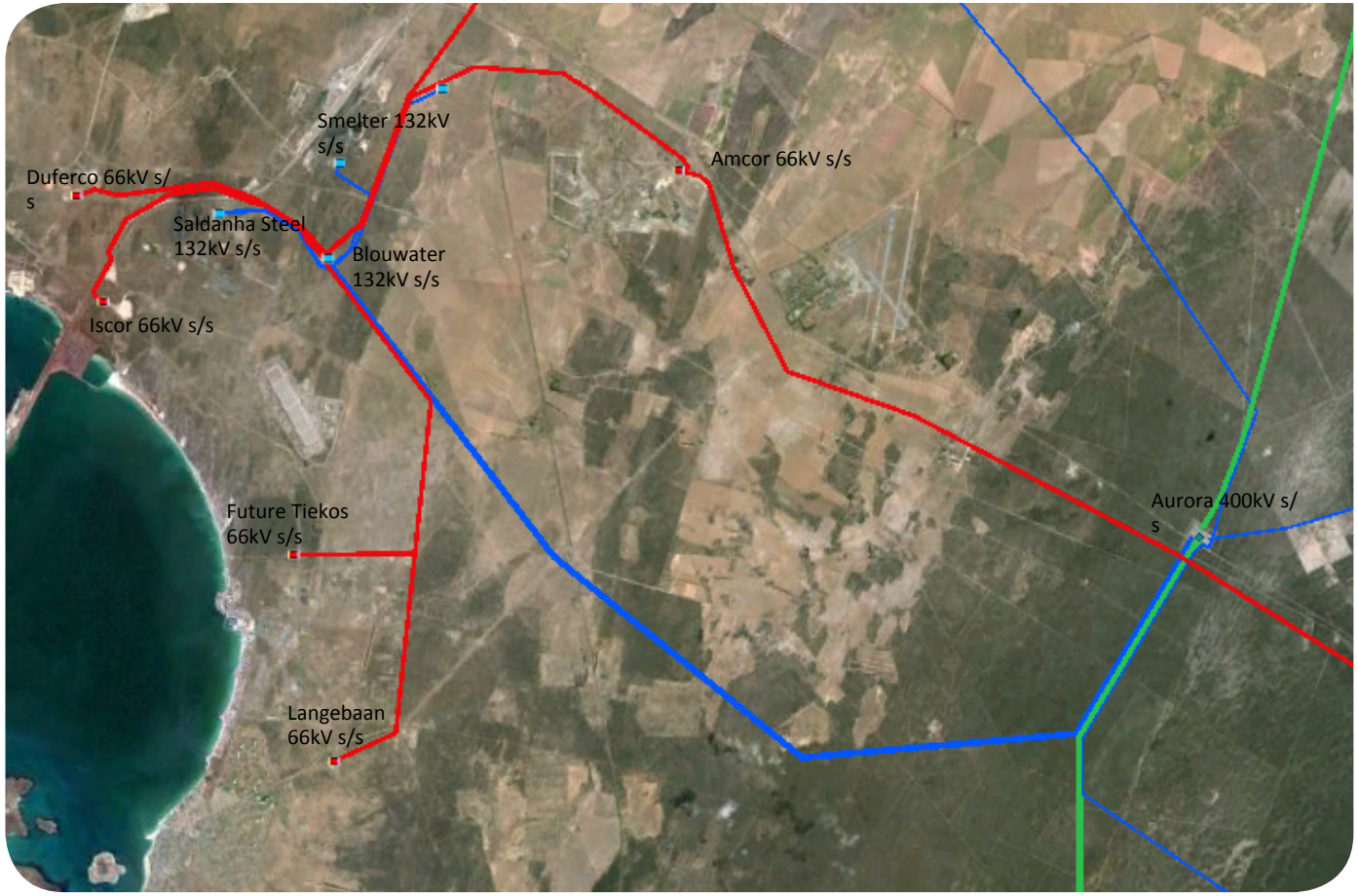


Figure 57. Eskom transmission infrastructure in the GSR (Blouwater Electricity Network)

Renewable Energy

The GSR region is already home to two of the country's wind demonstration projects, and there are plans to further develop the local renewable energy industry. Due to the core competency of boat building in the Western Cape, the province finds itself at an advantage for production of local wind turbine components, since a large amount of the technical skills and mould-making used in boat building is used in wind turbine manufacturing.

While situated to the south of the GSR, it is important to note the proposal of a Special Economic zone (SEZ) in Atlantis, focussing on green technology. Although the Atlantis SEZ has not been pre-approved but is still awaiting implementation, a R300-million investment has already been confirmed. SEZs aim to bring mainstream economic activity to poor and isolated parts of South Africa by leveraging the commercial potential of particular regions. Through SEZs, the aim is to offer a more investor-friendly business environment to attract foreign and domestic investment, create employment opportunities and introduce advanced technology.

The City of Cape Town is promoting the SEZ through the provision of added incentives, and additional support is being provided by the Renewable Energy Sector desk at Green Cape. The sector has also worked towards the establishment of Atlantis as a green economic hub for manufacturing facilities for renewable energy power plants

Energy Gaps and Key Issues

In addition to the electricity infrastructure, the recent WCIP provided a high level assessment of the industrial fuel requirements in the GSR. This analysis did not consider the current supplies or delivery arrangements for these fuel types, and it focuses only on the anticipated total demand.

The projected energy demand, as per the information from prospective project developers, is shown in Figure 58. The dominance of coal is notable, as it will have implications not only for the

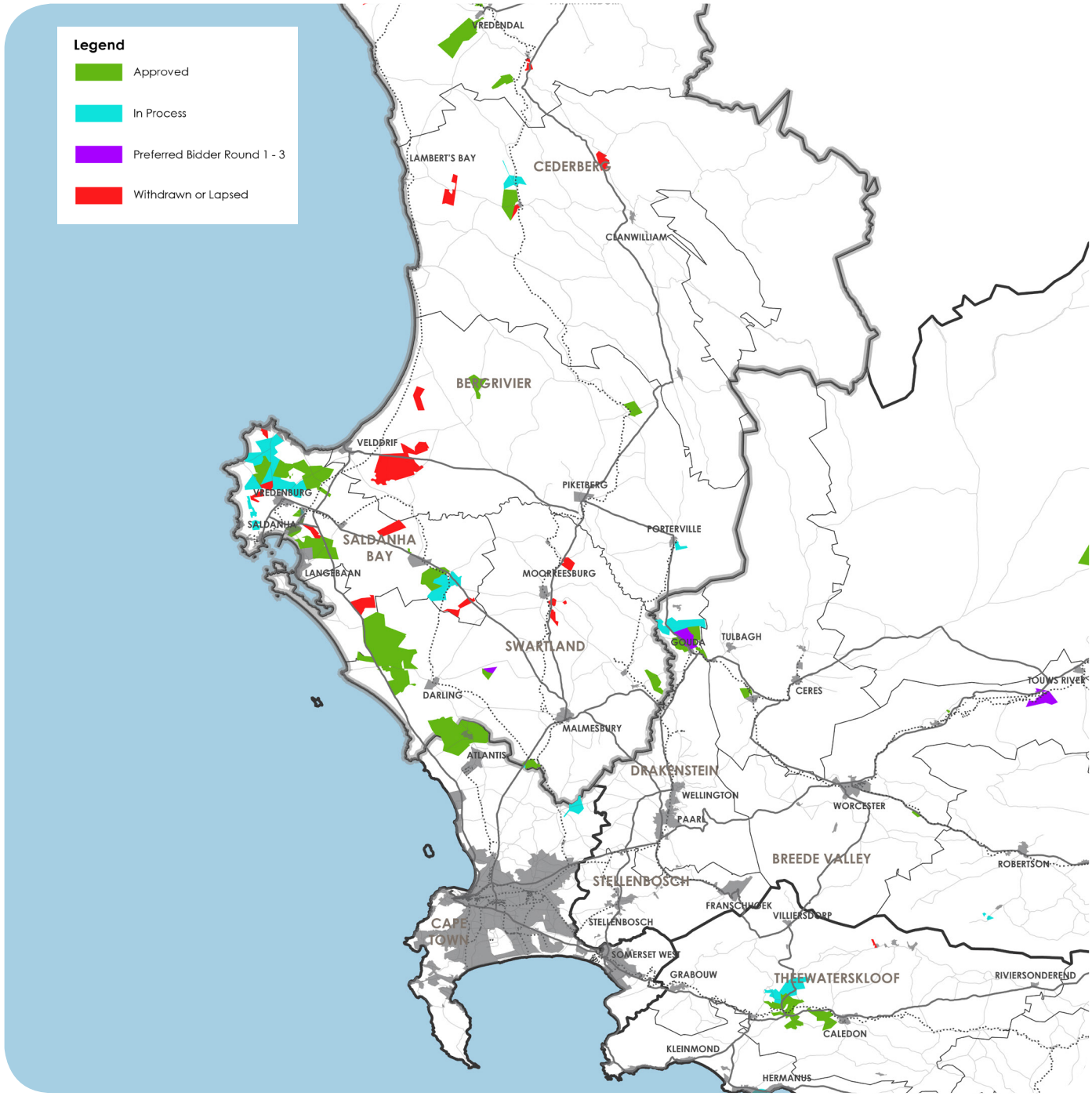


Figure 58. Status of renewable energy applications (Interpreted from WCG PSDF GIS Data)

emissions profile of the SBM and the Western Cape, but also for local air quality.

Following coal which dominates the projected primary energy use, electricity is the second most important fuel source, followed by LPG, which accounts for only a small portion of future energy use. LPG will be available locally with 2 potential LPG projects in the port of Saldanha, which intend to address the current shortage of LPG in the province. Engineering and manufacturing companies can use LPG for heating, welding, machine operation and various other industrial applications.

LPG will also be consumed in the construction phases of most projects, and some gas-fired power stations have indicated that LPG can potentially be used as a start-up fuel for the gas turbines.

Apart from the gas-fired power stations that will consume large volumes of natural gas, various industrial developers have indicated that natural gas would be their fuel of choice. However, the lack of clarity on the availability and price of natural gas means that these developers cannot rely on natural gas to be available at the time of start-up, and therefore cannot make provision for gas burning and handling equipment in the design phases.

For example, while one of the projects have indicated that although they initially plan to utilise coal for their plant, their kiln might have the capability to fire coal or gas, which means that no additional capital investment will be required to utilise natural gas when it becomes available. Projects currently planning to use LPG will also find it easy to switch to natural gas (LNG), while sites that intend to use coal for steam generation would require some capital investment to convert their boilers from coal to gas. Natural gas is typically preferred to LPG due to its lower cost. In addition to offering lower energy costs, the presence of LNG would have a significant impact by reducing air pollution and GHG emissions that results from the combustion of coal.

3.8.5. Solid Waste Current Status

Solid waste can be broadly characterised as either general municipal/domestic waste or hazardous waste. It is generally true that all municipal waste would be transferred to the municipal landfill site whilst the hazardous waste would be transferred to a landfill that is certified to receive hazardous material.

Many of the landfills are currently at or nearing capacity, and several regional landfills are under investigation, particularly in Saldanha/Vredenburg, and the Riebeek Valley. Bergrivier is currently transporting their waste to transfer stations from where it is transported licenced landfills in the Swartland and Saldanha Bay Municipality in accordance with agreement concluded with these Municipalities. Bergrivier is therefore concerned with the reduction of waste transportation costs, which is being done through the minimisation of waste to be transported be separating waste at source and recycling. Previous landfills associated with their smaller town have now been closed, and have been granted closure permits by DEADP, but the rehabilitation costs of these sites remain a challenge.

The current list of landfills in the GSR currently consists of:

- Vredenburg landfill (receives waste from Velddrif in Bergrivier LM as well)
- Langebaan landfill (nearing capacity)
- Highlands landfill operated by Swartland LM has a 30 year life-span (near Malmesbury, receives waste from Piketberg, Porterville and Aurora in Bergrivier LM)
- Piketberg, Porterville and Velddrif landfills have been closed and still require rehabilitation.
- Darling and Yzerfontein licensing procedures are in process, and a facility in Moorreesburg is waiting for a permit.
- In respect of the waste disposal facilities in Riebeek West, Riebeek Kasteel and Koringberg an environmental consultant was appointed in Dec 2013 to manage the process. Consideration is being given to establishing regional site/s adjacent to rail infrastructure to reduce operational costs and energy requirements associated with the need for road freight (e.g. at Kalbaskraal. The challenge for the establishment of thermal facilities and introduction of waste-to-energy technologies is securing enough waste, which suggests that

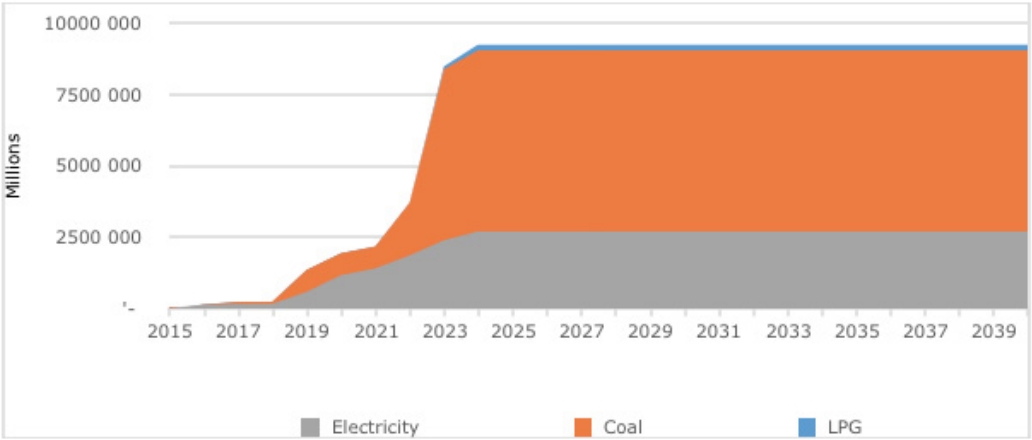


Figure 59. Projected energy demand by fuel type due to industrial use in the GSR (PDG, 2016)

municipalities should seek regional economies of scale through collaboration.

Transfer stations at Piketberg, Aurora, Velddrif and Porterville in the Bergrivier LM, after which waste is transported to licenced landfill sites in the Swartland and Saldanha Bay Municipality in accordance with agreements concluded with these Municipalities.

Saldanha Bay Municipality generated 1,111 tons per week of general domestic waste in 2012 (Saldanha Bay Municipality, 2012). Municipal waste is currently disposed of at 2 sites, namely the Vredenburg and Langebaan landfill sites. The SBM has overseen a 2% decrease in the amount of waste disposed of annually at the Vredenburg Landfill site under their waste minimisation plan (Saldanha Bay Municipality, 2013). In 2012 the Vredenburg landfill was expected to reach maximum capacity in four to five years, or approximately 2016/17. The Vredenburg landfill has been identified as a potential solid waste disposal site to serve the areas within the Saldanha Bay municipal boundary, but this will require upgrading to meet environmental requirements. The only other current alternative is for municipal solid waste to be trucked to the potential new regional landfill at Kalbaskraal (this is a City of Cape Town project that is about 115 km south-east of Saldanha). The need for a solid waste transfer station has been identified.

In terms of municipal solid waste, none of the proposed industrial projects appear to generate significantly more waste than any other, and thus the waste infrastructure is not sensitive to the timing of industrial development. The municipal waste minimisation strategy will most likely be of great significance.

All hazardous waste generated in the GSR is currently transported by road to the Vissershok regional hazardous waste facility to the south. The additional quantities of hazardous waste expected to be generated by the proposed developments amounts to approximately an additional 10,000 tons per annum, assuming all of the proposed projects proceed. Most of the hazardous waste (70%) is anticipated to come from the IDZ, so the total potential future hazardous waste volumes are very sensitive to the rollout and success of the IDZ. The current assumption is that the privately managed hazardous waste site at Vissershok will be able to expand to accommodate the projected increase in hazardous waste volumes (equivalent to approximately 15% of volumes in 2007).

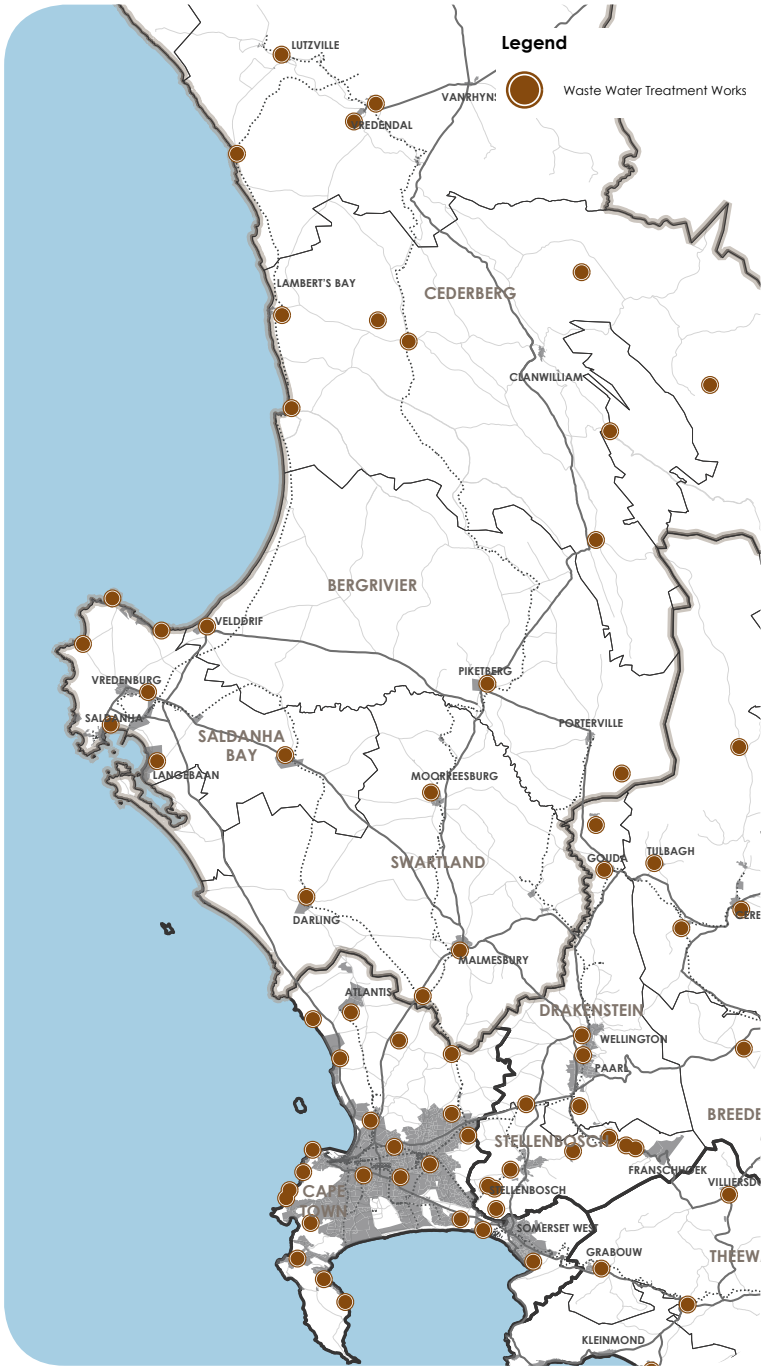


Figure 60. WWTW (Interpreted from WCG PSDF GIS Data)

3.9. Transport and Freight

3.9.1. Current Status

Transportation demand is derived from people's need to travel in order to reach economic and social opportunities and from the need to convey goods (freight) of various kinds. As such, transportation planning has a crucial impact on the effectiveness of reaching various economic development goals. In this view, transportation can also be considered as being a most significant factor in the existing and future development of the West Coast district; particular on the back of the envisaged Saldanha IDZ goals.

In general terms, the towns within the West Coast District are well connected to each other and to surrounding areas by means of an extensive road network. However, road maintenance and upgrades are continuously required to ensure that the road network is in good condition, safe and accessible.

Currently, the GSR area is served by both road and rail infrastructure as well as the deep water port of Saldanha Bay and minor fishing harbours, as illustrated. The port, in particular, is seen as one of the key factors in the comparative advantage of the GSR and is projected to be expanded through investment and experience an increase in cargo volumes over time from the current 65 million tons per annum to around 124 million tons by 2045 (Transnet National Ports Authority, Port Development Plan, 2014).

In addition to the maritime port and harbours, the GSR also currently has three airfields (as opposed to minor landing strips): the Saldanha Municipal airfield, the Langebaanweg Military Airbase and the Somerveld military airfield in Swartland Municipality

Key features of the existing transportation system are noted as:

- The GSR is characterised by relatively small urban areas that are widespread and of a predominantly low density in development form. This means that operating thresholds for cost-efficient public transport are low.
- Because of this, the main form of public transport found in the GSR are mini-bus taxis, which provide services on-demand for local and long distance trips. The peak demand times for such trips across the GSR are on Friday and Saturdays.
- Long distance bus services are relatively limited, though Saldanha Bay, Vredenburg and Malmesbury have at least one daily service connecting them to the metropolitan area of Cape Town (in the case of Malmesbury, there are three daily options).
- There are no direct public transport links from towns in the Bergrivier Municipality to Cape Town and residents need to make multiple-destination trips in order to reach that destination.
- A passenger rail service links Malmesbury to Cape Town from Monday to Saturday, with a morning "out" service and an evening "in" service (the return trip to Malmesbury on Saturdays runs at 13:50).
- Rail freight operations remain important within the region and the Sishen-Saldanha link is especially of importance given the central role in Saldanha port operations played by iron ore export operations. This line also forms the basis of the SIPS 5: Saldanha – Northern Cape Development Corridor, which envisages the expansion of the iron ore export capacity of the rail and port infrastructure.
- It is notable, however, that, overall, freight haulage continues to increase via road transportation as opposed to rail transport, despite the strategic recommendations put forward by various planning documents including the PSDF(2014) and the Western Cape Infrastructure Framework (WCIF, 2013) that ways and means be sought to reverse this shift as far as possible.
- Non-Motorised Transport (NMT) options outside of the main towns in the GSR are limited. Within the main towns, NMT infrastructure is limited to pedestrian facilities and no formal provision is made for cycling pathways at this stage.
- All local Integrated Transport Plans make mention of the need to deal with parking requirements within the towns in the GSR in a more effective way. This is more especially so as emphasis is placed on the need for the consolidation of the urban development patterns of the towns to achieve increases in density and intensity of land uses in order to improve operating thresholds for public transport services.
- Table 13 illustrates the WCG Department of Transport & Public Works (DTPW)'s budget for roads development, upgrade and maintenance for transport infrastructure and operations:

LOCAL MUNICIPALITY	MEDIUM-TERM BUDGET ESTIMATES TRANSPORT INFRASTRUCTURE & OPERATIONS		
	2015 / 16	2016 / 17	2017 / 18
SALDANHA BAY.	R116 707 000	R237 000 000	R59 000 000
SWARTLAND.	R128 356 000	R164 189 000	R16 323 000
BERGRIVIER.	R179 487 000	R190 000 000	R123 806 000

Table 13. MTEF Transport Infrastructure & Operations Budget for GSR (Source: WCG DTPW, Budget 2015)

3.9.2. Impacts

- Investment in road infrastructure will improve levels of access to and from the GSR, and will provide a sound platform for socio-economic development
- From a public transport perspective, at present there is limited connectivity and service for residents, especially at the regional scale
- Potential for the roll-out of the Cape Town IPTN to Saldanha/Vredenburg and to Malmesbury to be assessed
- Need for a clear strategy to promote a shift from road-based freight transport to rail

3.9.3. Current Initiatives (Plans, Programmes and Projects)

- N7 upgrade – major north-south route
- R27 upgrade – important link along West Coast
- Upgrade of R399 and other east-west routes
- Saldanha Port Upgrades

3.9.4. Gaps and Key Issues

- Clarity on timing of Port upgrades and full scale of these
- The feasibility of a road to rail freight strategy
- Clarity on regional freight and logistics management plans (internal ports) and how this will place demands on a future road and rail network configuration across the region and further afield

3.10. Institutional Arrangements

3.10.1. Current Status

South Africa has three spheres of government; national, provincial and local.

Constitutionally, these spheres are "distinctive, inter-related and inter-dependant". This results in a complex and dynamic distribution of governance roles and functions within and between these spheres of government, as illustrated in Figure 61.

As a region with identified strategic development potential the realisation of which will, to a great extent, rely on the alignment of crucial aspects such as global and national economic trends; the commitment of investment in enabling infrastructure; and the careful management of strategic resources and impacts within and across both urban and rural environments, the successful facilitation of economic growth and development in the GSR will rely on the ability of the three spheres of government to collaborate and partner effectively with each other as well as with State Owned Enterprises (SOEs), an array of private sector interests and civil society in general. It is understood that the GSRSIF is intended to assist in strengthening channels that will be necessary over the longer term to sustain such collaboration and partnerships.

3.10.2. Institutional Arrangements Focused on Supporting Development in GSR

From a regional development perspective, institutional arrangements related to coordinated planning and budget formulation across administrative boundaries are of material interest.

In that regard, the WCG has placed much emphasis on a planning-led budgeting approach and a number of coordinating bodies have been put in place to try to entrench this and improve the link between planning and project/programme implementation. These include: -

- The WCG Medium Term Expenditure Committee, which operates at provincial level; and
- The District Co-ordinating Forum and Municipal Managers Forum, which operate at district level.

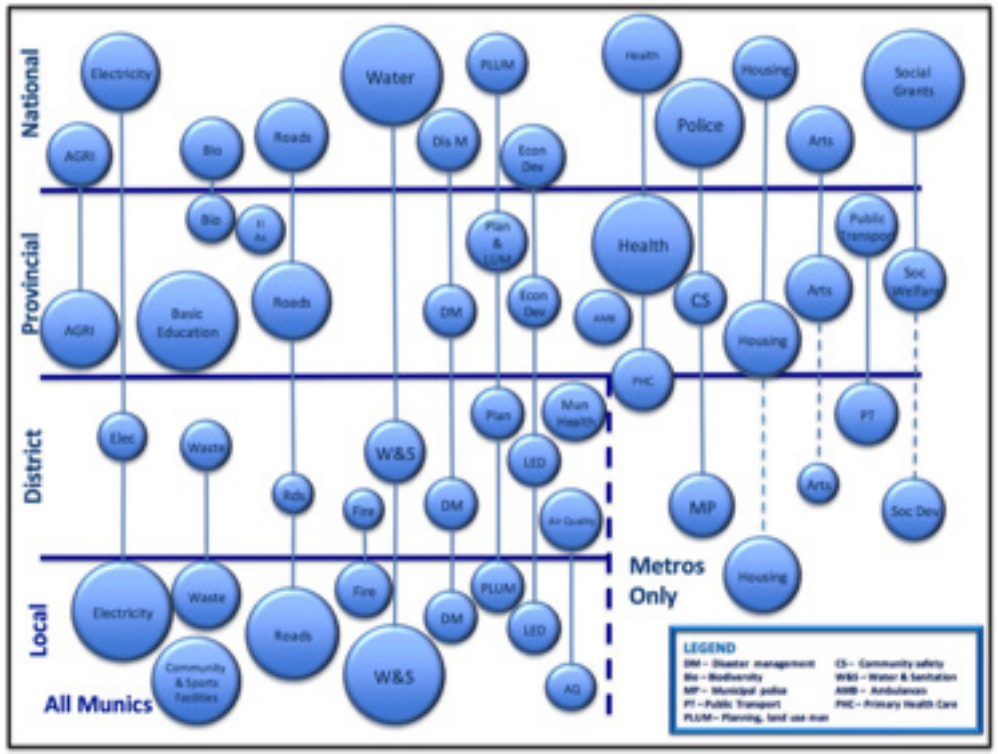


Figure 61. The Distribution of Roles and Functions Between the Three Spheres of Government in South Africa (Dept of Cooperative Governance, 2012)

Given that much of the current emphasis in facilitating high-level development in the GSR has fallen on the PSDF-identified strategic growth centre of Saldanha-Vredenburg, there is a specific focus at this point in establishing institutional support mechanisms to strengthen the capacity of the Saldanha Bay Municipality to deepen and extend its roles and functions in terms of municipal planning, and development facilitation and management. The following applies:

- WCG: DEADP is currently assisting the Saldanha Bay Municipality with the development of their new IDP and the review of their Municipal SDF. This specific effort is founded on the concern that the current IDP did not adequately address the challenges and opportunities applicable in the Saldanha/Vredenburg growth centre. In this regard, support to the municipality is overseen by an Executive Steering Committee and given practical effect through a Technical Steering Committee, which will work with the SBM for a full planning and budgeting cycle and, in so doing, work to coordinate Provincial input and budgets (projects and programmes).
- The Greater Saldanha Environmental Intergovernmental Task Team (IGTT), which was established to "enable co-operative governance for a coherent and co-ordinated inter-governmental approach to addressing the environmental quality concerns in Langebaan Lagoon, Saldanha Bay and environs". In general terms the IGTT refers to a concern with the coordination of development in the Greater Saldanha Region but, in practice, the focus is very much on the environment as any development is seen to have potential impacts on water quality and the environment.
- The GSRSIF itself is seen as a vehicle for facilitating broader institutional buy-in and collaboration in regard to regional-scale interventions that may be required to support development opportunities in

the study area. The process is overseen by a Project Management Team (PMT) and Intergovernmental Steering Committee (ISC) that includes representation from DEADP as well as the Provincial departments of Economic Development & Tourism (DEDAT) and Transport & Public Works (DTPW), together with officials of the West Coast District Municipality and the Saldanha Bay, Swartland and Bergrivier local municipalities.

- As the regional planning mandate as per the Constitution is a concurrent provincial and national mandate, it is accepted that DEADP will have to drive the GSR Regional Agenda, once adopted. It is presently envisaged that the established PMT and ISC would oversee tasks to take the GSR Regional Vision forward and the Executive Steering Committee established to oversee IDP support processes for Saldanha would further provide strategic guidance within the broader context of the Vision.

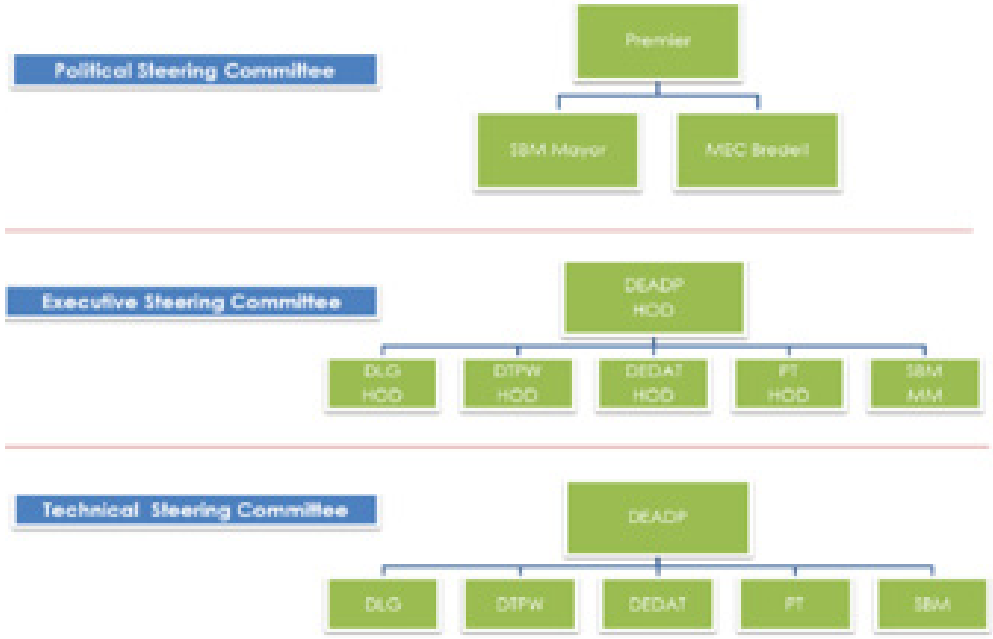


Figure 62. Outline of the Institutional Arrangements for Support to SBM (DEADP, 2016)

Table 14. Infrastructure Investment in the GSR - MTEF 2015/16 to 2017/18 (Source: DEADP Presentation, 2015)

MUNICIPALITY.	EDUCATION	HEALTH	DTPW	HUMAN SETTLEMENTS	TOTAL
SALDANHA BAY.	R53,527,000	R44,662,000	R412,600,000	R129,900,000	**R640,689,000**
SWARTLAND.	R68,947,000	R45,000,000	R374,267,000	R95,775,000	**R583,989,000**
BERGRIVIER.	R59,720,000	R14,600,000	R493,206,000	R76,250,000	**R643,776,000**
TOTAL.	**R182,194,000**	**R104,262,000**	**R1,280,073,000**	**R301,925,000**	**R1,868,454,000**

3.10.3. Medium-Term Budgets

Presently, the provincial and municipal budget cycles are staggered, with the provincial financial year running from 1 April to 31 March and the municipal financial year running from 1 July to 30 June. From the provincial perspective, annual allocations are made to each municipality in terms of the Medium Term Expenditure Framework so as to enable municipalities to be informed for purposes of their own integrated development planning and budget processes.

In the GSR, the current MTEF allocations to the municipalities from the WCG that are relevant to infrastructure development are noted (these are specific allocations not made in terms of the equitable share division of revenue made direct to the municipalities from National Treasury) in Table 14.

The figures indicate the weighting of priorities placed on roads and transport and housing compared to social infrastructure investment, which appears in keeping with the broad understanding of the levels of provision of social facilities in the GSR at present.

It should be noted in this regard that subsequent phases of the GSRSIF process will examine in greater detail the levels of provision and access to social facilities across the WCDM in relation to applicable standards.

In addition, subsequent phases of the GSRSIF will also provide more guidance with regard to the detailed funding allocations made by WGC departments in the GSR.

3.10.4. Gaps and Key Issues

There are a multiplicity of institutional arrangements that have been put in place to facilitate and promote improved cooperative governance and planning-led budgeting across sectoral departments in government and between different spheres of government. Nevertheless, while budgeting remains done on a departmental basis (as opposed to a strategic focus area basis) it remains a challenge to achieve budget alignment towards achieving strategic development objectives in spatial development.

The formulation of a consensus-driven and coherent Regional Agenda will be a key outcome of work to be undertaken in the Spatial Analysis and subsequent phases of the GSRSIF, particularly in the engagements with Focus Groups. A Regional Agenda that is ultimately supported and sufficiently clear can inform the setting of priorities and provide guidance to the formulation of budgets across spheres of government toward a coordinated and sustained effort to realise the development potential in the GSR.

4. Regional Problems and Key Issues Statement

4.1. Key Issues Arising

- At the level of the regional space economy, the GCM remains by far the most dominant conurbation, which influences and impacts on the GSR in a dynamic way, affecting numerous aspects such as movement patterns and flows of people, goods and services. It is likely to remain the "centre of gravity" that influences development trends in the GSR for the foreseeable future.
- While, historically, the port of Saldanha Bay has been seen as a strategic asset and, especially since the 1970s, has been a focus of some infrastructure investment and development in the mineral, steel and aquaculture industries, more recent reaffirmation of the strategic importance of the port and surrounding areas has led to a renewed upsurge in expectation about increased investments in the area's development.
- In this regard, while clear commitments have been made in regard to investment in growing capacity of the Sishen-Saldanha railway link and associated mining, mineral export and processing activities in terms of SIP 5 - as well as in the SBIDZ and surrounding back-of-port areas - there still remain uncertainties regarding whether these commitments can be fulfilled and, indeed, if they can generate the anticipated surge in development in the regional growth centre of Saldanha/Vredenburg and surrounds.
- This appears precisely so because of the uneven history of investment and development outcomes previously, and also because of the key challenges posed by limitations in water and energy supply. The availability of sufficient water, in particular, has historically been a challenge in the area such that it may be described as a "recurring theme" dating back to the 17th century.
- For this reason, and while it is clear that the Saldanha/Vredenburg growth centre is indisputably the prospective "regional motor" for economic development in the GSR, it becomes of great importance also to expand the planning focus beyond to other areas that have identified growth potential. In this regard, towns such as Malmesbury, Piketberg, Velddrif, and Porterville appear to be likely to experience growth trends related not only to the take-off of the Saldanha/Vredenburg growth centre but also to the investments currently being made in upgrading key regional and national road and rail routes.
- These investments in transport infrastructure are likely to play a strong role in affecting development trends in the towns and settlements along the key routes.
- From a social and demographic perspective, it is notable that the GSR area has, since 2001, experienced relatively high population growth rates, which appear to have been driven by influx and migration into the area.
- The resulting demographic profile has resulted in a preponderance of younger people, particularly in the age groups from 10 to 34. This, allied with the described trends of economic sectoral transformation and the growth in unemployment has provided the context within which social pathologies have increased (e.g. crime). In turn, this has placed pressure on the providers of social facilities and services in the GSR.
- Moreover, with the prospect of a new impetus for development in the GSR that appears likely to be centred on industrial development and more sophisticated business services sectors, much focus needs to be placed on a regional strategy for skills and training in both the youth and adult sections of the population.
- The pressing need for a coordinated and regionally (spatially) scaled network of social facilities that is allied and responsive to the regional hierarchy of settlements to ensure the best levels of accessibility to communities is thus confirmed.
- The expected shift in the sectoral makeup of the regional economy, however, should not be taken to replace the need for a concerted strategic approach towards revitalising rural development.
- It appears likely that development trends in the GSR will not be driven only by industrial expansion in the oil, gas, mineral and allied commodities sectors in the Saldanha/Vredenburg growth centre but will also need to account for strategies to enhance rural development and other key economic contributors such as agriculture, fishing and aquaculture, mining and tourism.
- This will all require a careful approach towards managing wisely the natural endowments of the GSR and ensuring that the natural resource base, ecological networks and crucial cultural, heritage and scenic landscapes are not degraded over time but, instead, are protected wherever possible.

4.2. Focus Areas of SWOT and Spatial Analysis

Based on the foregoing and - emphasising in particular - the regional scope of the GSRSIF, the following are put forward as specific areas of focus for the upcoming Spatial Analysis and SWOT Phase of work:

- To set the scene for further spatial analysis, it is understood that the ToR require that a base model for projecting current and future population growth and distribution across the West Coast district be undertaken. This will require some balancing as the official population projections of the WCG (as per the PWC report, 2014) do not always accord with the population assumptions and projections used by municipalities in their strategic planning processes (e.g. IDPs etc.);
- The Status Quo has highlighted again the centrality of establishing how key enabling infrastructure will be developed and managed in order to enable not only the envisaged industrial development in the Saldanha/ Vredenburg growth centre but also more diversified development paths across the GSR. Therefore, a greater depth of information is required in this regard and especially in relation to the regional dimensions of such infrastructure; for example, the identification of the key road, rail and infrastructure corridors that need to be developed and how these will impact on the towns and settlements of the GSR;
- From an economic perspective, it is considered important that a better understanding be sought regarding the prospective augmentation of rail operations in respect of (a) the Sishen-Saldanha line and iron ore/ mineral conveyance; and (b) rail freight to and from the GSR.
- At a regional level, it will also be important to investigate the options for Non-Motorised Transport (NMT) routes, which might operate as tourist routes and/or as local commuter routes. If considered feasible, such possible routes need to be identified and spatial provision be made accordingly.
- The crucial concern around regional water supply needs to be further analysed and better understood in order to assess the potential implications for the regional development path;
- At a regional level, Energy Supply is a major factor that needs to be better understood in all its dimensions, including the spatial/ land use implications of regional corridors for infrastructure such as gas pipe lines and power lines;
- A full analysis of the West Coast District's current provision of social facilities is to be undertaken, including an assessment of the adequacy of the numbers and accessibility of libraries, community sports fields, health facilities and education facilities in order to determine (a) whether the present status is in line with applicable standards of provision; and (b) what future requirements for such facilities are likely to be, based on the projection of population growth and relative distribution of population in the 15-year planning horizon;
- Within the context of the scenario that anticipates increased development throughout the GSR, a better understanding needs to be sought with regard to food security and, especially, the provision of fresh produce to the main growth centre(s) of the area. This is seen to be a regional-scale issue as the areas where such fresh produce can be grown sustainably are geographically dispersed and a view needs to be taken on how best to utilise these areas' potential and relate this back to the regional transportation and logistics network.
- Finally, the Terms of Reference stipulate that a geo-database shall be compiled from all the data acquired/accessed for the Spatial Analysis phase.

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