POLOKWANE
LOCAL MUNICIPALITY

SPATIAL DEVELOPMENT FRAMEWORK

2024

Polokwane

NATURALLY PROGRESSIVE

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Introduction

The Spatial Development Framework (SDF) is an integral part of the Integrated Development Plan (IDP) of the Polokwane Local Municipality, as required in terms of Section 26 of the Municipal Systems Act of 2000 (Act 32 of 2000). The purpose and status of the SDF are derived from the provisions of Section 21 of the Spatial Planning and Land Use Management Act, 2013 (SPLUMA).

Overview

The SDF integrates various sector plans. The emphasis is on developing an inter-disciplinary approach, to bring different sector knowledge to bear on a set of shared objectives. The SDF is not a comprehensive development blueprint. The SDF is proactive and clearly defines the desirable directions and outcomes of future growth in Polokwane.

The central question that all spatial planners and development managers grapple with is how to ensure the development of sustainable cities, towns, and rural areas in a climate where the immediate needs of poverty and lack of basic services overshadow the development agenda. This is the fundamental role that the SDF should play in the municipal area, namely, to ensure the development of a sustainable urban and rural environment while, at the same time, create an enabling environment for the implementation of the developmental agendas of the different spheres of government.

Many issues forming part of this SDF will need on-going discussion and debate. Such issues are often complex and inter-connected and may include:

- Integration with national and provincial development strategies;
- Linking urban and rural development;
- Functional integration of settlements often located far apart;
- Infrastructure provision;
- Social justice; and
- Poverty.

The key is to optimise development and access to development opportunities for all people in Polokwane.

The National Spatial Development Perspective states, “the challenges and opportunities posed by and in urban settlements, whether they are declining or expanding, necessitates a targeted response by government to achieve better urban management. Managed urbanisation and improved urban management are crucial supporting components of government’s drive for accelerated shared growth, not least because of the crucial role cities, towns and urbanising agglomerations play in fostering resilient and inclusive economic growth and the sustainable development of countries and regions.”

The extent and the urban-rural duality of the Polokwane municipal area requires a dual approach. In the first instance, the focus is on the total municipal area. At this level, the emphasis is on determining and assessing the wider municipal trends and tendencies with the aim to:

- Improving spatial functionality across the municipal area;
- Integrating the municipal SDF with district and provincial SDFs; and
- Identifying and developing a settlement typology for more detailed spatial planning.

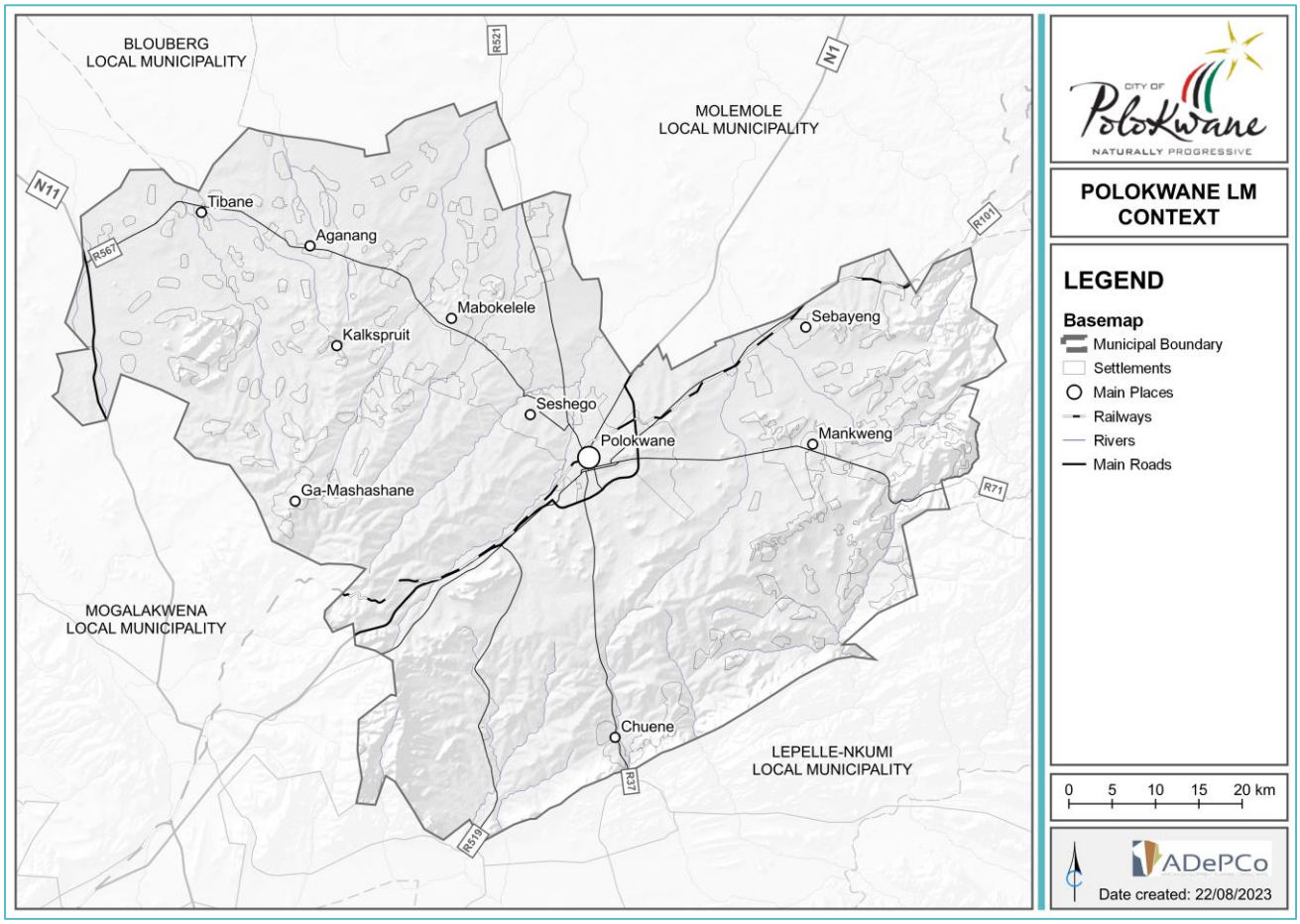
The second focus area is on more detailed and localised planning in terms of the agreed settlement typology. It might imply a broad distinction between spatial frameworks for the urban and rural components of the municipality. The focus remains on integration and improved functionality in the local and broader spatial development system.

Location and regional context

Regional context

The Polokwane Local Municipality (Polokwane) is situated in the central region of the Limpopo Province, which is the northernmost province in South Africa. Polokwane is a part of the Capricorn District Municipality, which includes other local municipalities such as Blouberg, Molemole, and Lepele Nkumpi. The geographical boundaries of Polokwane are as follows:

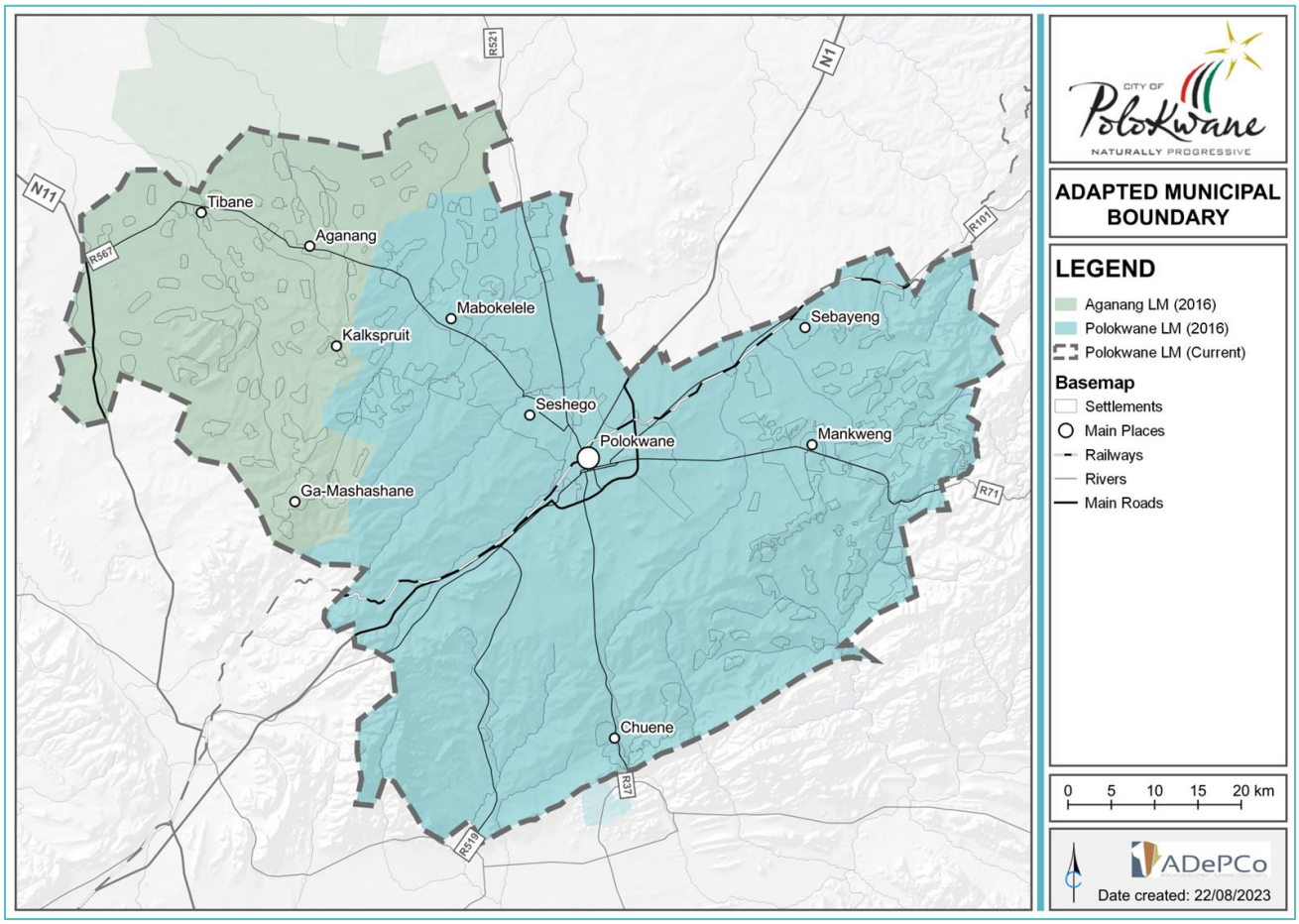
- To the north, Polokwane shares boundaries with Blouberg and Molemole local municipalities.
- To the south, it borders the Lepele Nkumpi local municipality.
- On the west, it is adjacent to the Mogalakwena Local Municipality, a part of the Waterberg District Municipality.
- On the east, it shares borders with the Greater Tzaneen Local Municipality, which is a part of the Mopani District Municipality.



Map 1: Polokwane LM boundaries

Within the Limpopo region, the city of Polokwane, plays a pivotal role. Positioned along the N1 National Road and at the convergence point of significant road networks, Polokwane boasts exceptional accessibility and connectivity to the wider area. Map 1 provides a visual representation of Polokwane's geographical context.

At the time of the adoption of the previous SDF in 2010 the jurisdictional area of Polokwane was smaller. However, in 2016, a portion of the former Aganang local municipal area was incorporated into Polokwane. This affected area of Aganang was located northwest of Polokwane and bordered it, as shown in Map 1. This incorporation divided Aganang into two parts, with the southern section, covering approximately 104,000 hectares, becoming a part of Polokwane.



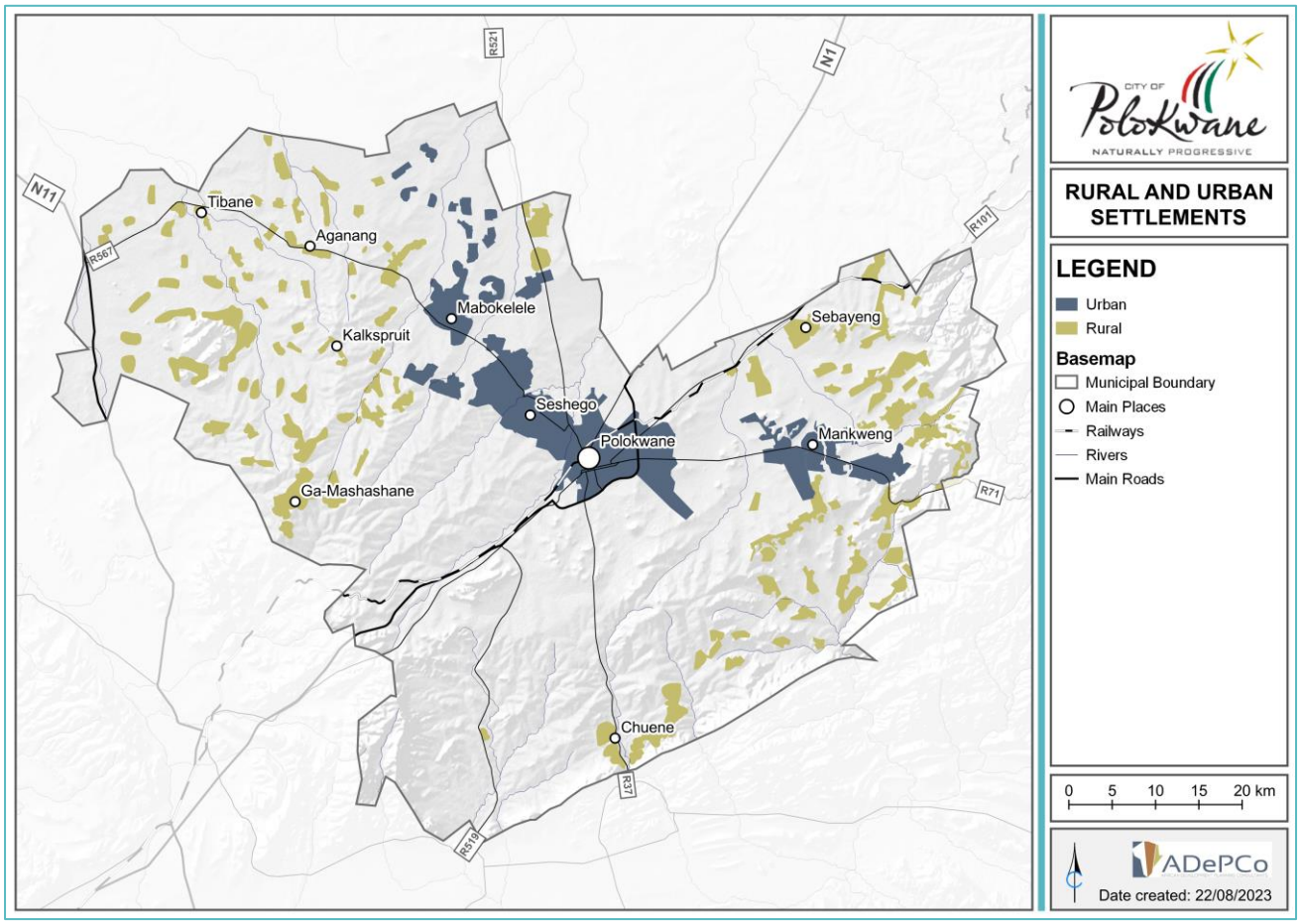
Map 2: Polokwane LM adapted boundaries

Consequently, the land area of Polokwane expanded from around 374,000 hectares to approximately 505,000 hectares, constituting an increase of about 38%. This reassessment of the SDF needs to be interpreted in light of this alteration.

Local context

The Polokwane Municipality spans approximately 505,000 hectares and encompasses a variety of scattered settlements across its jurisdiction. The capital of the province, Polokwane City (formerly Pietersburg), is positioned centrally within the municipal boundaries. It is intersected by both the N1 National Road and the R101 Provincial Road. These roads establish connections for Polokwane City to Musina, a border town in the north, and the more extensive metropolitan regions of Tshwane and Johannesburg in Gauteng to the south. Pretoria CBD is approximately a two-and-a-half-hour drive from Polokwane. Furthermore, a major railway line closely follows the same path as the N1 National Road, with ten stations situated within the boundaries of the municipality.

Map 3 provides an overview of the location and extent of the urban and rural areas that make up Polokwane LM. A description of each area follows.



Map 3: Rural and urban settlements

The Aganang and Moletjie regions are located northwest of the Polokwane urban area and are primarily rural; falling under the jurisdiction of traditional authorities. Settlements in these regions tend to be small and widely dispersed.

Approximately 10km northwest of the Polokwane CBD lies Seshego; another urban node. Recent development has brought Seshego and the central area of Polokwane City closer together along the R567.

The Maja region, characterised by limited development, is located to the south of Polokwane. However, in the eastern part of this region, to the south of the town of Madiga, scattered settlements exist in limited numbers. North of Madiga is the town of Mankweng, which has recently undergone substantial growth and has become a significant settlement within the municipal context.

Lastly, the Sebayeng region, situated to the north of Mankweng, contains several relatively isolated settlements, which are larger in size compared to those found in the more traditional Aganang and Moletjie regions.

The configuration of settlements in the area is shaped by the historical evolution of the municipality. Interestingly, physical attributes like slope or major rivers do not seem to be the primary factors influencing the spatial arrangement of the municipality.

The SDF review process

Thirteen years have passed since the 2010 SDF was adopted. During this time, the Polokwane Municipal Area went through reorganisation and growth. Particularly, a significant part of the previous Aganang Local Municipal Area was included, resulting in the total municipal land area expanding by roughly 38%.

Furthermore, the Spatial Planning and Land Use Management Act of 2013 (SPLUMA) was put into effect in 2015. This introduced the obligation to carry out regular evaluations of a municipal area's Spatial Development Framework, as outlined in Section 12 of SPLUMA.

SDFs in context

The Municipal Spatial Development Framework (MSDF) emerges from a spatial planning process guided by directives outlined by the former Department of Rural Development and Land Reform, primarily based on the principles of the SPLUMA (2013). The authority of a municipality is chiefly drawn from the Local Government: Municipal Structures Act, 1998. The associated responsibilities can be summarised as follows:

- Conducting a thorough analysis of pertinent data.
- Formulating a comprehensive synthesis of the analysed data.
- Generating a series of spatial proposals that will serve as the foundation for a set of adopted policy guidelines.

These guidelines, in turn, will shape and inform the municipality's decisions concerning land use and development within its jurisdiction.

The revised Spatial Development Framework outlined herein encompasses:

- A collection of maps, tables, and figures to visually convey spatial data and derived conclusions. Alternatively, spatial guidelines can be depicted through maps that visually communicate the municipality's policies.
- An explanatory textual component that bolsters the aforementioned data and proposals.
- The final compilation of spatial development framework plans and maps, graphically depicting the municipality's adopted policy guidelines.

Upon the official adoption of the revised Spatial Development Framework as policy, it will serve as the compass for directing and regulating land use and development within the municipal jurisdiction. This alignment will adhere to the municipality's development vision, goals, and objectives as outlined in its Integrated Development Plan.

The procedure to compile a Spatial Development Framework is set out in the Municipal Systems Act, 2000 (Act 32 of 2000), the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) and the Western Cape Land Use Planning Act, 2014 (Act 3 of 2015). This process is shown in Figure 1.

In short, the process entails the following:

1. The municipality decides whether or not to establish an Intergovernmental Steering Committee (ISC).
2. Members of Council to be given reasonable notice of the intention to compile the MSDF.
3. The proposal to compile the MSDF must be published in the media in at least 2 official languages.
4. The municipality must inform the provincial minster in writing of their intent to compile the MSDF.
5. Municipality must establish a project committee.
6. If an ISC is established, then provincial and other departments must be invited to sit on it and provide input on the SDF amendment.
7. Once available, the draft MSDF must be made available for public comment for a period of 60 days.
8. The Project Committee must consider all comments received and compile a final SDF for council adoption.
9. MSDF is presented to Council for approval.
10. Once adopted, a notice of adoption must be placed in Provincial Gazette within 14 days.
11. The MSDF submitted to provincial minister within 10 days of Council approval.

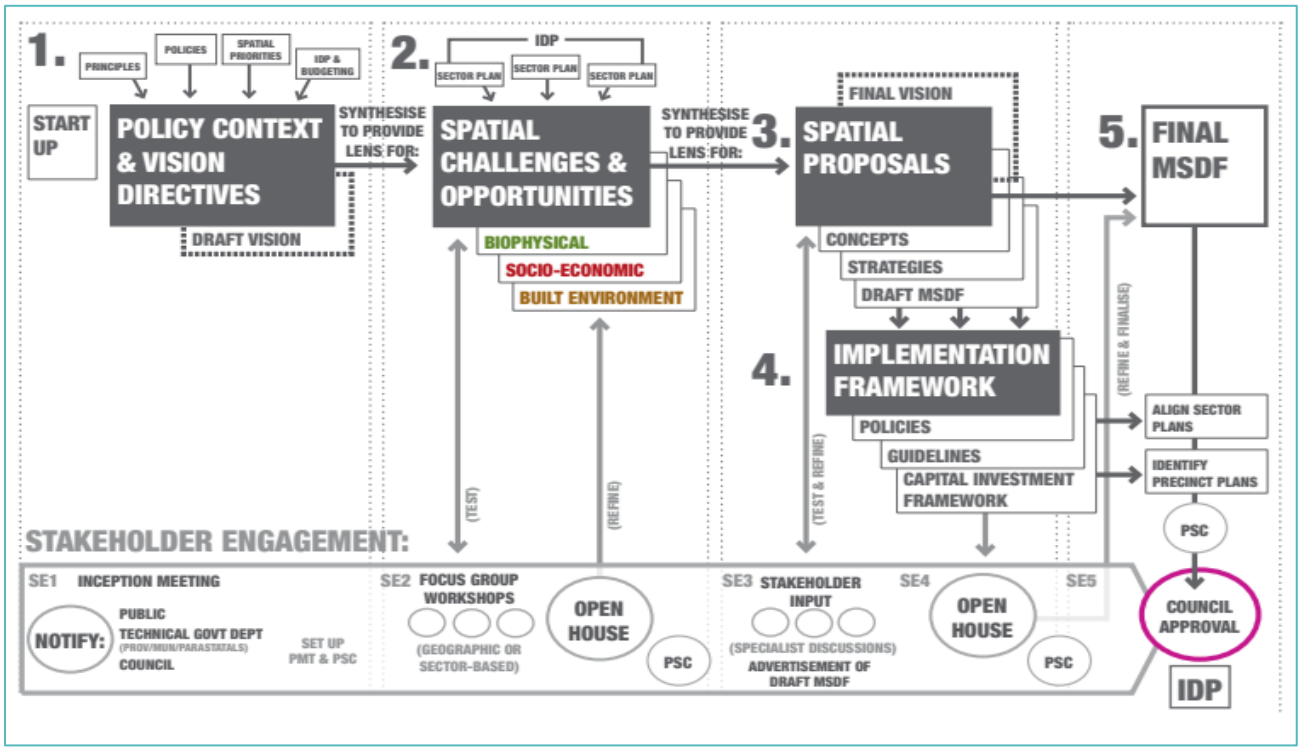


Figure 1: MSDF Process

Upon adoption by the Municipality, this SDF acquires the status as described in, inter alia, the SPLUMA (2013) and in this regard the content of Section 22 of SPLUMA is particularly relevant. This section is quoted below:

> *"**22. Status of Spatial Development Frameworks***
> *(1) A Municipal Planning Tribunal or any other authority required or mandated to make a land development decision in terms of this Act or any other law relating to land development, may not make a decision which is inconsistent with a municipal spatial development framework.*
>
> *(2) Subject to section 42, a Municipal Planning Tribunal or any other authority required or mandated to make a land development decision, may depart from the provisions of a municipal spatial development framework only if site-specific circumstances justify a departure from the provisions of such municipal spatial development framework."*
> ***Underlined by author**

The provisions of Section 22 of SPLUMA translate into different obligations on the part of the Municipality including the following:

- The SDF text must be presented in firm terms as policy statements/guidelines, to avoid vague and ambiguous constructions which leave an overly flexible margin of latitude when it comes to interpreting and applying the guidelines. This is particularly so in circumstances where a land development application is opposed and where the decision maker (the authorised official, MPT or Appeal Authority) is seized with the responsibility to properly interpret the SDF guidelines.
- Section 22 of SPLUMA is clear in that it qualifies the status of the guidelines in the SDF (once adopted) as being subject to possible deviation or departure, on good cause shown, and based on site specific circumstances. Where such circumstances arise, the process to be followed shall be regulated by the relevant Municipal by-law.

How to use the document

Upon its endorsement by the Municipality, this SDF becomes an official municipal policy equipped with guidelines intended to guide and instruct pertinent authorities when it comes to proposed alterations in land usage. This is chiefly facilitated through a variety of land development applications that are presented to the Municipality for consideration under the applicable municipal by-law. As per Section 22 of SPLUMA, the Municipality remains bound by its self-adopted policy. Nevertheless, this commitment is qualified by Section 22(2), which offers a degree of flexibility and discretion to permit justifiable deviations under sound reasoning.

Consequently, any prospective land development applicant who approaches the Municipality via a land development application to modify property usage within the scope of the SDF, is obligated to demonstrate the following:

- That their proposed actions align harmoniously with the embraced policy guidelines in the SDF.
- That these guidelines lend support to the intended changes.

In instances where deviations from policy guidelines are proposed, or if a land development application introduces distinctive attributes that do not easily align with the embraced SDF guidelines, the applicant must supply supplementary justification for municipal consideration. This is in line with the provisions of Section 22(2) of SPLUMA.

Similarly, this logic extends to the responsible municipal officials, including authorised personnel and those tasked with compiling recommendation reports for entities like the Municipal Planning Tribunal. Any such report must comprehensively assess the proposed land development application within the context of the embraced SDF guidelines. It should determine whether a deviation can be warranted and on what grounds.

Hence, both the land development applicant and the responsible municipal official(s) must consistently employ the endorsed guidelines from the Spatial Development Framework to ensure the decision-making authority is equipped to make well-informed choices.

The subsequent paragraphs summarise the utilisation of the SDF as a policy guideline for both land development applicants and responsible municipal officials in each scenario.

Step 1: Contextualising the Subject Property

The arrangement of the Spatial Development Framework has divided the larger municipal area into distinct functional zones, each characterised by its own geographical attributes and human-made characteristics. The high-level map of the Spatial Development Framework for each functional zone provides guidance on growth paths, defined urban areas or development focal points, outer urban edges, suggested corridors, and a general representation of preferred main land use types. As a preliminary step, the specific property should be positioned within this contextual framework and effectively described in relation to its environment.

Step 2: Local Particulars

Within each functional region constituting the broader municipal jurisdiction, specific nodes, strategic development zones, and corridors are featured in more detailed SDF maps and plans. These offer finer-grain details, succinctly presenting guidelines for planned zones or expansion paths, desired land use categories, occupancy densities, and similar factors.

Following the contextual placement of the subject property, the more detailed guidelines pertinent to these nodes, strategic development zones, or proximity to development corridors should be considered. This involves accounting for cadastral boundaries and site-specific attributes.

Both the land development applicant and the responsible municipal official must present a comprehensive assessment of these guidelines. This stage reveals whether the proposed land development application is likely to find endorsement within the policy guidelines (in principle) and whether deviations can be defended.

Step 3: Comprehensive Spatial Planning Considerations

Once the compatibility of the land development application with the broader policy guidelines established in the SDF is ascertained, a closer examination of detailed aspects is necessary. These encompass:

- Residential population densities.
- Scale and extent of proposed structures.
- Specific availability of bulk engineering services for the site.
- Accessibility and means of approach.
- The alignment of the proposed land use with the surrounding environment and compatibility with land use typologies.

These facets must be considered, and the corresponding guidelines assessed and clearly outlined in both the land development applicant's and responsible Municipal official's submissions.

For cases involving residential densification (achieved through rezoning, township establishment, or subdivision), and when the adopted SDF guidelines support this principle, SDF maps outlining desired residential density zones, along with associated development constraints like building heights and plot sizes, must be considered.

In scenarios involving non-residential development, the residential density guidelines may not be applicable. Instead, more specific guidelines related to areas close to development corridors, zones within defined strategic development regions, or specific nodes (mixed-use or otherwise) might be relevant. These must be meticulously examined to inform the decision-making process.

Step 4: Availability of Engineering Services and Access

Following the progression of the above steps, the pivotal aspect of bulk engineering services comes to the forefront. Both the land development applicant and the concerned municipal official can contemplate the extent of the development proposal, including variables like the maximum number of dwelling units, potential floor area, building height, access points, and similar considerations.

With this foundation, the parties responsible for evaluating engineering services capabilities (consulting engineers for the applicant and municipal engineers managing such services) can assess the supplementary demand generated by the proposal. This assessment is then juxtaposed against the existing capacity of bulk services. This evaluation identifies potential concerns and requires the land development applicant to propose mitigation strategies or solutions to address any deficiencies or obstacles. Simultaneously, the responsible municipal official (from the relevant engineering division) can evaluate the proposal in the light of the available municipal infrastructure.

It's important to acknowledge Polokwane's struggle with insufficient water supply sources, often inadequate for large-scale developments. While these issues might not be permanent and could potentially be resolved over time with increased capacity and infrastructure, interim decisions about land development applications must consider this reality.

The availability of bulk engineering services, including potable water, hinges on the geographical context of the land development proposal, its size, and its complexity. Consequently, it's unrealistic to anticipate that the Spatial Development Framework will provide definitive answers regarding land use alterations in specific areas due to water supply challenges. Ultimately, the onus rests on the land development applicants to convince the Municipality that their proposed land use changes can be accommodated within the confines of available bulk engineering services, or through alternative solutions. These aspects will necessitate case-by-case evaluations until more comprehensive solutions emerge for larger-scale municipal area concerns, including bulk water supplies and other essential services.

Institutional, policy & strategic context

The Spatial Planning and Land Use Management Act (SPLUMA) (2013) is a legislative provision that guides all spatial planning and land use management in South Africa. Its central agenda is to establish robust spatial transformation to inspire better socio-economic outcomes. Addressing the historical spatial imbalances created by the apartheid spatial planning, forms the centre of engagement, supported by the inclusive transformation agenda set out in the National Development Plan. SPLUMA integrates principles of sustainable development into land use and planning regulatory tools and legislative instruments.

In effecting a high-impact social and economic transformation in a municipal context, Section 21 of SPLUMA provides that a municipal spatial development framework must be prepared to give effect to the development principles and applicable norms and standards set out in Chapter 2. The contributed development principles set out in this chapter apply to all organs of the state and other authorities tasked with the responsibility to meet policy objectives.

Accordingly, SPLUMA directs all spheres of government (national, provincial, and local) to prepare spatial development frameworks. The spatial development framework produced, must establish a clear spatial vision developed through a detailed inventory and analysis. This must be based on national spatial planning principles and local long-term development goals and plans.

SPLUMA seeks to promote consistency and uniformity in the procedures and decision-making on spatial planning and land use management. Section 12(2) of the Act provides that all three spheres of government must participate in each other's processes of spatial planning and land use management. However, each sphere must be guided by its own spatial development framework when making land use and development decisions.

Figure 2: SDF principles

Chapter 2, Section 7 of the Act provides principles that must anchor the directives of the municipal spatial development framework. The land use and land development must promote:

Spatial Justice — to redress development imbalances through improved access to land.
Spatial Sustainability — to protect food security, natural elements, and effect viable communities.
Spatial Efficiency — less use of resources to provide more socio-economic and socio-spatial opportunities.
Spatial Resilience — to effect plans and policies that will constitute economic and environmental shock-resistant communities.
Good Administration — all spheres of government promote integrated efforts for the implementation of the principles, norms and standards set out.

The Municipal Systems Act 32 of 2000, makes provision for a local municipality to draft its integrated development plan (IDP), considering the integrated development processes of, and proposals submitted to it by, the district municipality. This then requires local municipalities to collaborate with the district municipality in their jurisdictions to promote well- aligned and integrated development.

An IDP is a facilitating tool to consolidate the (1) developmental vision and (2) objectives of a community with real time project proposals and an associated budget.

The SDF will assist in understanding the status quo of an area, visually identify opportunities and constraints, and deliberate on potential spatial interventions that will drive the type of development that is envisioned

A number of acts and policies from national and provincial governments deal with spatial and land development. It is impractical to deal with each one of these documents in detail. Instead, this section focuses on legislation and policies that have a fundamental impact on the manner in which spatial and land development in towns and rural areas in South Africa are addressed.

The general intention of and relevant directives/principles from the legislation and policies are dealt with in table format for easy reference.

National legislation

South Africa generally places a strong emphasis on the development of policy guidelines. A policy shows the government's intent and objectives which guide and inform planning and decision-making. The key is to assess the impact of policy guidelines at the municipal or local level in terms of applicability and the municipality's ability to sustain development within set policy frameworks. The following policies are relevant to the review of the Spatial Development Framework:

National Development Plan, 2030

The National Development Plan sets out an integrated strategy for accelerating growth, eliminating poverty, and reducing inequality by 2030. The plan has less than a decade left to demonstrate sufficient evidence of achieving the developmental goals it set out since the publication date of 2011. Supported by the New Growth Path (NGP) and other relevant developmental programmes, it provides a platform to look beyond the current constraints to the transformation imperatives over the next 20 to 30 years.

Its 2030 goals include eliminating income poverty and reducing inequality. The NDP's human settlement targets, as set out in Chapter 8, focus on transforming human settlements and the national space economy. The plan expands on the administration's focus to enable support programmes that will enable:

1. More people to live closer to their workplaces
2. Better quality public transport, and
3. More jobs in proximity to historical disadvantaged townships

The above directives intend to take work to where people are living, as an intervention to undo the apartheid spatial legacy. It aims to alleviate the pressure of daily migration to historical city centres, opening up the opportunity to have (1) functional and self-sufficient communities and (2) efficient transportation of economic units (commuters, goods, and services). The latter leads to greater economic productivity in municipal regions.

Industries want to be located where their business facilitation is efficient, shows evidence of growth and is served by reliable infrastructure services. Communities directly benefit from the economic spill overs of these industrial agglomerations. These include infrastructure (re)developments and employment. The material changes of the people on the ground, leads to a society that makes better decisions. Socioeconomic upliftment is the main element that has the potential to deal with a variety of social ills including gender-based violence (GBV) and the prevalence of HIV/AIDS.

The pursuit of efficient cities and towns is emphasised in the plan through the discouragement of further development of affordable public housing in marginal spaces. The NDP is a proponent of increasing urban densities to support public transport viability and land use efficiency, which is referred to as "sustainable densification."
The NDP contains certain directives in regard to rural development and the revitalisation of smaller or so-called secondary towns. In the context of Polokwane, the following is of importance:

- The NDP has in mind an inclusive and integrated rural economy implying that such areas are to be supplied with greater opportunities to contribute to economic, social and political activities and further demand for basic services including education, healthcare and transport.
- A multi-faceted approach to rural development is supported in the NDP, including land reform, infrastructure development and employment creation.
- Connective infrastructure is promoted to improve access and mobility through, and to, rural areas and to ensure proper linkages between urban and rural nodes. This is particularly relevant to Polokwane where the larger jurisdictional area is dominated by rural areas under traditional leadership.

- The NDP also addresses land reform and stipulates that the principles underpinning same should include the de-racialisation of the rural economy whilst democratic and equitable land allocation and use should be fostered. Part of this will include region-based approaches to, inter alia, agricultural activities focused on food security. Specialisation in agriculture is key.
- The NDP promotes increases in exports of products with a comparative advantage, with particular reference to agriculture and agri-processing.
- The support for small-scale farmers is encouraged in the NDP, with due reference to the Integrated Growth and Development Plan for the Department of Agriculture.
- The NDP addresses different types of intervention in regard to rural settlements namely:
    - High economic potential areas
    - This, inter alia, supports increased irrigation in agricultural areas.
    - Medium economic potential areas
    - Supporting non-agricultural activities including agri-processing.
    - Low economic potential areas
    - The prioritisation of basic services (including healthcare and education) is supported.

Resource Critical Zones

These are based on valuable mineral resources and areas of importance to both biodiversity and critical water production. Limpopo has been identified as a province where protection of water resources is of high national priority. The NDP contains certain directives regarding rural development and the revitalisation of smaller towns. In the context of Polokwane, the following is of importance:

- The NDP has in mind an inclusive and integrated rural economy implying that such areas are to be supplied with greater opportunities to contribute to economic, social and political activities and further demand for basic services including education, healthcare and transport.
- A multi-faceted approach to rural development is supported in the NDP, including land reform, infrastructure development and employment creation.
- Connective infrastructure is promoted to improve access and mobility through, and to, rural areas and to ensure proper linkages between urban and rural nodes. This is particularly relevant to Polokwane where the larger jurisdictional area is dominated by rural areas under traditional leadership.
- The NDP also addresses land reform and stipulates that the principles underpinning this should include the de-racialisation of the rural economy whilst democratic and equitable land allocation and use should be fostered. Part of this will include region-based approaches to, inter alia, agricultural activities focused on food security. Specialisation in agriculture is key.
- The NDP promotes increases in exports of products with a comparative advantage, with particular reference to agriculture and agri-processing.
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- The NDP addresses different types of intervention with regards to rural settlements namely:
    - High economic potential areas
    - This, inter alia, supports increased irrigation in agricultural areas.
    - Medium economic potential areas
    - Supporting non-agricultural activities including agri-processing.
    - Low economic potential areas
    - The prioritisation of basic services (including healthcare and education) is supported.

Finally, the NDP encourages that plans and rural strategies be developed for rural areas which may stem from the Spatial Development Framework Policy of the municipality.

National Spatial Development Framework (Draft) 2050

The National Spatial Development Framework (NSDF) is a development guideline document that provides a spatial vision for South Africa on a National Level.

The Draft National Spatial Development Framework (NSDF) follows on the spatial transformation agenda echoed in the NDP. The NSDF is a higher order spatial idea that “seeks to make a bold and decisive contribution to bringing about the peaceful, prosperous and truly transformed South Africa….” (NSDF, 2019).

Section 12 (3) of SPLUMA, provides that a national spatial development framework must contribute to, and offer spatial representation of, national development policies and plans.

The NSDF identifies certain “National Spatial Development Shapers.” Although not limited on these two, the “shapers” that are immediately applicable to the Polokwane Local Municipal are:

Urbanisation in pursuit of better urban living and urban spaces
In this regard the sprawling dense rural communities in Limpopo are identified and the trend towards greater densification in nodes and along routes connecting such nodes is promoted. This will result in continued pressure for concentrated development in such nodes and along such corridors.

Climate change implications
Rainfall is set to decrease in a large stretch of the southwestern, western and northwestern parts of the country, while rainfall is set to increase, but also become more erratic, in the central and southeastern part of the country. In this regard the existing water shortages in Polokwane are also identified and flagged as matters of concern.

The NSDF goes further to identity National Spatial Action Areas (NSAA). Polokwane forms part of what is described as the Eastern Escarpment Transformation Corridor and Polokwane is identified as a National Urban Node within the larger corridor.

The NSDF identifies the following Actions and Interventions for the identified corridors (including the Eastern Escarpment Transformation Corridor and, by implication, for Polokwane:

- Extend and improve the transportation networks, ensure regular maintenance and upgrading of existing infrastructure, notably roads, increase investment in high-speed ICT infrastructure and enhance urban-rural and rural-rural connectivity;
- Ensure effective city and town management to prevent sprawl, ensure innovative settlement planning and urban land reform, well managed land-use, enabling infrastructure investment;
- Introduce rural design, urban/rural edges, land administration and urban land reform, to consolidate place-specific urbanisation in dense rural settlements within a strategically located network of rural service centres and towns;
- Provide catalytic, innovative and contextually suitable sustainable infrastructure, social and basic services to support enterprise development, well-being and inclusive growth with both an ecological and human-focused approach;
- Prioritise human capital and people-centred enterprise development, e.g., arts and culture, tourism, knowledge creation, education and innovation;
- Optimise the agricultural opportunities in the region and support the establishment of small-scale farming activities, agri-enterprises and agri-led industrialisation, to foster productive rural regions, enhance national food security, and strengthen national water security;
- Develop the tourism sector and creative industries in the region, with an emphasis on small-and-medium-sized farming activities, and agri-eco production;
- Ensure the protection and management of ecological infrastructure and national resources and protected areas, including SWSAs and high-value agricultural land; and
- Establish strong regional growth and development compacts, including all role-players, i.e., the three spheres of government, traditional leaders, communities (notably youth), the private sector, CBOs, NGOs and organised labour, and ensure regional, cross-provincial and cross-municipal boundary collaborative spatial development planning and governance.
- As the NSDF also indicates Polokwane as a national urban node within the Eastern Escarpment Transformation Corridor, it is important to acknowledge that the NDSF’s first, second and third spatial outcomes.

National Spatial Outcome One entails the creation of “a network of transformed and well-connected national urban nodes, regional development anchors, and development corridors that enable South Africa to derive maximum transformative benefit from urbanisation, urban living and inclusive economic development.” (DALRRD & DPME, 2019)

National Spatial Outcome Two entails the creation of “national corridors of opportunity enable sustainable and transformative national development, urbanisation, urban consolidation, mutually beneficial urban and rural linkages, and ecological management.” (DALRRD & DPME, 2019)

National Spatial Outcome Three entails the fostering of "national connectivity and movement infrastructure systems that are strategically located, extended and maintained, to support a diverse, adaptive and inclusive space economy and key national and regional gateways.” (DALRRD & DPME, 2019)

National Transportation Master Plan, 2015

The National Transportation Master Plan (NTMP) has as its main purpose to create a prioritised programme of interventions for the upgrading of the transport system at national level. The NTMP aims to develop a dynamic long-term and sustainable land use/multi-modal transportation system framework for the development of networks, infrastructure facilities, interchange and termini facilities and service delivery strategies. The NTMP places emphasis on developing rail as a transportation medium so as to ensure integration between land use development and transportation planning and to put forward an emphasis on enhancing development of a series of priority national transport corridors.

Other guiding documents

Millennium Development Goals, 2000
The United Nation's Policy on Millennium Development Goals is an ambitious agenda for reducing poverty and improving lives. The target for achieving most of the goals is 2015, using 1990 as a benchmark.

Principles/Directives:
- Halving extreme poverty and hunger.
- Achieving universal primary education.
- Promoting gender equality.
- Reducing under-five mortality by two-thirds.
- Reducing maternal mortality by three-quarters.
- Reversing the spread of HIV and AIDS, malaria and TB.
- Ensuring environmental sustainability.
- Developing a global partnership for development, with targets for aid, trade and debt relief.

National Spatial Development Perspective, 2011
The aim of this policy is to guide government investment on a national level in such a manner that the greatest measure of benefits could be obtained from such investment. This is done through an in-depth understanding of the national space economy.

Principles/Directives:
- Economic growth is a prerequisite for the achievement of poverty alleviation.
- Government has a constitutional obligation to provide basic services to all citizens wherever they reside.
- Beyond basic services, government spending on fixed investment should be focused on localities of economic growth and/or economic potential.
- In localities with low demonstrated economic potential, the government should, beyond the provision of basic services, concentrate primarily on human capital development.
- Future settlement and economic development opportunities should be channelled into activity corridors and nodes.

Breaking New Ground, 2004
This policy is fundamentally about the need to move away from a housing-only approach to the more holistic development of human settlements, including the provision of social and economic infrastructure.

Principles/Directives:
- Safe and secure environments.
- Adequate access to economic opportunities.
- A mix of safe and secure housing and tenure types.
- Reliable and affordable basic services, educational, entertainment, health, welfare and police services within a multi-purpose cluster concept.
- Compact, mixed land use, diverse, life-enhancing environments with maximum possibilities for pedestrian movement and transit.
- Low-income housing in close proximity to areas of opportunity.
- Integrated, functional, and environmentally sustainable human settlements, towns and cities.
- Encourage social (medium density) housing.
- Alternative technology and design.

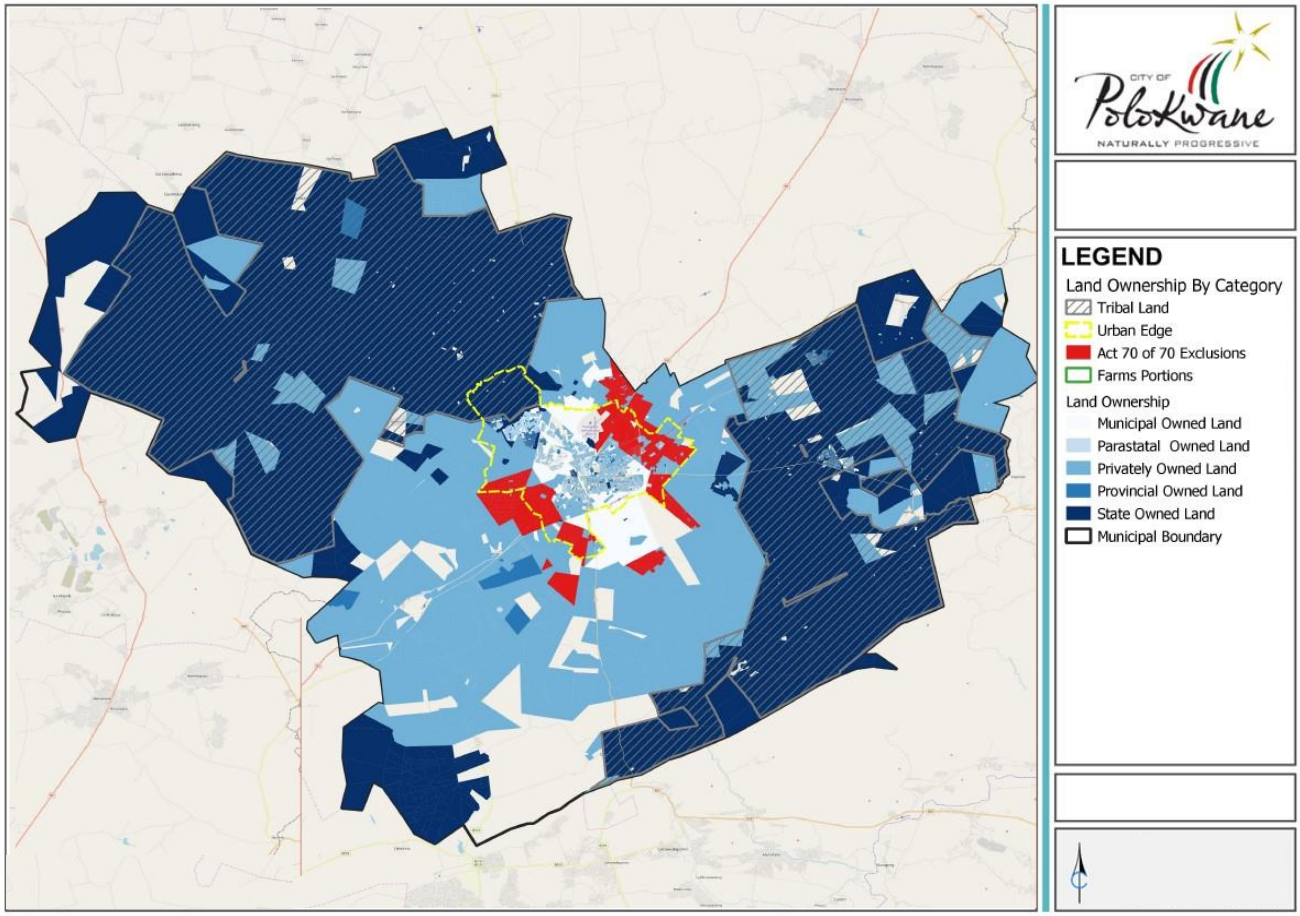
White Paper on Spatial Planning and Land Use Management, 2001
The White Paper aims to show practical ways in which South Africa may move to an approach of integrated planning for sustainable management of land resources.

Principles/Directives:
- Restructure spatially inefficient settlements.
- Promote the sustainable use of land resources in the country.
- Channel resources to areas of greatest need and development potential, thereby redressing the inequitable historical treatment of marginalised areas.
- Take into account the fiscal, institutional, and administrative capacities of role players, the needs of communities and the environment.
- Stimulate economic development opportunities in rural and urban areas.
- Support equitable protection of rights to and in land.
- Apply the principles of sustainability, equality, efficiency, integration and fair and good governance to spatial planning and land use management.
- Every municipality should have an indicative *plan* showing desired patterns of land use, directions of growth, urban edges, special development areas and conservation-worthy areas. The plan should be flexible and able to change to reflect the changing priorities of the municipality.

Integrated Urban Development Framework, 2016
The Integrated Urban Development Framework (IUDF) sets out the policy framework for transforming and restructuring South Africa's urban spaces. The IUDF is guided by the vision of creating 'liveable, safe, resource-efficient cities and towns that are socially integrated, economically inclusive and globally competitive, where residents actively participate in urban life.'

Principles/Directives:
- Reducing travel costs and distances;
- Preventing further development of housing in marginal places;
- Increasing urban densities to reduce sprawl;
- Improving public transport and the coordination between transport modes; and
- Shifting jobs and investment towards dense peripheral townships.

Subdivision of Agricultural Land Act, 70 of 1970
There are a number of properties (farm portions) situated within Polokwane which have been excluded from the provisions of Act 70 of 1970. Map 4 Indicates the situational context of such properties within the Municipality.



Map 4: Act 70 of 70 Exclusions

The owners of properties that remain subject to the provisions of Act 70 of 1970, will require consent from the National Department of Agriculture, Forestry and Fisheries (DAFF), before such properties may be subdivided or used for purposes other than agriculture. Alternatively, the municipality may approach the national department to have further properties within the municipality excluded from the provisions of Act 70 of 1970, once a Wall-to-wall Land Use Scheme has been approved for Polokwane in terms of the provisions of SPLUMA. This requires to be properly aligned with the aforesaid department on an urgent basis.

With frameworks and policies such as the NSDF and the NDP, the country has set a strong vision for the direction of development in the nation. It is important that this SDF is aligned to this vision, translating it into its own municipal context and working towards the achievement of the set bigger picture, on a local level.

Provincial policy context

Limpopo Development Plan 2020 – 2050

With the aim to co-create the future of the province alongside the private sector, civic society, academia and organised labour, the development strategy of the province indicates how Limpopo intends to achieve its vision. The LDP 2020 – 2050 seeks to guide provincial service delivery, resource allocation and integrated planning according to the following priorities:

- Transform the public service for effective and efficient service delivery
- Transformation and modernisation of the provincial economy
- Provision of quality education and a quality healthcare system
- Integrated and sustainable socio-economic infrastructure development
- Accelerate social change and improve quality of life of Limpopo's citizens
- Spatial transformation for integrated socio-economic development
- Strengthen crime prevention and social cohesion
- Economic transformation and job creation through integration

In highlighting the sixth priority of the plan, spatial transformation for integrated socio-economic development, it is essential that the Polokwane SDF be largely informed by the strategic direction for provincial spatial planning as set out in this priority.

As such, according to the above-mentioned priority, new development should lead to the achievement of spatial transformation and poverty alleviation through the linking of housing and employment opportunities by means of integrated settlement development. This will be focused on the identified Priority Human Settlements and Housing Development Areas (PHSHDAs). Thus, with Polokwane containing two of these priority areas, the following policy imperatives and impact must play out in the municipality:

- Spatial transformation through multi-programme integration in priority development areas (urban focus)
- Asset poverty alleviation through development on well-located land with security of tenure
- Improved land administration and spatial planning, focusing on integration
- Rapid and sustainable land reform and agrarian transformation
- Increased access to quality basic infrastructure and services
- Creation of strong rural-urban linkages
- Densification of cities
- Improvement of transport, and alignment of human settlements planning with public transport planning
- Moving people closer to their place of work
- Upgrading of informal settlements on well-located land, and ensuring a greater variety of housing typologies for different income brackets
- The building of houses on poorly located land must be halted

Additionally, in terms of integrated and smart initiatives for rapid urbanisation, Polokwane has been named as one of four nodes to be prioritised as smart cities in the province. This means that Polokwane, along with the other three nodes, will be the focus points of 4IR-centred development in the province.

The Limpopo Spatial Development Framework (2016)

The Limpopo Spatial Development Framework developed a vision for the province that "…envisions a provincial spatial structure where the natural environment and valuable agricultural land in the rural areas are protected for future generations, with strong, diverse and growing economy focused on a range of nodal areas and that offers its residents high quality living environments and good job opportunities in a sustainable manner." To achieve this vision, the provincial SDF has set out certain development objectives to:

- capitalise on the province's strategic location within the SADC region;
- improve regional and local connectivity to facilitate the movement of people, goods and services;
- provide a strategic and coherent rationale for targeted public sector investment, including engineering, social and economic infrastructure, to optimise service delivery;
- encourage urban and rural spatial restructuring as a necessity;
- aggressively protect and enhance the province's natural resources, including scarce freshwater sources and high biodiversity landscapes;
- protect valuable agricultural land as a scarce resource and national asset,
- consolidate and enhance the province's eco-tourism product;

- encourage and institutionalise the sustainable development of its mineral potential (encourage green economy initiatives); and
- create an enabling environment for both the formal and informal sectors to participate in economic development (retail, office, commercial, industrial).

As the provincial SDF identifies Polokwane as one of the five priority provincial growth points, the municipality's SDF should seek to be aligned and contribute to the following provincial development principles:

- Define and protect a Provincial Regional Open Space System which ensures that ecosystems are sustained, and natural resources are utilised efficiently
- Facilitate efficient spatial targeting through the identification of a range of provincial, district, municipal and rural nodal points to serve as focal points for investment and service delivery
- Establish a multi-modal transport network to optimise the movement of people and goods between nodes within the province and to all major destinations in Southern Africa
- Direct engineering infrastructure investment towards the priority nodal points where the majority of economic activity and human settlement will be established
- Prioritise the consolidation of community infrastructure at the identified nodal points and in line with the concept of multi-purpose Thusong Centres/ Rural Development Centres in Rural Nodes
- Create conditions conducive to development in multi-functional business areas and implement Urban Revitalisation Strategies in such areas where required
- Optimise the utilisation of the agricultural potential of Limpopo to provide sustainable livelihoods to marginalised communities in rural areas in partnership with commercial farms
- Utilise the provincial environmental resources as attractions to promote sustainable tourism development (and conservation) in all parts of the province
- Promote mining activity and associated job creation potential in an environmentally sustainable manner
- Address industrial sectoral diversification by way of area-specific investment in high-value production and value-added technologies and industries
- Ensure sustainable human settlement in urban and rural Limpopo

It is proposed that, in the urban areas of Limpopo, the focus should, thus, be on the following:

- Upgrading all informal settlements on suitable, well-located land.
- Substantial investments in safe, reliable and affordable public transport and better coordination among the various transportation modes.
- Increased urban densities to reduce sprawl and infrastructure costs.
- Initiatives to shift jobs and investment to the urban townships on the peripheries.

In rural areas the emphasis should be placed on the following:

- Innovative, targeted and better-co-ordinated provision of infrastructure (including information and communications technologies) and services provision supported by the spatial consolidation of rural settlements to enhance densities and associated service delivery.
- Small-town development as nodes to harness rural development.

Limpopo Multi-Year Housing Development Plan and Informal Settlement Upgrading Strategy

The Medium-Term Strategic Framework, 2014-2019 (MTSF) of the National Department of Human Settlements, sets out specific targets to achieve the National Development Plan and specifically the objective of Transforming Human Settlements by 2030. The Limpopo Department of Cooperative Governance, Human Settlements and Traditional Affairs subsequently compiled the Limpopo Multi-year Housing Development Plan, 2014-2019 (MYHDP) to ensure it has a strategy to achieve the MTSF targets.

The relevance of the MYHDP to the Polokwane SDF review, is to align the identification of land for, and development of, housing opportunities, according to the provincial strategy. The following is noted from the MYHDP:

- No projects are included in the MYHDP for informal settlement upgrading, rental housing, social housing, community residential units (CRU), or Peoples Housing Projects.
- Six (6) Lebowakgomo extensions were included as projects forming part of the Integrated Residential Development Programme (IRDP) and were further assessed by HDA.

The Provincial Informal Settlement Upgrading Strategy, March 2016, seeks to guide the province in addressing the challenge of informal settlements and to propose possible responses per informal settlement in the prioritised municipalities.
"Informal Settlements" are defined in the document as "An illegal settlement where a group of people are living on a piece of land that is not proclaimed nor allocated by an acceptable land administrator, and

- *where they don't have legal claim to the land (tenure);*
- *where there are inadequate basic services; or*
- *where basic services are in a deplorable condition, irrespective of the densities, type of structures they have built, where they are located (urban/rural) and their existing surroundings"*

The pillars or thrusts of the strategy to address informal settlements are:

- Accelerating incremental upgrading;
- Capacity building and empowerment;
- Exploring various forms of shelter provision;
- Rapid land release; and
- Integrated development planning.

With Limpopo highlighting the importance of the LDP at summit of the provincial development policy hierarchy, frameworks such as the provincial SDF heavily represent the objectives of the provincial development plan. Thus, it is important that this SDF forms a part and parcel of a provincial spatial vision as opposed to producing an isolated spatial vision.

District policy context

Capricorn Spatial Development Framework, 2017

As Polokwane falls within the Capricorn District Municipal area, it is important that its SDF is aligned with the Capricorn District Spatial Development Framework.

In the Capricorn District SDF, a proposal is made to follow through with the delineation of a settlement hierarchy of population concentration points and growth points, as provided in the provincial SDF. Thus, as the district seeks to focus investment on these nodal points; Chloe, Setumong and Bakone of the Polokwane LM are identified as concentration points.
Polokwane is identified as one of the main contributors of the district's economy due to the concentration of manufacturing activities. The SDF proposes that the development of agri-processing industries should be one of the industrial focuses in the Polokwane/Seshego areas.

The CDM SDF sets outs 13 principles which are meant to steer development in the district to achieve the spatial vision. These principles are:

- To ensure a balance between environmental sustainability and human settlement/ local economic development in the Capricorn District by way of protecting, managing and enhancing its natural/ environmental assets.
- To establish a functional hierarchy of nodal points in the Capricorn area to optimise the delivery of social and engineering infrastructure/ services, promote local economic development, and protect valuable agricultural land.
- To provide a full range of social services at all the identified nodal points, in accordance with the nationally approved Thusong Centre concept.
- To ensure that engineering infrastructure is provided and/or upgraded, first and foremost at all the identified nodal points, in order to support economic growth and residential development without compromising the right enshrined in the Constitution of all communities to have access to at least the minimum level of services.
- To optimally capitalise on the strategic location of the district through strengthening the four provincial Corridors, and to functionally link all nodal points and major destinations internally to one another by way of a Priority Road Network.
- To ensure that proper public transport infrastructure is provided at all the identified Nodal Points and along the Priority Transport Network.
- To promote extensive commercial farming and subsistence farming activities in the district.
- To brand Capricorn District Municipality as a Gateway to surrounding tourism precincts in the District and Limpopo Province and to optimise the local tourism potential.
- To optimally utilise the mining potential in the district in such a way that a sustainable balance is maintained between mining, agriculture, and the natural environment.
- To concentrate industrial activities around the Polokwane/ Seshego cluster and agri-processing at the Rural Nodes and Rural Service Centres, optimising the available industrial infrastructure.

- To enhance and consolidate commercial and business activities at each of the identified nodal points and to strengthen Polokwane City's identity as the provincial and regional capital.
- To consolidate the district settlement structure by way of infill development and densification around the identified nodal points, and by way of delineating urban and rural development boundaries.
- To optimise urban-rural linkages throughout the Capricorn District.

Capricorn Growth and Development Strategy 2040

The GDS is a long-term planning and visionary instrument with a high ranking in the district planning hierarchy. Building upon the foundation of the 2030 GDS, the 2040 GDS is a document which outlines the strategic approach that the district will use to achieve the objectives it sets out by means of the key strategic priorities.
Thus, the development of the Polokwane LM SDF has to be done in accordance with the following pillars of the GDS:

- Promoting Economic Growth and Development
- Spatial transformation and building an integrated district
- Provision of services
- Governance through IGR

With Polokwane, along with the Polokwane Logistical Hubs been identified as one of the strategic projects for the district, the Capricorn GDS proposes several principles that directly involve Polokwane:

- Strengthen the existing Tourism Information Bureau in Polokwane City and erect signage to direct visitors to it, thereby enhancing utilisation.
- Establish local Fresh Produce Markets at each of the nodal points and revitalise the Polokwane Regional Fresh Produce Market.
- Encourage private sector investment in the Polokwane/ Seshego Industrial complex which represents a proclaimed Industrial Development Zone (IDZ)/ Special Economic Zone (SEZ).
- Formulate detailed development strategy for the Polokwane/ Seshego Industrial complex.
- Commercial/ Retail Sector and Polokwane CBD:
    - Earmark land for the establishment of SMMEs in precinct plans.
    - Encourage the establishment of all higher order offices and other specialist services in the Polokwane City CBD but accommodate local retail and office functions in precinct plans for nodal points.

The CDM understands the importance of the Polokwane LM and the significant role that it plays in the direction of the district's holistic development. As such, the district spatial vision has placed identified key objectives and district-level interventions for Polokwane that this SDF must speak towards and seek to achieve.

Local context

Polokwane spatial development framework 2010 (SDF)

The existing Polokwane Spatial Development Framework was completed in 2010. The SDF aims to *"enhance sustainable development and alleviate poverty by focusing scarce resources on areas with economic growth potential and the highest return on capital."*

This is set out to be achieved through specific development objectives of the municipality. These objectives include to:

- guide development growth in a suitable manner in line with development principles;
- promote economic growth and address unemployment;
- promote investment opportunities through industrial development;
- promote sustainable human settlements by integration through improved public transportation and road networks (BRT) in a spatial manner;
- promote infrastructure investment in priority areas;
- avail/open strategic land for economic development to attract investors to Polokwane;
- protect and preserve sensitive environmental areas within the municipal jurisdiction; and
- promote guidelines to integrate different areas.

Spatially, this is to be achieved through what is described as "a spatial concentration model" combined with "a selective cluster approach."

The model aims to combine the advantages of the spatial concentration model with the advantages of the dispersion model. It aims to retain the advantages of spatial concentration whilst also speeding up the process of dispersion ("the trickling down effect towards the most sustainable rural localities)." This objective was formulated prior to the enlargement of Polokwane by incorporating a part of Aganang.

To achieve this the following principles were applied at a macro scale:

- Capitalising on the situational context of Polokwane on one of the important transportation corridors of the national and provincial governments. It is envisaged to unlock the inherent development potential along the corridor to enhance exports to neighbouring countries.
- Enhancing Polokwane as the capital city of the Limpopo Province and regional centre of importance.
- Enhancing sustainable development which involves:
  - the protection, sustainable use, and management of the environment;
  - proper land-use management;
  - the cost-effective provision of services; and
  - the creation of job-opportunities in close proximity to natural recourses and urban settlements.
- Providing spatial and development guidelines that assist in the spatial reconstruction and the reduction of imbalances of the past through concentrating employment opportunities in areas with development potential ("imbalance" here specifically refers to the mismatch between where people have to live and work).
- Providing basic guidelines for a land use management system in the municipality.
- Giving effect to the principles contained in Chapter 1 of the Development Facilitation Act, 1995 (Act no 67 of 1995) which include equality, efficiency, integration sustainable development and fair and good governance. This Act has since been repealed and the development principles in the Spatial Planning and Land Use Management Act, 2013 (SPLUMA) are now relevant.
- Providing spatial and development guidelines that will inform and help to prioritise capital expenditure programmes within the local municipal area.
- Taking into account and integrating local development with land development proposals of adjacent municipalities.

Polokwane CBD plan 2016

The 2016 Polokwane CBD Plan and Urban Renewal Strategy were prepared to replace the Polokwane CBD Development Plan of 2005. This plan guided and informed development in and around the Polokwane CBD up to 2016. However, the physical, social, economic and institutional environment in and around the Polokwane CBD is continuously changing. As a result, the municipality deemed it necessary to review and update the 2005 CBD Plan in 2016.
The main objective was to update the 2005 CBD Plan, ensuring that its development guidelines and proposals are adjusted to address more recent developmental issues and needs of the Polokwane CBD. Furthermore, its intention is to promote orderly planning and the sustainable development of the broader municipal area over the medium to longer term.

Additionally, the study brief also required that the revised CBD Plan assesses the relationship of the Polokwane CBD with surrounding shopping centres and decentralised Secondary Activity Nodes as contemplated in the Polokwane Spatial Development Framework.

The CBD plan also takes new developmental initiatives into consideration including the introduction of a Bus Rapid Transit System (BRT) to the Polokwane CBD and indicated how it should be functionally incorporated into the CBD.
The principles of the plan are divided into two sections namely for:

- The CBD Development Plan; and
- The Urban Renewal Strategy.

The principles of the CBD Development Plan are:

- **Principle 1**: Protect and enhance the status of the Polokwane CBD as the Primary Activity Node of the city and the surrounding region, supported by a range of Secondary Activity Nodes.
- **Principle 2**: Enhance the spatial sustainability of the Polokwane CBD by developing it as part of a much larger functional activity area comprising a number of specialised Activity Precincts.
- **Principle 3**: Expand/amend the boundary of the Polokwane CBD with due consideration to the location and extent of surrounding functional areas as defined in existing policy documents.
- **Principle 4**: Grant optimum development rights to CBD functional areas to improve spatial efficiency and economic development potential.

- **Principle 5**: Incrementally upgrade engineering services to facilitate densification and intensification of land use in the CBD.
- **Principle 6**: Cater to all public and private transport and movement needs in the CBD area.
- **Principle 7**: Earmark the north-western part of the CBD as a focus area for governmental intervention.

The principles of the Urban Renewal Strategy are:

- **Principle 1:** Put in place institutional arrangements to ensure proper management and maintenance in the Polokwane CBD.
- **Principle 2:** Enhance safety and security and by-law enforcement.
- **Principle 3:** Create a functional public space system which incorporates aspects of recreation, arts, culture and heritage in the CBD.
- **Principle 4:** Promote Local Economic Development with a specific focus on the informal sector and national and local incentive schemes.
- **Principle 5**: Actively pursue programmes towards social development/ upliftment within the CBD.

On a local level, upon ensuring all appropriate alignment with the spatial visions set on a national, provincial and district level, the Polokwane SDF should aim to improve upon the preceding document of 2010 with more relevant interventions based on the municipality's current spatial context. Furthermore, the SDF should take into consideration the objectives of CBD plan of 2016 and how to improve on them to develop the provincial growth point.

Polokwane Integrated Land Use Scheme, 2022

The Polokwane Integrated Land Use Scheme, 2022 is an approved Scheme as contemplated in Section 16 and 25(2) of the Polokwane Municipal Planning By-law, 2017 read together with Section 24 of the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) and constitutes a merger and reviewed version of the prior Polokwane/Perskebult Town Planning Scheme, 2016 and the Polokwane Land Use Management Scheme 2017 for Mankweng/Sebayeng/Aganang and Rural areas in terms of the provisions of Section 31 of the by-law (supra) and Section 27 of the Act (supra).

The purpose of this Land Use Scheme is set out in Section 25 of the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) read together with Section 17 of the Polokwane Municipal Planning By-law, 2017, and can be set out as follows:

"The land use scheme must give effect and be consistent with the municipal spatial development framework and determine the use and development of land within the Municipal area in order to promote the economic growth, social inclusion, efficient land development and minimal impact on public health, the environment and natural resources. In addition to the purpose of the land use scheme, the Municipality must determine the use and development of land within the Municipal area to which it relates in order to promote harmonious and compatible land use patterns, aesthetic considerations, sustainable development and densification, the accommodation of cultural customs and practices of traditional communities in land use management and a healthy environment that is not harmful to a person's health."

Study Area

This chapter investigates demographic shifts and economic performance of the municipality. The purpose is to provide some insight into the needs and challenges within the municipality, but also to highlight the municipality's potential and advantages.

Demographics

This chapter delves into population and household dynamics, age dependency, levels of education, and employment rates that collectively shape the municipality's social fabric. Through this analysis, the chapter aims to provide insight into the diverse communities constituting the municipality, offering a foundation for well-informed policy choices and sustainable development strategies.

Population and household size

The graph below depicts a comprehensive view of the changes in population, households, and household size within Polokwane Local Municipality starting from the year 2010. These metrics are fundamental in understanding the demographic dynamics of the municipality and can provide valuable insights into the social and economic trends shaping the community. One prominent observation in the graph is the decrease in household size over this period. A household size of fewer than four people per household reflects a form of social maturity within the municipality. It signifies a shift away from larger, extended family structures, often seen in earlier generations, to smaller families or even single-person households. This transformation can have significant implications for the age dependency ratio.

A lower household size typically corresponds to a lower age dependency ratio. This means that there is a smaller proportion of young dependents (under the age of 15) and elderly dependents (aged 64 and older) relative to the working-age population (typically individuals between 15 and 64). A lower age dependency ratio suggests that there is a greater number of working-age individuals available to support the dependent population.

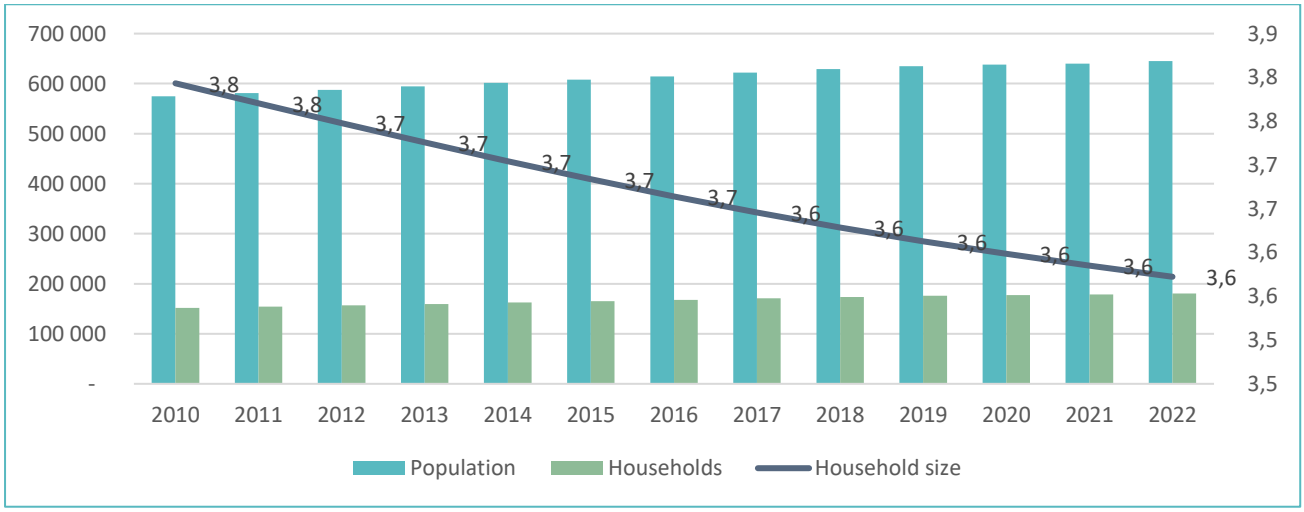


Figure 3: Household size (2022)
Source: Quantec

Population and household projections

Population projections involve using current data and certain assumptions to make calculated estimations about future population sizes, characteristics, and demographic trends. These projections serve as a valuable tool to understand how a population might evolve over time, enabling decision makers to make well-informed choices.

When calculating the population and household projections for the municipality, the methodology involves reliance on the average growth rates observed over the last five years (2018-2022), which is 0.7% and 1.1% respectively.

Subsequently, this rate is applied to project the municipality's population and household figures up to the year 2030, resulting in a calculated population of 663 786 and the number of households anticipated to be 188 862.

Table 1: Population and household figure projections

	2022	2023	2024	2025	2030	5-Year Average GR
Population figures	644 872	649 549	654 261	659 006	663 786	**0,7%**
Household figures	180 523	182 572	184 645	186 741	188 862	**1,1%**
Persons per Household	3,6	3,6	3,5	3,5	3,5	

Source: Quantec

Population and housed figures per subplace

The information set out below depicts the Census data (specifically population and household figures) recorded in 2011, as well as the projected figures anticipated for 2022. Due to data limitations (i.e., the latest census data had not been released at the time of publishing), assumptions had to be made in order to provide estimated population figures for 2022. The projected figures are based on the assumption that the population and household growth rate are uniform across the municipality. As a result, the five-year average growth rate (0.7% for population and 1.1% for households) recorded from 2018 to 2022, for the municipality as a whole, was applied to the population and household figures recorded for the respective subplaces in 2011.

A "subplace" typically refers to a geographical subdivision or smaller administrative unit within a larger place or area. This concept is often used in the context of demographic or administrative divisions.

Table 2: Population and household figure projections per subplace

Subplace	**Population figures (2011)**	Projected Population Figures (2022)	**Household figures (2011)**	Projected Household Figures (2022)
Bakone	2 518	2 746	588	673
Boratapelo	1 039	1 133	247	247
Chloe	520	568	138	138
Cornelia	949	1 035	240	240
Damplaats	705	769	170	170
Diana	868	947	235	235
Dibeng	1 975	2 154	481	481
Ga-Dietane	318	347	86	86
Ga-Kgoroshi	698	762	172	172
Ga-Lepadima	1 231	1 343	306	306
Ga-Madiba	662	722	173	173
Ga-Madietane	895	976	207	207
Ga-Mahoai	2 058	2 244	483	483
Ga-Mangou	973	1 061	255	255
Ga-Manyapje	1 338	1 459	342	342
Ga-Mashashane	5 395	5 884	1 365	1 365
Ga-Matlapa	1 787	1 949	439	439
Ga-Mmabatho	2 230	2 432	534	534
Ga-Mmathongwana	1 371	1 495	337	337
Ga-Modikana	1 520	1 657	376	376
Ga-Ngwetsana	2 003	2 185	446	446
Ga-Nonyane	1 434	1 564	364	364
Ga-Piet	1 470	1 603	346	346
Ga-Ramakara	653	713	162	162
Ga-Rametlwana	2 348	2 561	560	560
Ga-Ramokadi-Kadi	2 136	2 329	621	621

Subplace	Population figures (2011)	Projected Population Figures (2022)	Household figures (2011)	Projected Household Figures (2022)
Ga-Ramoshwane	3 469	3 783	987	987
Ga-Ramotlokana	1 192	1 300	266	266
Ga-Rampuru	1 765	1 925	400	400
Ga-Rankuwa	1 663	1 814	432	432
Ga-Sechaba	1 386	1 511	319	319
Glen-Roy	574	627	133	133
Goedgevonden	1 013	1 105	247	247
Helena	219	238	45	45
Hwibi	1 539	1 678	428	428
Juno	1 301	1 419	317	317
Jupiter	2 275	2 482	577	577
Kalkspruit A	6 012	6 556	1 424	1 424
Lepotlako	924	1 008	231	231
Madietane	673	734	173	173
Makgobane	2 349	2 562	592	592
Matlala	2 031	2 215	468	468
Moetagare	1 474	1 607	336	336
Matlaleng	331	362	93	93
Mohlonong	1 876	2 046	481	481
Moletji	5 740	6 260	1 372	1 372
Bastiaansrust	995	1 085	221	221
Moneywaneng	1 319	1 439	326	326
Monotwane	1 109	1 209	264	264
Naledi	1 025	1 118	267	267
Nokayamatlala	949	1 035	225	225
Ntlolane	1 098	1 197	270	270
Phetole	1 685	1 838	437	437
Phofu	1 860	2 029	451	451
Ramalapa	881	961	239	239
Rapitsi	1 916	2 090	471	471
Schoongelegen	1 633	1 781	355	355
Sefahlane	1 001	1 092	234	234
Segwahleng	808	881	225	225
Takalane	924	1 008	240	240
Taung	1 018	1 110	258	258
Tibane	1 818	1 983	425	425
Utsane	1 512	1 649	374	374
Venus	1 179	1 286	323	323
Badimong	10 983	11 978	2 676	2 676
Bergnek	1 418	1 546	379	379
Bloodriver	10 724	11 696	2 807	2 807
Boskopies	199	217	127	127
Chuenespoort	1 271	1 386	302	302
Ditenteng	1 207	1 316	259	259
Doornbult	1 713	1 868	761	761
Doornspruit	979	1 068	191	191
Elmadal	825	900	427	427
Ga-Chuene	5 488	5 985	1 235	1 235

Subplace	Population figures (2011)	Projected Population Figures (2022)	Household figures (2011)	Projected Household Figures (2022)
Ga-Hlahla	4 873	5 315	1 101	1 101
Ga-kgole	1 101	1 200	268	268
Ga-Komape	2 739	2 987	661	661
Ga-Lekgothoane	1 156	1 261	271	271
Ga-Mabitsela	1 905	2 077	447	447
Ga-Mabotha	4 047	4 413	864	864
GaMagowa	5 160	5 627	1 373	1 373
GaMahlahle	364	397	106	106
GaMailula	77	84	24	24
Ga-Maja	8 053	8 783	1 959	1 959
GaMakanye	138	150	36	36
GaMakgoba	1 849	2 016	440	440
GaMakgobathe	137	150	36	36
Ga-Makibelo	3 017	3 290	656	656
GaMakweya	1 222	1 332	310	310
Gamalahlela	344	375	77	77
GaMamadila	1 295	1 412	308	308
GaMamphaka	1 125	1 227	340	340
GaManamela	1 355	1 477	312	312
GaMapangula	1 335	1 456	324	324
Ga-Matabanyane	2 591	2 826	621	621
GaMathiba	1 869	2 038	429	429
GaMboi	2 469	2 693	597	597
GaMmamatsha	3 399	3 707	811	811
GaMogano	1 881	2 051	528	528
GaMokgopo	2 727	2 974	690	690
GaMokwane	2 887	3 149	725	725
GaMolepo	4 048	4 415	1 098	1 098
GaMoropo	409	446	105	105
GaMothapo	1 604	1 749	419	419
Ga-Mothiba	11 511	12 553	2 758	2 758
Ga-Motholo	6 031	6 577	1 984	1 984
GaPotse	1 404	1 531	317	317
GaRamongwana	9 376	10 225	2 253	2 253
GaRamphere	2 298	2 506	604	604
GaSebati	2 363	2 577	593	593
GaSemenya	3 579	3 904	853	853
Ga-Setati	1 773	1 933	410	410
GaThaba	3 042	3 317	658	658
GaThoka	11 258	12 278	2 974	2 974
Ga-Tjale	467	509	112	112
GaTshwene A	2 117	2 309	533	533
GaTshwene B	831	906	240	240
Geluk	-	-	-	-
Kgohlwane	5 888	6 422	1 435	1 435
Kgokong	492	536	122	122
Kgoroshi	3 723	4 061	819	819
Kgwara	1 249	1 362	305	305

Subplace	Population figures (2011)	Projected Population Figures (2022)	Household figures (2011)	Projected Household Figures (2022)
Kgwareng	413	450	91	91
Koloti	9 953	10 855	2 441	2 441
Komaneng	1 662	1 813	410	410
Kotishing	978	1 067	261	261
Kuschke	474	517	96	96
Laaste Hoop	6 670	7 274	1 580	1 580
Laaste Hoop	532	580	115	115
Leeukuil	1 482	1 617	680	680
Lenyenye	755	824	173	173
Lithupaneng	1 980	2 159	548	548
Mabokelele	6 012	6 557	1 434	1 434
Madiga	673	734	155	155
Madiga A	2 604	2 840	606	606
Madiga B	567	619	144	144
Mahwibitswane	888	968	208	208
Makanye	9 536	10 400	2 319	2 319
Makatiane	721	786	197	197
Makeketela	3 080	3 359	756	756
Makgeng	448	488	135	135
Makgoba	325	355	83	83
Makgofe	9 085	9 908	2 265	2 265
Makgwaneng	721	786	156	156
Makgwareng	667	727	159	159
Makhwareng	1 068	1 165	216	216
Makotopong	8 163	8 902	2 080	2 080
Makubung	218	238	53	53
Mamotintane	1 885	2 056	543	543
Mankgaile	1 748	1 907	444	444
Mankweng	33 738	36 795	11 080	11 080
Mantheding A	2 178	2 375	510	510
Mantheding B	110	120	33	33
Marobala	4 201	4 581	1 013	1 013
Masealama	271	296	84	84
Masekwameng	1 033	1 127	259	259
Masenya	348	379	78	78
Masobohleng	1 525	1 663	344	344
Matobole	2 566	2 798	610	610
Megoring	9 746	10 629	2 382	2 382
Mehlakong	1 651	1 801	366	366
Mmadigorong	4 728	5 157	1 031	1 031
Mmotong	825	899	198	198
Mokgabane	5 180	5 650	1 163	1 163
Mokgurutlane	297	324	76	76
Molapi	2 506	2 733	610	610
Monyamane	338	368	69	69
Monywaneng	1 837	2 003	488	488
Moshate	2 027	2 210	499	499
Mothakeng	215	234	59	59

Subplace	Population figures (2011)	Projected Population Figures (2022)	Household figures (2011)	Projected Household Figures (2022)
Motlhatsweng	1 670	1 821	412	412
Mountain View	2 030	2 214	445	445
Mphogodiba	447	488	127	127
Myngenoegen	1 908	2 081	661	661
Noko	368	402	88	88
Ntsima	95	104	29	29
Palmietfontein	1 904	2 077	903	903
Percy Fyfe	-	-	-	-
Perskebult	17 006	18 547	4 508	4 508
Phomolong	1 478	1 612	319	319
Polokwane	130 028	141 809	47 691	47 691
Polokwane NU	10 957	11 949	5 524	5 524
Ramakgaphola	1 525	1 663	366	366
Ramogale	2 295	2 503	514	514
Rietfontein	1 140	1 243	471	471
Sebayeng	13 826	15 078	3 439	3 439
Sebonapudi	889	969	198	198
Segwasi	3 418	3 728	805	805
Sekgweng	1 067	1 164	261	261
Sencherere	93	102	28	28
Sengatane	2 615	2 852	658	658
Seshego	83 863	91 461	27 010	27 010
Setotolwane	2 271	2 477	482	482
Sobiago	395	430	80	80
Syferkuil	470	513	121	121
Thabakgone	970	1 057	256	256
Thakgalang	8 657	9 441	2 149	2 149
Tholongwe	5 343	5 827	1 249	1 249
Thune	1 639	1 787	413	413
Titibe	3 380	3 686	858	858
Tsebela	704	768	227	227
Tshebeng	4 021	4 386	998	998
Tshware	689	751	175	175
Tshwene	2 018	2 200	470	470
Tweefontein	2 300	2 508	981	981
Vaalkop	1 070	1 167	213	213
Vierhoek	443	484	107	107
GaTshipana SP	933	1 018	213	213

Source: Quantec

Age dependency

An age dependency ratio is a demographic indicator that measures the proportion of the population that is typically considered dependent on the working-age population to provide for their needs. The dependent age groups usually consist of two categories:

- Young dependents: This includes individuals under the age of 15, who are considered too young to be part of the workforce and are reliant on the working-age population, usually parents or caregivers, for their support.
- Elderly dependents: This includes individuals aged 64 and older, who are no longer part of the workforce. They also rely on the working-age population, government programmes, and social services for their support.

The age dependency ratio provides insights into the potential economic burden on the working-age population. A high age dependency ratio means that there is a larger proportion of dependents compared to the working-age population, which can strain social welfare systems, healthcare services, and pension programmes. Conversely, a low age dependency ratio indicates a smaller proportion of dependents, which can have positive economic implications as there are more working-age individuals to support the dependent population.

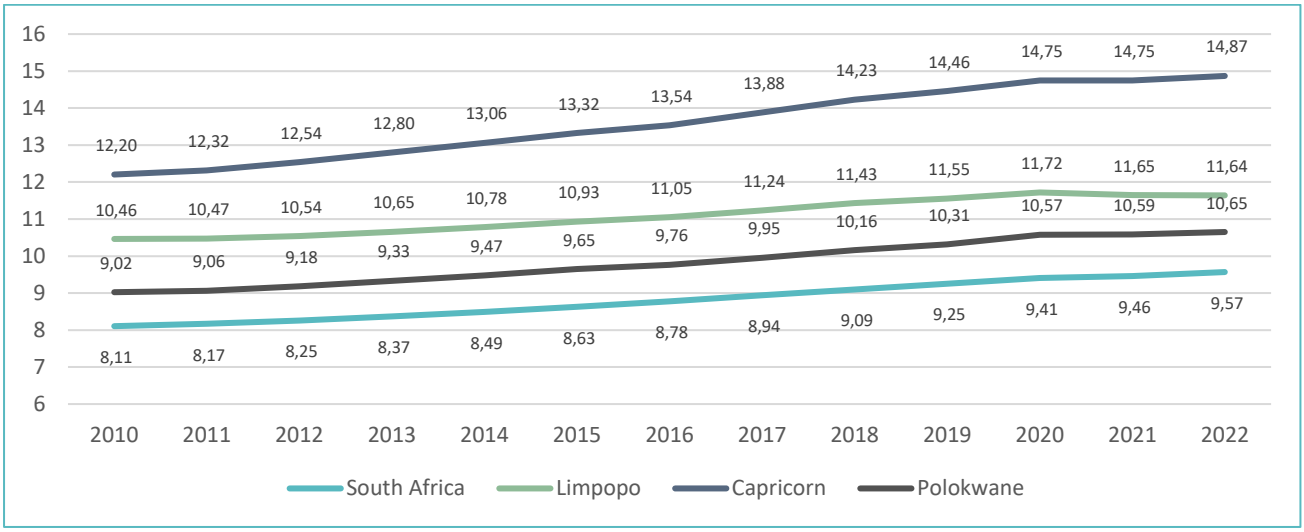


Figure 4: Age dependency ratio (2022)
Source: Quantec

The data presented in **Figure 4** highlights that the age dependency ratio of Polokwane local municipality is slightly higher compared to that of South Africa as a whole, but lower than the district municipality. An age dependency ratio of 10.65 is relatively low, and it generally suggests that there is a smaller proportion of dependent individuals (such as children and elderly) relative to the working-age population. It means that for every 100 working-age individuals in the population, there are approximately 10.65 dependent individuals.

Age distribution

The age group between 15 and 64 makes up nearly 65% of the population. This is relatively high in terms of the working-age population and suggests a potentially robust labour force, which can be favourable for economic growth and productivity. Persons under the age of 15 make up 30% of the population, while only 5% make up the population group over the age of 65 years.

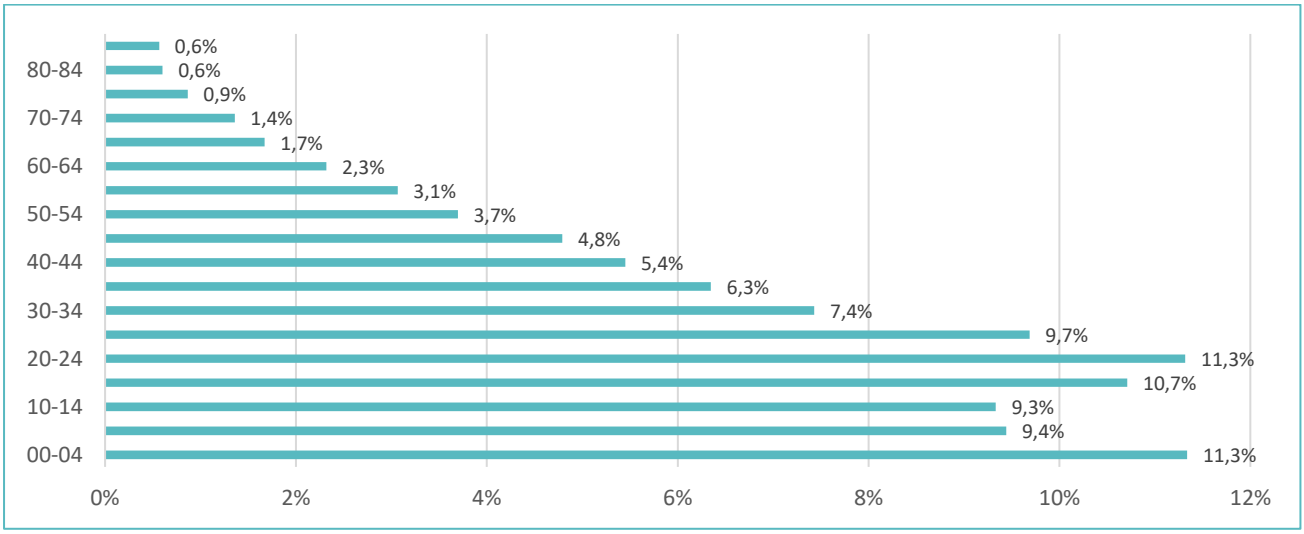


Figure 5: Age distribution (2022)
Source: Quantec

Examining the implications of this age distribution on the local economy, the significant proportion of working-age individuals could have positive effects. With a large group of individuals in their 20s to 40s, there's potential for a robust labour force, innovation, and entrepreneurship. However, as this cohort ages, there might be a strain on social services, particularly healthcare and elderly care. The age dependency ratio, which compares the working-age population (15-64) to the dependent population (below 15 and above 64), might experience a gradual shift as the aging population increases. This could put pressure on healthcare resources and pension systems, impacting the allocation of public funds.

Levels of education

The graph below illustrates the educational attainment levels of PLM residents. It is clear from the data that almost one-third (28%) of the population has finished their 12 years of basic education, while around 20% have pursued various levels of higher education, ranging from post-Grade 12 certifications to doctoral degrees.

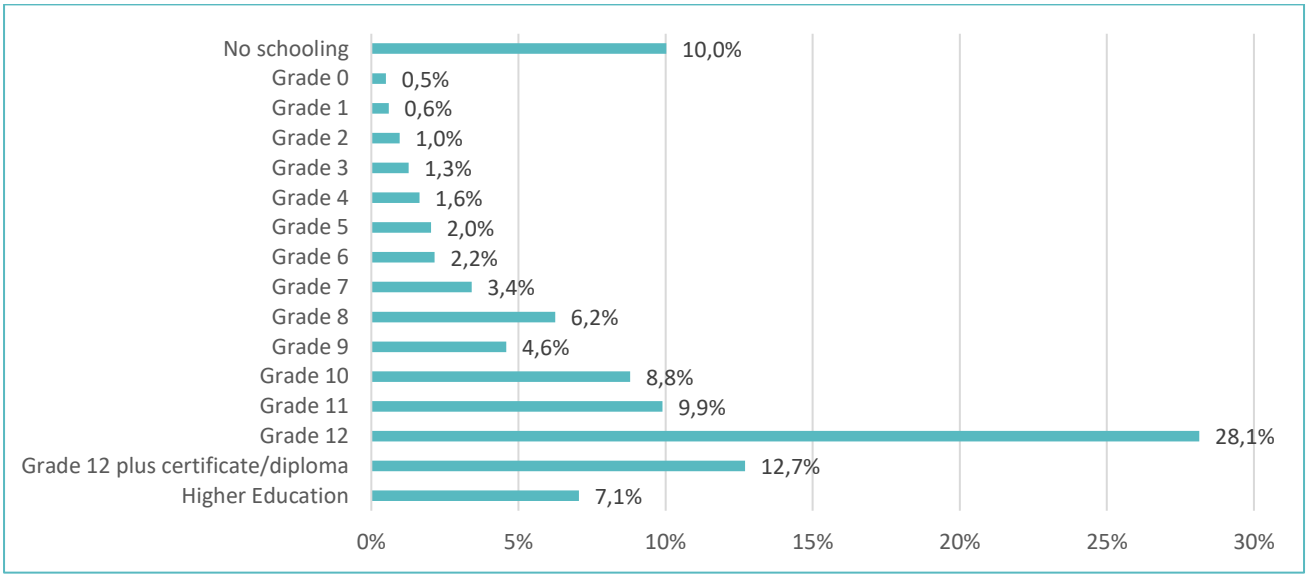


Figure 6: Educational Attainment Distribution among PLM Residents (2022)
Source: Quantec

The chart below offers an examination of literacy rates among individuals aged 20 and above within the Polokwane Local Municipality. This analysis sheds light on the educational panorama of the municipality's core working-age demographic.

Functional illiteracy pertains to having attained an education only up to Grade 6 / Standard 4. On the other hand, individuals are considered functionally literate when they have successfully completed Grade 7 and beyond.

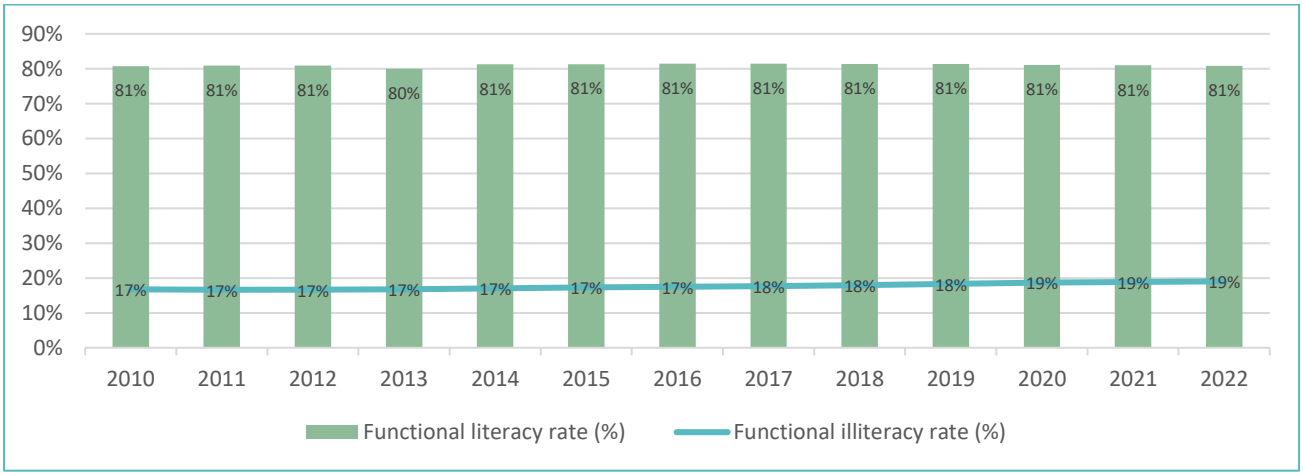


Figure 7: Literacy rates (2022)
Source: Quantec

The data indicates a relative stability in literacy levels from 2010 to the current year, 2022. More than 80% of the population falls under the category of functionally literate, which is a positive trend. However, it is concerning that the proportion of the population, nearly 20%, designated as functionally illiterate has remained largely consistent since 2010. This lack of significant progress over this timeframe is concerning.

The analysis of the aforementioned data holds significant implications for employment levels within the municipality. The distribution of education levels among the local population serves as a critical determinant of the labour force's skill composition and subsequently affects the types of employment opportunities available. The observed concentration of individuals with education levels between Grade 7 and 11 suggests a substantial segment of the workforce possesses intermediate skill sets. This could potentially align with a range of skilled and semi-skilled occupations. Likewise, the proportion that completed Grade 12 signifies a pool of candidates with a higher threshold of education, potentially qualifying them for a broader spectrum of employment prospects.

However, the presence of nearly 20% of the population with limited education, either up to Grade 6 or no formal education, may indicate a segment of the labour force that could face challenges in accessing higher-paying and more skilled positions. In contrast, the similar percentage of individuals pursuing education beyond Grade 12 could contribute to a group well-positioned for specialised roles or professions that require advanced training.

It's also noteworthy to consider the potential impact of the migration trend suggested by the limited levels of higher education attainment. This trend might lead to a depletion of skilled professionals within the municipality, impacting the development of local industries and businesses that require specialised knowledge.

In essence, the education distribution within the population forms a foundation that shapes the municipality's workforce capacity, influencing the diversity and quality of employment opportunities available, which in turn can significantly impact the region's economic development and growth trajectory.

Employment rates

The graph below offers a snapshot (2022) of the level of employment within the municipality, providing insights into the dynamics of its workforce. It is evident that over 40% of the population is employed. However, nearly the same number of people (38%) are not economically active. This term is used to describe people who are not employed and also not looking for work. As a result, nearly 60% of the working-age population in Polokwane are not employed.

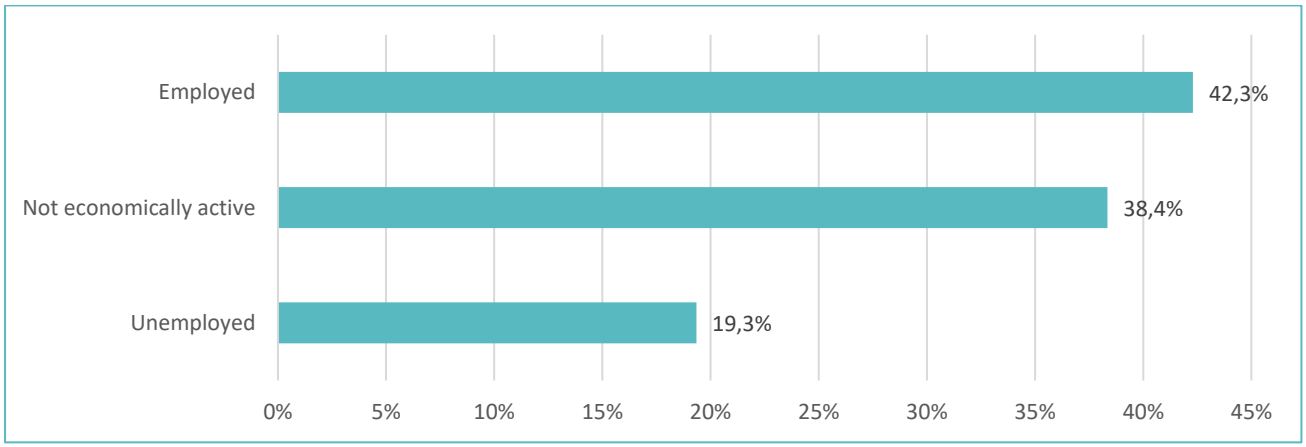


Figure 8: Employment rates (2022)
Source: Quantec

The graph below breaks the figures down to illustrate the employment levels per age bracket. Evidently, the majority of the employed population is aged between 35 and 54, followed by more senior persons, aged 55 to 64. Only a third of the employment market is 15 to 34 years of age. It is also evident that most of the people who are not economically active, are the youth (15 to 34), making up nearly 50% of this market.

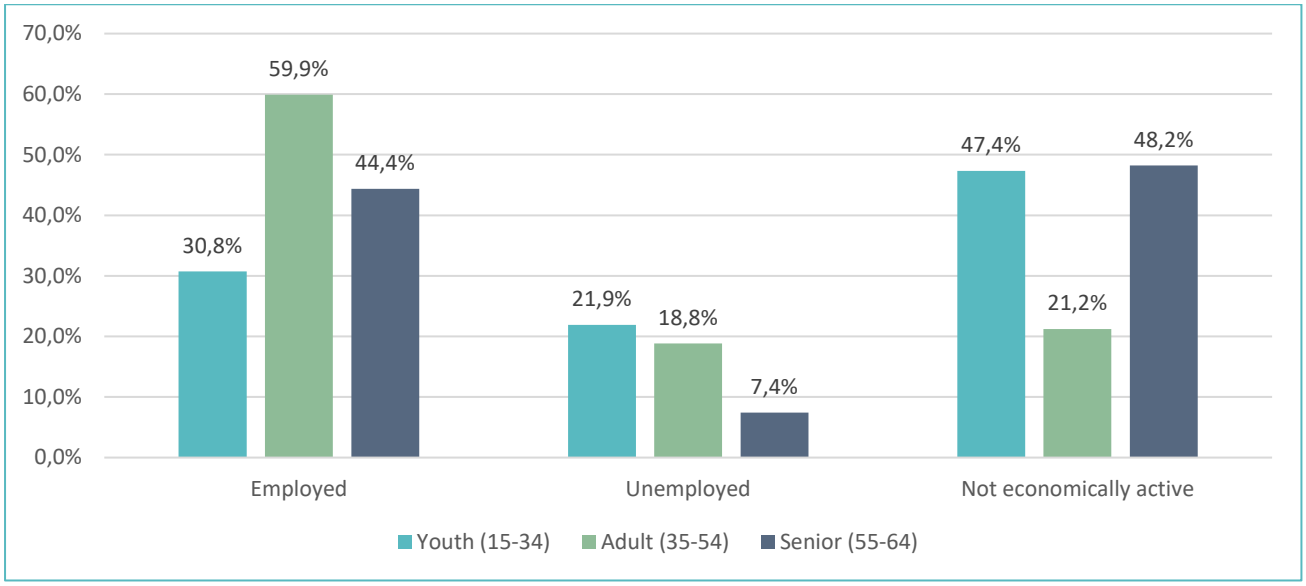


Figure 9: Employment per age bracket (2022)
Source: Quantec

The fact that nearly 50% of the "not economically active" population falls within the youth demographic (15 to 35) could indicate several possibilities:

- Education and Training: A significant portion of youth might be engaged in education, vocational training, or higher studies, which could explain them not being part of the workforce.
- Discouraged Workers: Some young individuals might have become discouraged due to limited job opportunities and might have stopped actively seeking employment.
- Cultural and Socioeconomic Factors: Cultural norms or family dynamics could be influencing the decision of some youth to remain economically inactive, possibly due to traditional gender roles, caregiving responsibilities, or other factors.
- Lack of Skills or Experience: Some youth might lack the necessary skills, qualifications, or work experience required to enter the job market successfully.

The 22% youth representation in the unemployed category could indicate specific challenges and trends:

- Youth Vulnerability: Youth unemployment might reflect a higher vulnerability within this demographic, potentially due to a lack of experience, skills mismatch, or competition for entry-level positions.
- Transition Period: Youth often experience a transition phase between education and full-time employment. This could contribute to their higher representation in the unemployed category.
- Potential for Growth: Addressing youth unemployment could have a positive impact on the municipality's overall economic and social development, as engaging young people in meaningful work can lead to skill development, innovation, and increased productivity.

Employment per Industry

The following graph depicts the employment percentages of the working-age population (referred to simply as ‘population’) per industry. The largest employer is the "Community; social and personal services" sector, which engages a remarkable 32.8% of the population. This sector's prominence alludes to a significant reliance on the Government as an employer, given this sector entails community welfare, healthcare, education, and personal assistance.

The industry employing the second-largest workforce is the "Wholesale and retail trade" sector, engaging 20.7% of the population. This robust presence of retail and wholesale activities suggests a vibrant local market and consumer spending, contributing to economic growth and generating a network of interconnected businesses. This is in keeping with trends associated with a large city that serves as a significant economic node.

The "Financial; insurance; real estate and business services" sector is also a significant contributor to the local economy, employing 14.5% of the population. The relatively high employment figures in this sector suggest a thriving business environment, encompassing a wide range of services such as banking, insurance, real estate, consulting, and other professional services.

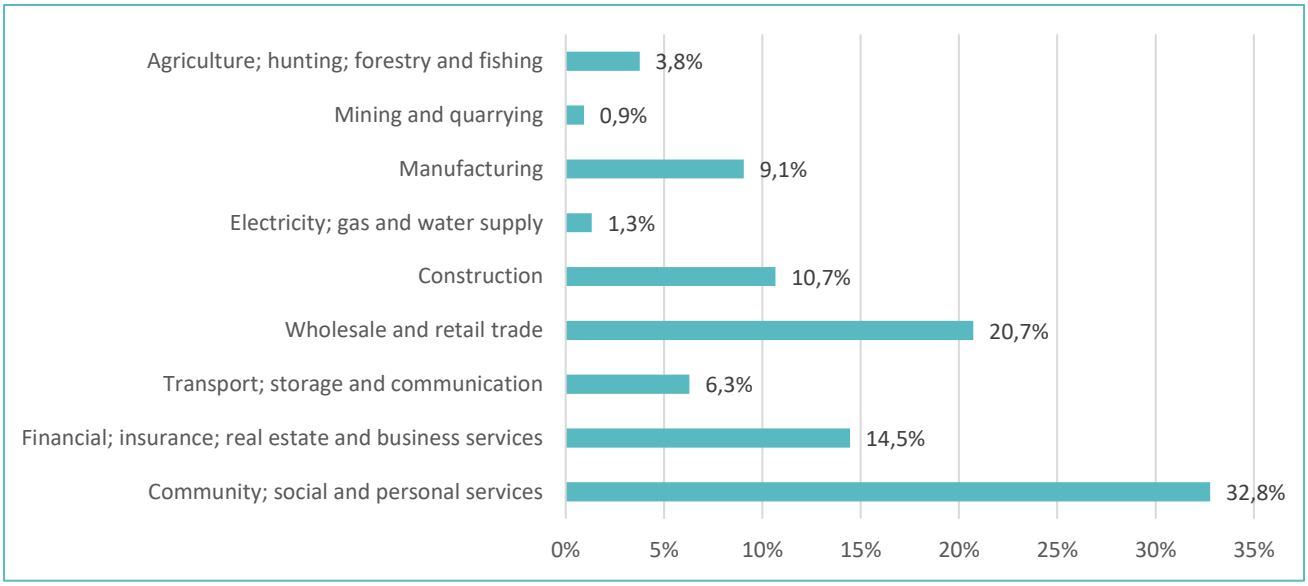


Figure 10: Employment per Industry (2022)
Source: Quantec

Furthermore, the "Manufacturing" employ 9.1% of the population. Manufacturing's contribution indicates the limited presence of local production and value-added processes, which have the potential to stimulate economic diversification and reduce dependency on external sources.

Other industries stand as outliers due to their relatively lower employment impact. The "Mining and quarrying" sector, for instance, employs just 0.9% of the working-age population. Similarly, the "Electricity; gas and water supply" sector accounts for 1.3% of employment.

In terms of implications for the local economy, the strong presence of employment in the "Community; social and personal services" sector suggests a significant reliance on the public sector for job opportunities. While government jobs can offer stability, an economy heavily reliant on the public sector might be less resilient to economic fluctuations, as it is tied to government budget allocations. Balancing the costs of government employment with revenue generation becomes crucial.

The 2022 employment snapshot of Polokwane's municipality reveals a workforce balance where over 40% are employed, but a substantial 38% remain economically inactive. Analysis by age group highlights employment among those aged 35 to 54, with youth (15 to 34) forming nearly half of the economically inactive category. This could be due to education, discouragement, or skills gaps. The 22% of unemployed youth underscores their vulnerability during the education-to-employment transition. Addressing youth unemployment becomes crucial for boosting economic and social growth, tapping into their potential for innovation, skill development, and productivity enhancement.

Economic profile

Gross Value Added

The provided data represents the growth rate of the Gross Value Added (GVA) for the Polokwane Local Municipality across various sectors from 2011 to 2022. GVA is a measure of the contribution of each sector to the overall economic growth of the region.

The primary sector, which includes activities like agriculture, mining, and natural resource extraction, shows varying growth rates over the years. It experienced substantial growth in 2011 (11%) and 2015 (19%), possibly due to favourable conditions or increased demand. It also had positive growth in subsequent years, with significant spikes in 2016 (15%) and 2022 (23%).

However, there were periods of slower growth, like in 2019 (-5%). Overall, the primary sector seems to have experienced periods of both rapid expansion and slight contraction.

The secondary sector, involving manufacturing and industrial activities, demonstrates relatively inconsistent growth rates. Nevertheless, it maintained positive growth throughout most years, with a notable peak in 2016 (8%). While it experienced a small decline in 2020 (-4%), it rebounded with an 8% growth rate in 2021 and 2022. The secondary sector appears to have a stable growth pattern, contributing steadily to the region's economic expansion.

The tertiary sector, which encompasses services such as retail, finance, education, and healthcare, also displays consistent growth over the years. Notably, the tertiary sector saw a dip in growth in 2020 (-1%) but recovered with a 10% growth rate in 2021. In 2022, it recorded a 7% growth rate. The tertiary sector's stability indicates its consistent role in the region's economic growth.

Overall, the GVA growth rates across the three sectors reflect a combination of factors influencing Polokwane LM's economic performance. The primary sector experienced more pronounced fluctuations, likely due to external factors such as weather conditions and global demand. In contrast, the secondary and tertiary sectors demonstrate more consistent growth, reflecting the stability of manufacturing and services in the region. The data suggests a diverse economic landscape with each sector contributing to the overall economic trajectory of the municipality.

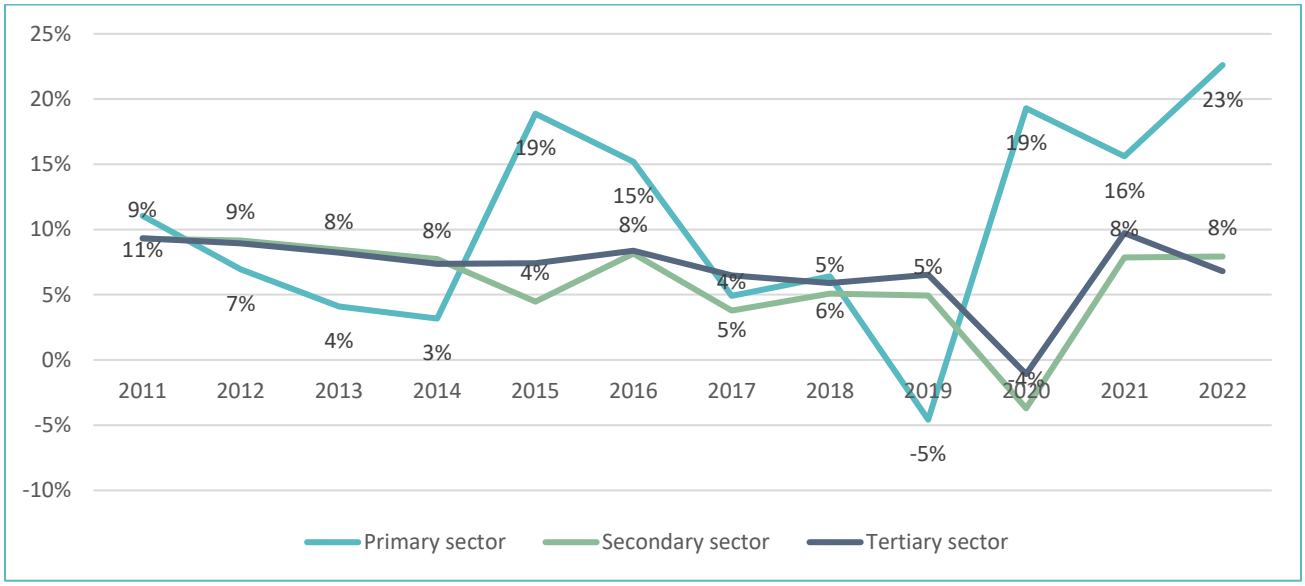


Figure 11: Polokwane LM GVA per Sector (2022)
Source: Quantec

Polokwane Local Municipality's economy exhibited distinct trends in certain key industries during 2022 (see Figure 12). While agriculture, forestry, and fishing made up a modest 2% of the Gross Value Added (GVA), mining and quarrying had an even smaller contribution at 1%. These figures suggest that these sectors had limited impact on the overall economic performance of the municipality during that year.

In contrast, the finance, insurance, real estate, and business services sector emerged as a major driving force with a significant 29% contribution to the GVA. This highlights the pivotal role of financial activities, insurance services, real estate operations, and various business services in shaping the local economy's robust performance in 2022.

Furthermore, the wholesale and retail trade, catering, and accommodation sector played a substantial role, contributing 19% to the GVA. This underscores the importance of trade, retail activities, and hospitality services as prominent drivers of economic growth within the municipality during the specified year.

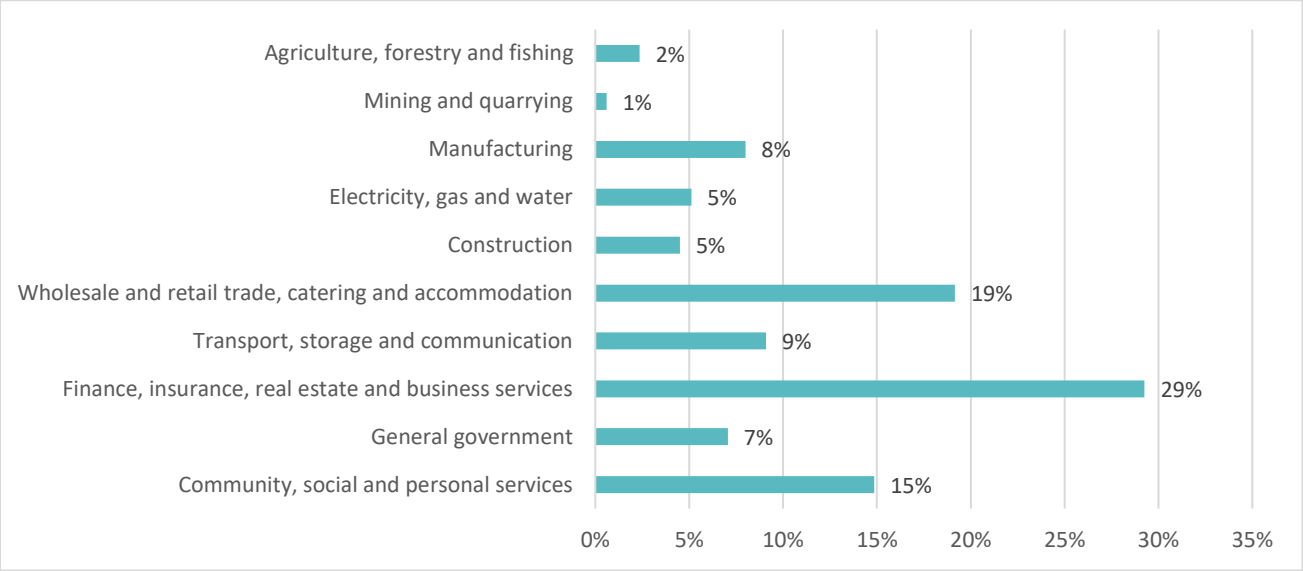


Figure 12: Polokwane LM GVA per Industry (2022)
Source: Quantec

In summary, while some industries like agriculture and mining had relatively minimal impact, the finance and business services sector, along with wholesale and retail trade, emerged as strong contributors to the Polokwane LM's economic performance in 2022.

Location quotient

Priority investment should support those economic sectors that drive local development and those sectors that it supports. The basis for finding the economic drivers in the municipality is a basic versus non-basic analysis.[1] The comparative advantage of a region indicates a relatively more competitive production function for a product or service in that specific economy (e.g., a local municipality) than in the aggregate economy it is compared to (e.g., a province). In other words, the local municipal economy may produce a product or may render a service more efficiently when compared to the province (for example).

An indication of the comparative advantage of an economy is its location quotient. A region's economy, for instance, has a location quotient larger (or smaller) than 1, or a comparative advantage (or disadvantage) in a particular sector, when the share of that sector in the specific economy is greater or smaller than the share of the same sector in the aggregate economy[2].

Being a measure of comparative advantage, the location quotient effectively provides a tool used to identify key drivers within a local economy. It does so by employing an offset principle based on the employment figures within the various sub-sectors of the subject local and aggregate economy.

The analysis utilises two main components namely basic and non-basic activities:

- Basic activities are those activities that generate a surplus (i.e., a location quotient larger than 1) with respect to the local economy and, as a result, are able to export goods/services in order to bring in wealth from the outside.
- Non-basic activities support the basic activities and do not produce a surplus of goods/services (i.e., a location quotient smaller than 1).

[1] Basic/Non-Basic ratios are calculated to determine the drivers of an economy. The ratio is expressed as the employment in a sector in the local economy divided by the total employment in the local economy. This is, in turn, divided by the same ratio for the district, provincial or national economy. A ratio greater than one, implies that there is relatively more employment in this sector than in the corresponding economy it is compared to. It, therefore, generates more than what can be locally consumed, and the sector is, thus, a net exporting sector. This implies that it generates income for the local economy. The opposite is then true for ratios smaller than one.

[2] CJ Meintjes. Guidelines to Regional Socio-Economic Analysis. Development Bank of South Africa, Development Paper 4, March 2001; pp.26

The location quotient is expressed as a ratio between employment within a sub-sector of the economy divided by the total employment within the local/regional/national economy. A ratio greater than 1 suggests that the specific economy employs proportionally more people within the local economy when compared to the economy it is being compared to. As a result, it generates more than what can be consumed locally, and the sector is thus a net exporting sector. This implies that it generates income for the local economy (i.e., a comparative advantage and key driver). The opposite is then true for ratios smaller than 1.

The data set out in Table 3 represents national location quotients for various industries within different areas, focusing on the Polokwane Local Municipality (LM) and its surrounding regions.

Industries with Highest Concentration:

- Wholesale and Retail Trade, Catering, and Accommodation: This sector is significantly concentrated in Polokwane LM, with a location quotient of 1,4. It plays a crucial role in driving economic activity within the municipality.
- Finance, Insurance, Real Estate, and Business Services: This sector also exhibits a notable concentration in Polokwane LM, with a location quotient of 1,3. It signifies the significance of financial activities, insurance services, real estate operations, and business services in the local economy.

Industries with Lowest Concentration:

- Mining and Quarrying: This sector has a very low concentration in Polokwane LM, indicated by a location quotient of 0,1. Mining activities do not significantly contribute to the municipality's economic landscape.
- Manufacturing: Similarly, the manufacturing sector's concentration is relatively low in Polokwane LM, with a location quotient of 0, 3. Manufacturing activities have a limited impact on the local economy compared to the national average.

Table 3: Basic non-basic ratio measured against the national economy

	Agriculture	Mining	Manufacturing	Utilities	Construction	Wholesale and Retail Trade	Logistics	Finance and Business services	Community services	Government services
Limpopo	1,4	4,0	0,3	1,2	1,0	1,1	0,5	0,7	0,8	1,2
Capricorn	0,9	0,3	0,3	1,3	0,9	1,3	0,7	1,1	1,1	1,4
Blouberg	4,6	0,3	0,3	0,9	0,8	1,1	0,6	0,5	1,2	1,9
Aganang	0,6	0,0	0,1	1,2	0,8	1,2	0,7	0,6	1,4	2,4
Molemole	5,6	0,1	0,1	1,2	0,6	1,1	0,6	0,5	1,2	1,8
Polokwane	0,4	0,1	0,3	1,3	1,0	1,4	0,8	1,3	1,0	1,2
Lepele-Nkumpi	0,6	1,7	0,1	1,0	0,6	0,8	0,6	0,8	1,3	1,9

Source: Quantec 2022

The information set out in **Table 4**, presents location quotients for industries within the provincial economy, focusing on the Polokwane Local Municipality (LM) and neighbouring regions.

Industries with Highest Concentration:

- Business Services: This sector exhibits the highest concentration in Polokwane LM, with a location quotient of 1,7. Financial activities, insurance services, real estate operations, and business services have a significant presence in the local economy.
- Logistics: The logistics sector follows closely with a location quotient of 1,5, indicating a notable concentration in transport and storage activities within the municipality.
- Trade: Wholesale and retail trade, catering, and accommodation have a concentration of 1,3. This suggests that these activities are more prominent in Polokwane LM compared to the provincial average.

Industries with Lowest Concentration:

- Mining: Mining has the lowest presence in Polokwane LM, with a location quotient of 0,0. This implies that mining activities do not significantly contribute to the municipality's economic landscape.
- Agriculture: Similarly, the agriculture sector has a very low concentration, indicated by a location quotient of 0,3. Agriculture's impact on the local economy is limited compared to the provincial average.

Table 4: Basic non-basic ratio measured against the provincial economy

	Agriculture	Mining	Manufacturing	Utilities	Construction	Wholesale and Retail Trade	Logistics	Finance and Business services	Community services	Government services
Capricorn	0,6	0,1	1,0	1,0	1,0	1,2	1,4	1,5	1,3	1,2
Blouberg	3,2	0,1	1,2	0,7	0,8	1,0	1,1	0,7	1,4	1,6
Aganang	0,4	0,0	0,6	1,0	0,8	1,1	1,3	0,8	1,6	2,0
Molemole	4,0	0,0	0,5	0,9	0,6	1,0	1,1	0,7	1,4	1,5
Polokwane	0,3	0,0	1,2	1,1	1,1	1,3	1,5	1,7	1,2	1,0
Lepele-Nkumpi	0,4	0,4	0,6	0,8	0,6	0,7	1,2	1,1	1,6	1,6

Source: Quantec 2022

In analysing the location quotients for various industries in Polokwane LM, it becomes evident that the municipality's economic landscape is characterised by distinct concentrations. Sectors like business services, logistics, and trade stand out with higher concentration levels, underscoring their significant role in shaping the local economy. Conversely, industries such as mining and agriculture have minimal presence, while manufacturing occupies a relatively balanced position. These findings highlight the diverse nature of Polokwane LM's economic performance, emphasising the pivotal contribution of specific sectors and the potential for further development in others

The location quotients in Polokwane LM, combined with high unemployment rates and low education levels, reveal a complex economic and social landscape. The concentrations of sectors like business services, logistics, and trade, which demonstrate higher location quotients, could present potential avenues for addressing unemployment challenges. These sectors tend to have a greater presence, suggesting the possibility of offering more job opportunities.

Conversely, the limited presence of industries like mining and agriculture in terms of location quotients might indicate fewer employment prospects in these sectors, especially considering the existing unemployment rates. The relatively low education levels further compound this challenge, potentially limiting the ability of the local workforce to access certain job opportunities that require higher skills and qualifications.

The data emphasises the need for targeted interventions to address youth unemployment and educational deficiencies. Focusing on sectors with higher location quotients could lead to skill development and employment opportunities. Simultaneously, efforts should be directed towards enhancing education and training programs to equip the workforce with the skills demanded by these concentrated industries. A holistic approach is crucial to bridge the gap between the economic landscape and the labour market, ultimately fostering inclusive growth and reducing unemployment in Polokwane LM.

Tress index

The size of the economy and sectors driving the local economy are obviously important. However, the vulnerability of the local economy is equally important, and the ability of the economy to sustain itself through economic cycles will determine sustainability at many levels of development and operations. Economic diversity is one of the major factors that determines risk. It simply implies that the more diverse an economy is, the more resilient it is when one or more sectors are affected by external change and pressures on the local economy. Diversity in an economy is measured by using the Tress Index.

A Tress Index of zero (0) represents a diversified economy. On the other hand, the higher the index (closer to 100), the more concentrated or vulnerable the region’s economy is to exogenous variables, such as adverse climatic conditions, and commodity price fluctuations.

The data provided presents the Tress Index based on 22 sectors of the Standard Industrial Classification for various geographical areas, specifically focusing on Polokwane Local Municipality (LM) and its surrounding regions over the years 2010 to 2022. The Tress Index is an economic indicator that helps to measure the economic health and development of an area. Here's an interpretation of the data for Polokwane LM:

Table 5: Tress index based on 22 sectors of the Standard Industrial Classification

Geography	2010	2015	2020	2021	2022
South Africa	66,1	66,8	69,0	69,2	69,3
Limpopo	77,4	77,5	78,1	78,6	78,1
Capricorn DM	78,4	78,9	79,8	80,1	79,8
Blouberg	80,1	81,1	82,0	82,5	82,4
Aganang	83,9	84,7	85,6	85,9	85,8
Molemole	80,5	81,1	82,6	83,1	83,1
Polokwane	79,1	79,6	80,6	80,9	80,6
Lepele-Nkumpi	81,5	81,9	83,0	83,1	83,0

Source: Quantec 2022

Looking at the Tress Index values for the local economy of Polokwane LM; a trend of slight fluctuations over the years becomes evident. In 2010, the Tress Index stood at 79,1, indicating a relatively diversified economy. This value experienced a gradual increase over the years, reaching 80,6 by 2020. However, it's notable that in 2021 and 2022, the Tress Index slightly decreased to 80,9 and 80,6, respectively.

Comparing these Tress Index values to the broader contexts of South Africa and Limpopo province, Polokwane LM's economy appears to be moderately diverse. While it starts off with a lower Tress Index compared to both South Africa and Limpopo, indicating higher diversity in 2010, it gradually inches closer to the values of the province and the country as a whole, showing a trend towards increased concentration.

These fluctuations suggest that Polokwane LM's economy experienced some shifts in sectoral activity over the years. The changes could be due to factors such as economic trends, local policies, or global market influences. Overall, while Polokwane LM's economy has shown some movement towards higher concentration, it remains relatively diverse compared to the broader region.

Infrastructure, services and social facilities

Infrastructure and social infrastructure play pivotal roles in the process of development. A limited or inefficient services framework hinders the prospects of sustainable development. The presence of services that align with prescribed performance standards, along with the ease of accessing these services, form fundamental requisites for both social and economic advancement.

Within this segment, a comprehensive insight is presented into critical infrastructure and services, encompassing aspects such as transportation, water availability, sanitation, electricity accessibility, and essential communal amenities like education, healthcare, and safety provisions.

Transportation

Commuter transport corridors and facilities

There are two major commuter transport corridors in Polokwane:

- Between Seshego/Moletji and the CBD
- Between Mankweng and the CBD

Seshego/Moletji Corridor:
This corridor serves the ± 38 000 households north-west of the CBD. Most commuters in this area stay within 15 km from the CBD in the Seshego, Perskebult, Bloodriver, Moletji and surrounding residential areas. According to the 2010 National Household Travel Surveys, less than 4% of working people staying in Seshego, also work there. 74% of working people who stay in Seshego, work in Polokwane (IRPTS Operational Plan 2018).

The corridor is served by taxis and buses with the modal split 4:1 in favour of taxi passenger trips. The split between public and private transport is also 4:1 in favour of public transport trips (IRPTS Operational Plan 2018).

Based on travel-time surveys undertaken in 2012, the average travel speed on this corridor (including stops) is around 35 km/h. This means that commuters from Seshego take approximately 25 minutes to travel the average distance of 15 km to town. This excludes other legs of the journey such as walking from the drop-off to the actual place of employment (IRPTS Operational Plan 2018).

the Seshego-Polokwane Local Taxi Association operates 3 routes on this corridor, namely on Nelson Mandela Drive (in blue), Polokwane Drive (in yellow) and Maltala / West / Rissik (in green) (IRPTS Operational Plan 2018). the Seshego-Polokwane Taxi Association serve the Seshego area up to ± 15 km from the CBD, the Moletji Taxi Association serves the area further north, as far as 80 km from town. The population density north of Perskebult is however very low and the number of passenger trips are low in comparison with those from Seshego.

Public transport facilities on this corridor consist only of bus/taxi stops and lay-bys on some arterial roads. Because commuters are picked-up along the routes in the AM by both taxis and buses, there are no formal ranks in the residential areas. In the PM, commuters are also dropped off along the route.

The fact that there is no need for modal transfers or transfers from long distance to local taxis also negates the need for ranks in the area.

Mankweng Corridor:
Taxis from the Mankweng Taxi Association make use of this corridor to serve commuters staying in villages in the Mankweng and Moria areas, between 25 and 50 km east of the CBD. Taxis from the Sebayeng and Dikale villages along the northern municipal boundary use the R81 while villages in the Mankweng and Moria areas are served by taxis using the R71.

The 25 km travelled on the R71 increases the average speed to 50 km/hr meaning that a taxi from Turfloop University will cover the distance of 30 km to town in ± 35 minutes. The 40 km to the Bonye taxi rank in Moria will take ± 50 minutes.

This public transport corridor is served by taxis and buses with the modal split 3:2 in favour of bus passenger trips. The long distance to town makes it more feasible for subsidised buses to operate on this route as the local community is relatively poor and cannot afford unsubsidised transport. The split between public and private transport is 3:1 in favour of public transport trips. According to the 2010 NHTS, 90% of households in Mankweng did not have a car.

Because of the longer distance from town compared to Seshego, Mankweng has a more vibrant commercial centre. The Turfloop University campus, the shopping centre and the hospital forms the core of the economic hub in Mankweng.

Public transport users coming from the university shopping centre and hospital rely on taxis departing from the Turfloop Plaza Rank and the Hospital Rank to take them to town or the surrounding villages. These ranks are not specifically used during the AM or PM peak as is the case for most ranks but are used at a low intensity throughout the day as nurses finish their shifts and students come from class.

Polokwane CBD facilities:
For inward trips, most of which are during the AM peak, bus and taxi passengers are dropped-off at various bus and taxi stops throughout the CBD. The lack of lay-bys or formalised drop-off points in the CBD however forces taxis and buses to stop in the roadway to off-load passengers. This blocks the general flow of traffic resulting in unnecessary congestion and vehicle-pedestrian conflict.

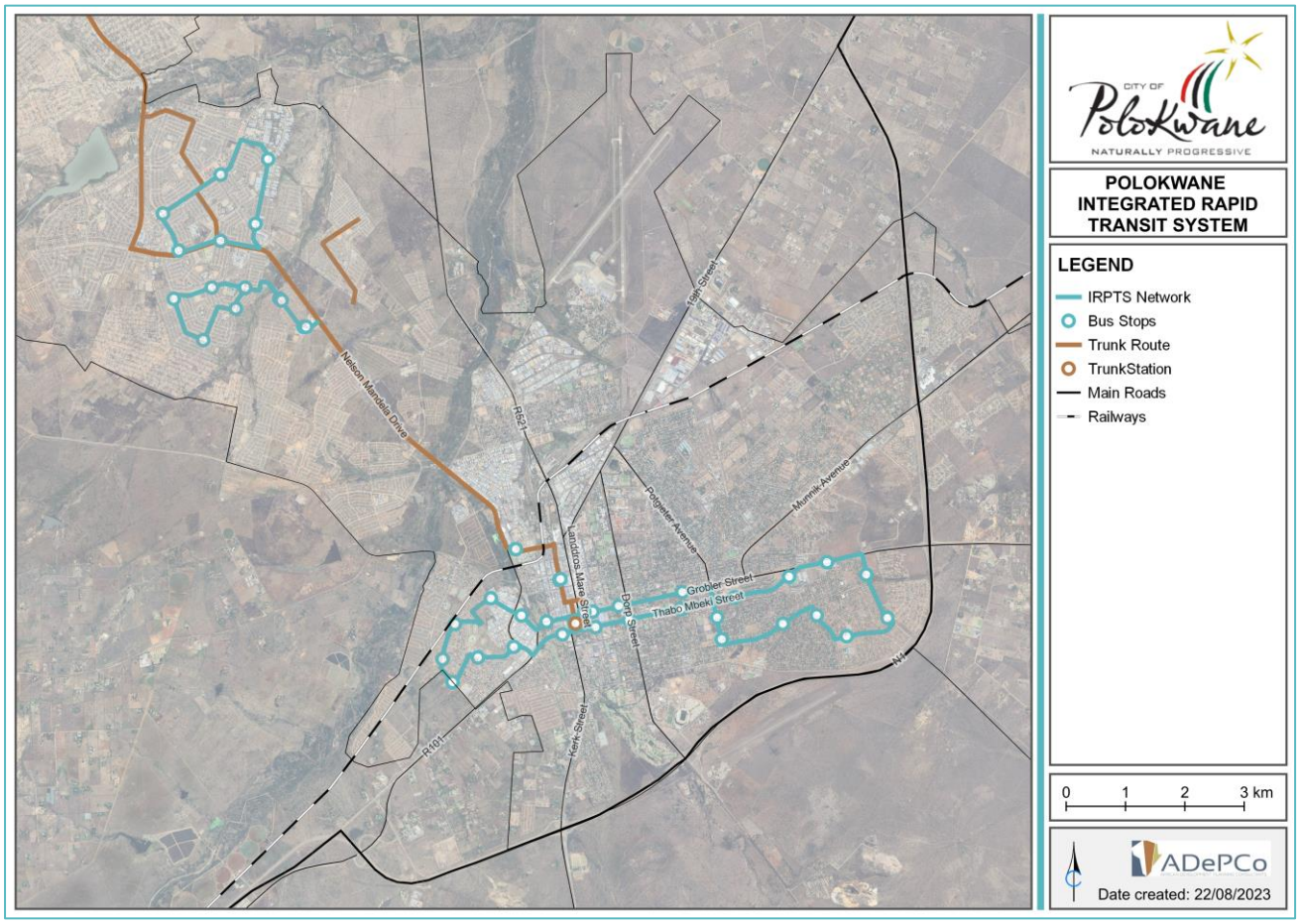
It is generally accepted that taxis and buses off-load commuters along the route instead of at a central rank. This is done to reduce walking distances and enable commuters to get to work quicker.
For outward trips, most of which are during the PM peak between 16:00 and 19:00, taxis and buses depart from various ranks within the CBD. These ranks include:

- Pick ‘n Pay Taxi Rank
- Spar (City Centre) Taxi Rank
- Oriental Plaza Taxi Rank
- Hospital Street Bus Rank

Road Network

Polokwane has a well-developed road network within the urban edge, consisting of freeways (N1 including the new bypass), arterial roads and collector roads as is indicated on Map 5. While the freeway and major arterials are owned and maintained by Sanral and the Limpopo Department of Roads and Transport respectively, the municipality owns and maintains the minor arterials, collectors and access streets.

Recent road projects including the Hospital Street Bridge across the railway line and the implementation of one-way systems have improved traffic flow in the CBD for both private vehicles and public transport vehicles. Map 5 illustrates the road network within the CBD.



Map 5: Road Network within the Urban Edge

Minibus Taxis (Local)
For local trips, minibus taxis are the most dominant public transport mode in Polokwane, providing for 67% of the public transport supply. In the Seshego area this percentage is even higher, at 79% while in Mankweng, taxis provide only 42% of the public transport supply. Seven taxi associations operate over 700 taxis on commuter routes to and from Polokwane CBD. Some of these routes extend beyond the Polokwane Municipal boundary (IRPTS Operational Plan 2018).

Minibus Taxis (Long Distance)
Long Distance Taxi Associations provide a service to destinations such as, Johannesburg, Randburg, Tembisa, Tshwane, Mabopane, Burgersfort, Lebowakgomo, Ga-Moletlane (south of Polokwane), Ga-Mathabatha (south-east), Ga-Mashashane (west) as well as Bochum, Botlokwa and Kromhoek (north-west).

Long Distance Buses
Five Long Distance Bus Operators provide a service to destinations such as, Johannesburg, Midrand, Kranskop, Zimbabwe, Louis Trichardt, Sibasa, Malamulele, Elim, Bungeni, Phalaborwa, Tzaneen and Tshwane. The service providers are well known for their good customer care and the service they provide to their customers.

Railway
The Passenger Rail Agency of South Africa (PRASA) operates the Shosholoza Meyl long distance passenger service between Johannesburg and Musina via Polokwane. It is an economy class (sitter accommodation) intercity train service that operates 3 days per week per direction.

The train leaves Johannesburg Station on Monday, Wednesday, and Friday evenings at 19:00 and arrives at Polokwane station at 03:50 in the morning. It departs at 04:30 for Musina and arrives there at 11:15.

The train to Johannesburg leaves Musina on Tuesday, Thursday and Sunday afternoons at 15:25 and arrives at Polokwane at 21:48. It then departs for Johannesburg at 22:35 and arrives there at 05:44.
There are no intermodal transfer facilities for passengers who need to transfer to bus or taxi. The distance by foot, from the railway station to both the Hospital Street bus rank and the Pick ‘n Pay taxi rank is 1 km.

Given the lack of transfer facilities and the inconvenient arrival and departure times, the service is not very popular, and most passengers prefer to travel by bus.

Airports
In Polokwane, there are two airports and an Airforce base, with only the Polokwane International Airport currently operational for general air travel. This airport is positioned approximately 5km north of the Polokwane CBD (Central Business District). SA Airlink manages a scheduled flight service between Johannesburg (OR Tambo) and Polokwane, operating under the management of Gateway Airport Authority Ltd (GAAL). This service involves code-sharing, with South African Airways as the marketing carrier and SA Airlink as the operational carrier.

Beyond these scheduled flights, both local and international unscheduled flights utilise this airport. The annual approximate flight count ranges from 4 000 to 5 000, catering to an estimated passenger traffic of 38 000. On weekdays, there are four flights each day, with one flight on Saturdays and two flights on Sundays.

Significant enhancements were undertaken at the Polokwane airport as part of the preparations for the 2010 Soccer World Cup event in South Africa. These upgrades were designed not only for local flights but also to adhere to international standards. Notable additions included a maintenance centre, trade fair facility, aviation academy, new administrative offices for GAAL, and a cargo hub.

Situated closer to the Meropa Casino and Entertainment complex, the Pietersburg Civil Aerodrome lies southeast of the CBD. The Airforce Base, on the other hand, is positioned northwest of the CBD along the R567 Provincial Road.

Modal split
According to the Comprehensive Integrated Transport Plan for Polokwane, a total of 81 583 work-related journeys are estimated to be undertaken within the municipality on a daily basis. These trips exhibit distinct modal preferences: 13,3% are carried out via bus, 27,3% via taxi, 27,3% via car, and approximately 29,8% by means of walking. It's noteworthy that these distribution ratios display variations across different regions within the municipality. The modal split for work-related trips in various regions is summarised as follows:

- In Seshego/Moletji, the primary mode for motorised trips to work is by taxi, succeeded by car and then bus.
- In Polokwane Central, car travel comprises the largest share of work journeys, trailed by taxi and then bus.
- In Polokwane East, the predominant mode for work commutes is by bus, followed by taxi and then car.
- In Polokwane West, taxi travel constitutes the leading choice for work trips, succeeded by car and then bus.
- Across the entire municipal area, walking holds the majority share for work journeys, followed by car and then taxi.

The further planning and development of the Polokwane Integrated Rapid Public Transport Systems (PIRPTS) is based on the Council approved Technical Operations Plan (TOP), which was approved by Council.

Access and functional links
A pivotal characteristic influencing Polokwane's development is its strategic position along significant corridors that link South Africa's border with Zimbabwe and the Gauteng province. Situated along the critical N1 road and rail corridor, Polokwane enjoys connectivity both to Gauteng in the south and Zimbabwe in the north. Additionally, secondary corridors establish connections between Polokwane and other provincial centres.

The N1 National Road, aligned from southwest to northeast, plays a central role within Polokwane's landscape. To the south, the N1 road reserves, configured in a split arrangement, extend from the Mogalakwena jurisdiction, with the urban node of Mokopane positioned closest to the municipal boundary.

Heading north, the N1 road reserves (again in split configuration) exit the Polokwane jurisdiction, stretching toward Makhado (Louis Trichardt) and continuing through Musina to the Beit Bridge international border post.

In the eastern part of Polokwane, the R81 Provincial Road traverses towards Modjadjiskloof, while the R71 Provincial Road extends via Mankweng to Tzaneen.

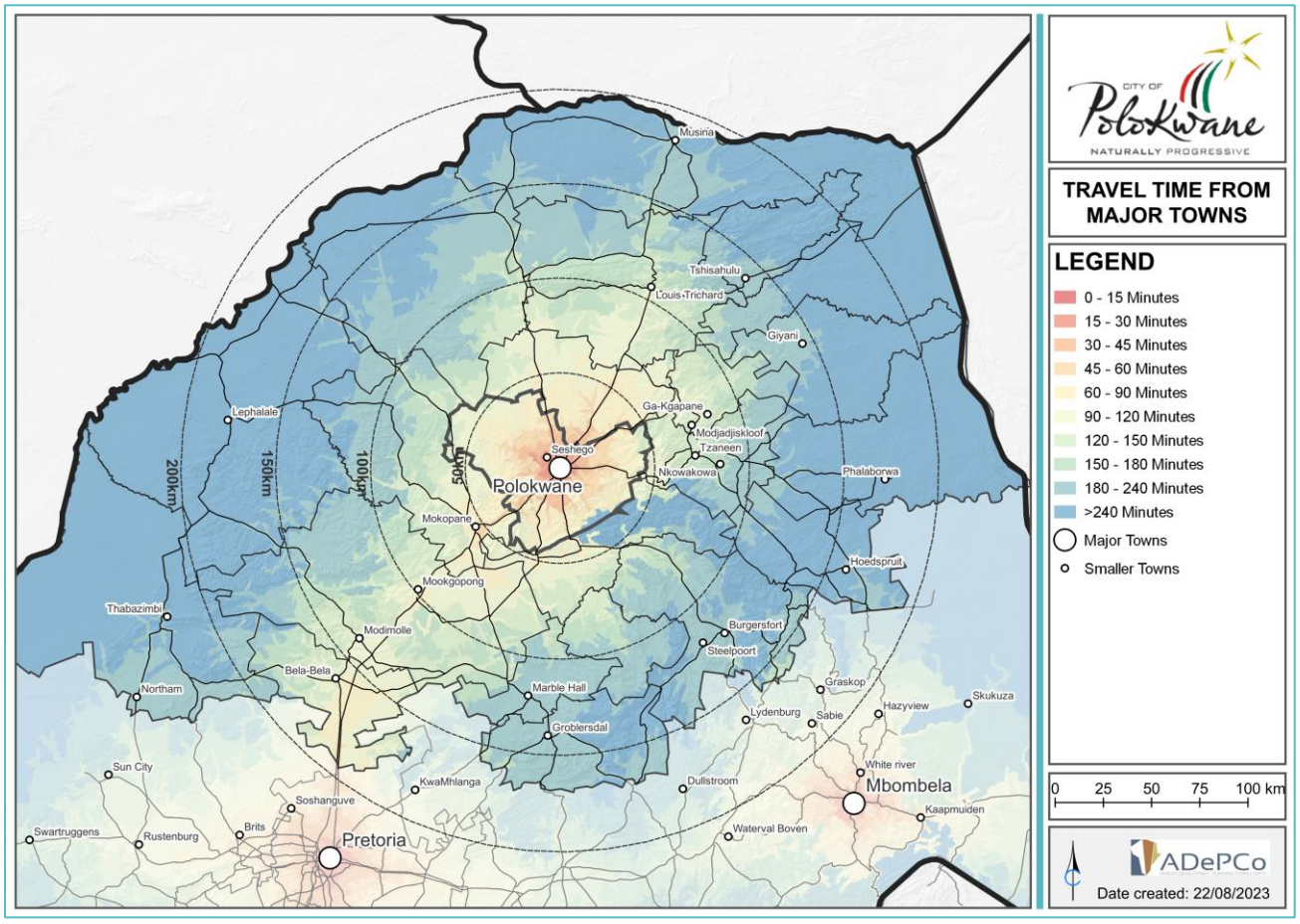
The northwestern region of Polokwane is crossed by the R521 Provincial Road, which heads generally northbound through Dendron and Alldays to reach the Botswana border. Another route, the R567 Provincial Road, passes through Aganang and intersects with the N11 National Road near Hwibi.

In the southern sector, the R519 Provincial Road extends through Nuwe Smitsdorp to intersect with the R518 Provincial Road near Zebediela. Additionally, the R37 Provincial Road extends towards Chuniespoort, where it intersects with the R579 Provincial Road before curving eastward to Zeekoegat (Greater Sekhukhune).

Despite the municipal boundary delineating the administrative region, the functional significance of the municipality's urban core does not strictly align with this boundary. The extent of accessibility is illustrated in the subsequent maps.

As the capital of the Province, Polokwane is well connected to all economic nodes across the province and further afield. The city enjoys a strong linkage through the national highway network as well as several other prominent high-order roads. A clear visual representation of the proximity of Polokwane to major towns within Limpopo is provided by the accompanying map.

Drive time assessments were conducted to illustrate the distances one can cover in a car from the city’s CBD. Map 6 utilises colour indicators to portray the travel time from Polokwane spanning the province. The majority of major towns lie within a feasible three-hour driving radius. This observation not only reflects favourable accessibility but also hints at the potential for a steady flow of people to and from Polokwane. The city's accessibility stands out as a key attribute, offering convenient pathways for residents of neighbouring towns and various nodes across the province to access necessary goods and services.



Map 6: Access to major towns

The N1 highway's prominence is visible in the map, as a significant portion of the areas that run parallel to the N1 is within a one- to two-hour drive of the CBD.

Access to services

The accessibility to essential infrastructure services holds pivotal significance in driving the enhanced development of all communities in South Africa. Serving as a fundamental responsibility of the government, this imperative has been accentuated since 1994, with a pronounced emphasis on extending services to previously disadvantaged communities. This commitment has evolved to become a central impetus behind the majority of government delivery policies.

The initial strategies were rooted in fulfilling the health criteria set forth by the World Health Organisation. This led to the adoption of the renowned Reconstruction and Development Programme (RDP) standards, later termed as the benchmark for access to basic services. However, the evolution of these policies over time, driven by various factors, has culminated in a transformation where the ambit of services envisioned by all levels of government far exceeds the original norms and standards.

The data pertaining to the 'availability of engineering services' is sourced from the year 2011, as this coincides with the most recent national census conducted. Subsequent information beyond this year is not present within the dataset, unless explicitly furnished by PLM. It is important to note that at the time of publishing, updated information was not accessible, thereby restricting the inclusion of more current data. This segment delves into an exploration of the accessibility to water, electricity, sanitation, and refuse removal services within Polokwane. Through a comprehensive examination of available data, the foundational infrastructure of these essential services has been systematically mapped out.

Access to water

Water services have taken precedence as a top-tier priority within services delivery strategies throughout the last two decades. This emphasis aligns with the core objectives outlined in the Millennium Goals, adopted in 2000, which articulated a global aspiration to reduce the proportion of individuals without access to safe drinking water and basic sanitation by half by the year 2015. In accordance with these targets, it was stipulated that no less than 50% of households should possess access to fundamental water services.

The subsequent figure provides a comprehensive overview of the evolution of water access between 1996 and 2011. The data unequivocally illustrates that a considerable segment of the population now benefits from access to water services surpassing minimal requirements.

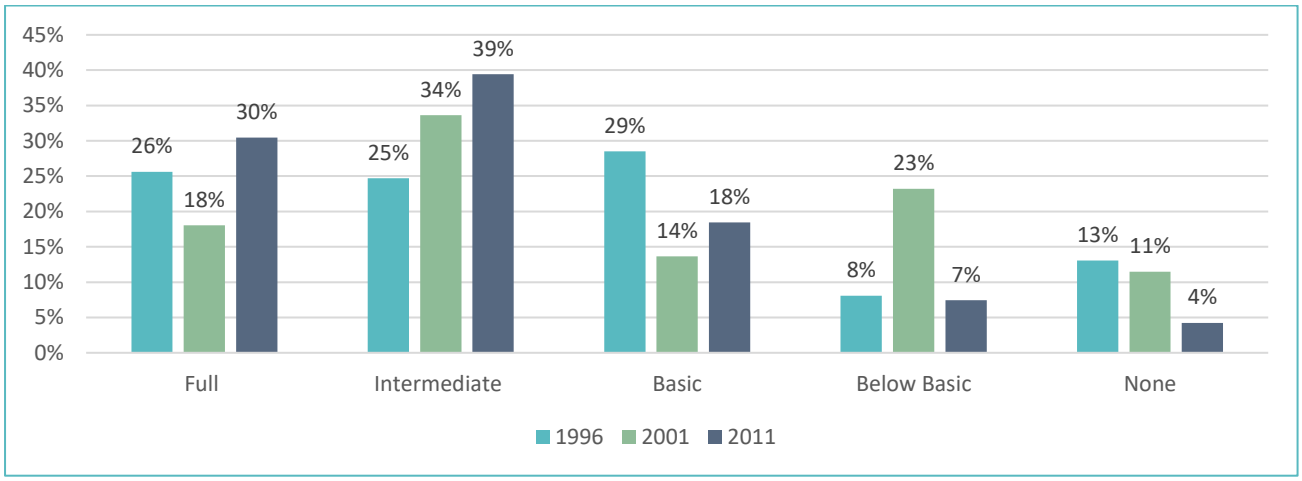
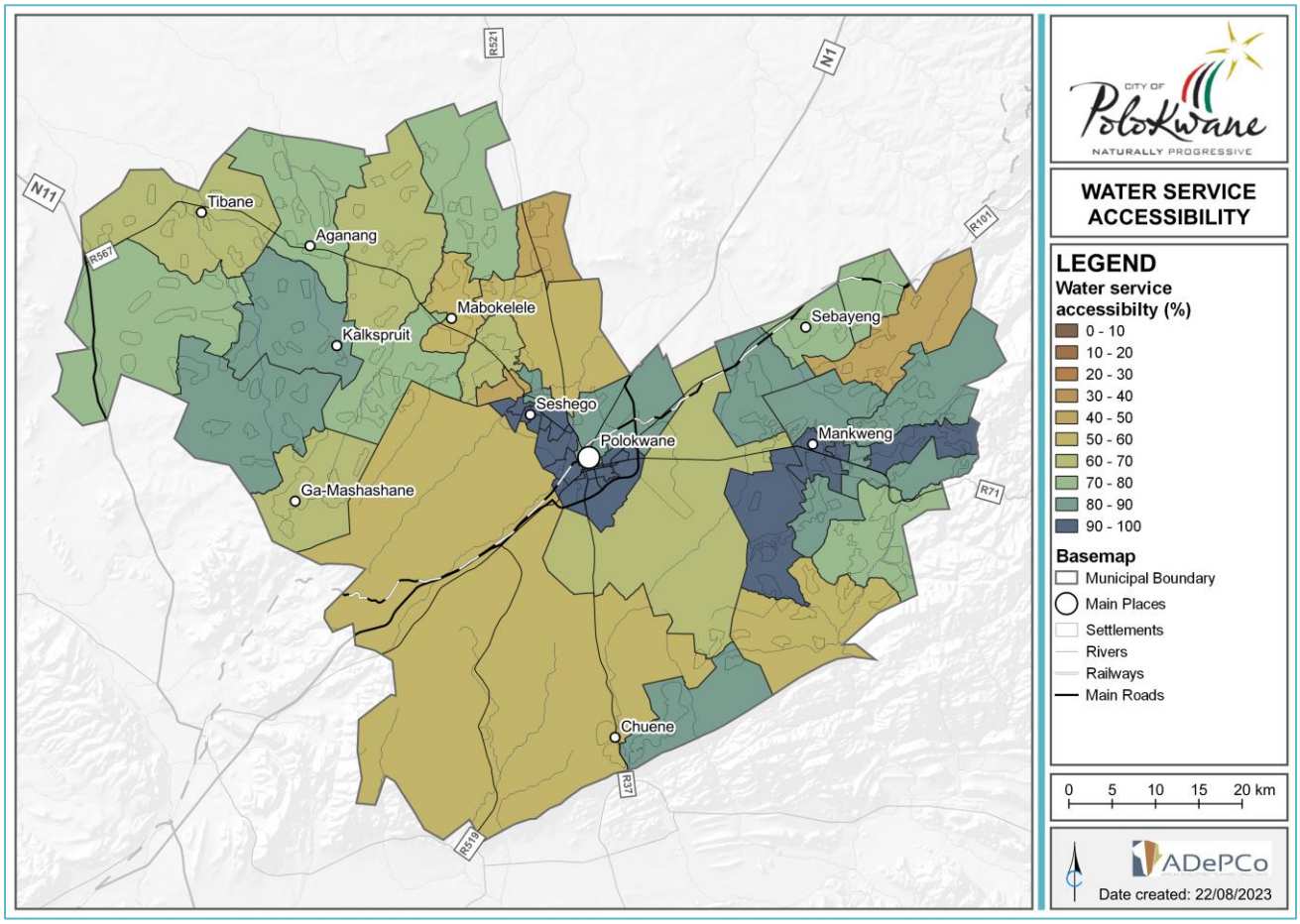


Figure 13: Access to water services

Source: Quantec

The ensuing map graphically portrays the geographic areas where the populace encounters suboptimal access to basic water services (in 2020). Notably, the northeastern territories, situated north of Mankweng and east of Sebayneng, appear to be especially impacted by this deficiency.



Map 7: Access to below basic water services

Bulk water infrastructure

The current supply of bulk water to the Polokwane Urban Complex, which encompasses Polokwane, Doornkraal, Seshego, and Perskebult, is insufficient to maintain optimal levels in the main supply reservoirs. This inadequacy impacts the overall filling of the internal water distribution system. The primary sources of water supply include the Olifantspoort Dam, Ebenezer Dam, and Dap Naude Dam.

The Dap Naude Dam, situated in the upper catchment of the Broederstroom tributary of the Great Letaba River, is owned by the Polokwane Municipality. Positioned about 53 kilometres northeast of the Polokwane CBD, it exclusively supplies water to urban Polokwane. The dam's storage capacity stands at 2,1 million cubic meters. Water from the dam is transported through a 572mm and 419mm OD steel pipeline spanning approximately 60km. This water is conveyed to an 18 Ml/day treatment facility and a service reservoir situated in the core of urban Polokwane.

The Ebenezer Dam, positioned approximately 54 kilometres east of the Polokwane CBD, is integral to the Ebenezer Dam Pipeline scheme. Managed by Lepelle Northern Water, this scheme serves Polokwane City, Seshego, Haenertsburg, Dalmada Plots, Mankweng, and numerous villages in the Mankweng vicinity. The dam's storage capacity is 70 cubic meters. It also provides water for irrigation along the Great Letaba River downstream and for Tzaneen.

Within the municipal area, there are five medium-sized dams. Among them, Seshego Dam contributes to the water supply of Seshego, augmenting the water supply derived from the Olifants-Sand Rivers.

The Polokwane City/Seshego Aquifers and Effluent Production are situated in Quaternary catchment A 71 A, draining the upper Sand and Bloed Rivers.

This region exhibits varying groundwater potential, with favourable conditions for groundwater occurrence, particularly around Polokwane City/Seshego. Notably, a potential well field has been identified southwest of Seshego along the Bloed River. Artificial recharge initiatives are in place for the Sand River North and Pelgrimshoop well fields, located beneath the present Polokwane and Seshego sewerage treatment plants. These artificial recharge strategies can be extended to a future well field along the Sand River below the projected regional sewerage works, utilising the full underground storage potential.

To address identified supply challenges, the Polokwane Local Municipality has allocated funds for the creation of additional backup water storage facilities in hotspot areas. These facilities will operate during water supply disruptions, ensuring improved water availability in these regions. Moreover, a plan includes the construction of facilities to pump water to higher lying areas during periods of low water supply.

Access to sanitation

Ensuring access to appropriate sanitation services holds paramount importance for public health. While sanitation services are accorded significant priority by the government, challenges persist, and this service has not consistently received the same level of focus as improved access to water services.

Although progress has been achieved in enhancing the proportion of individuals benefiting from comprehensive sanitation services, a substantial portion of the population in Polokwane continues to face subpar or non-existent access to such services (53,43%).

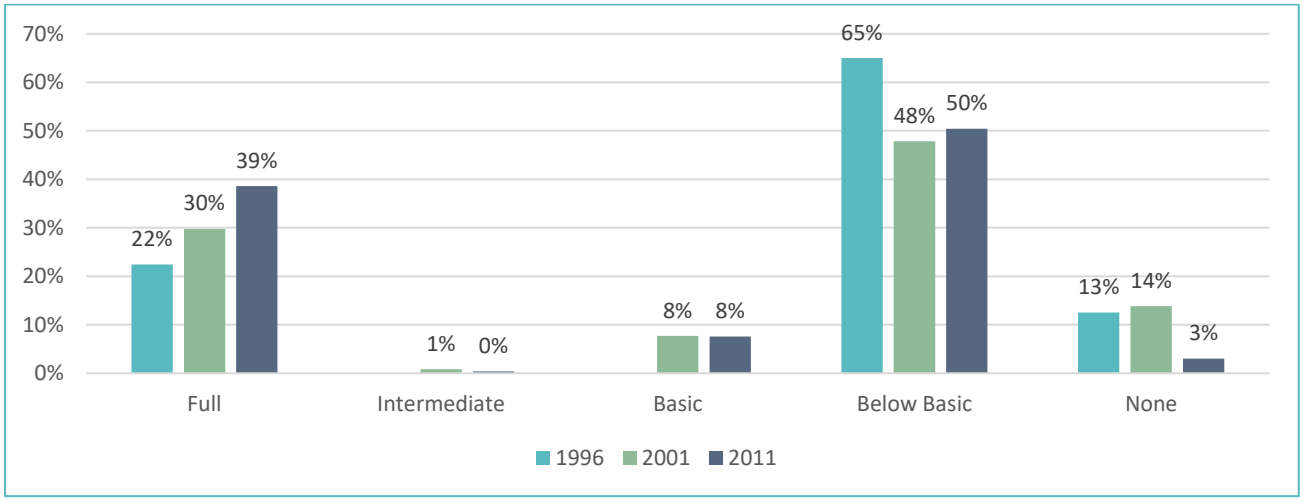
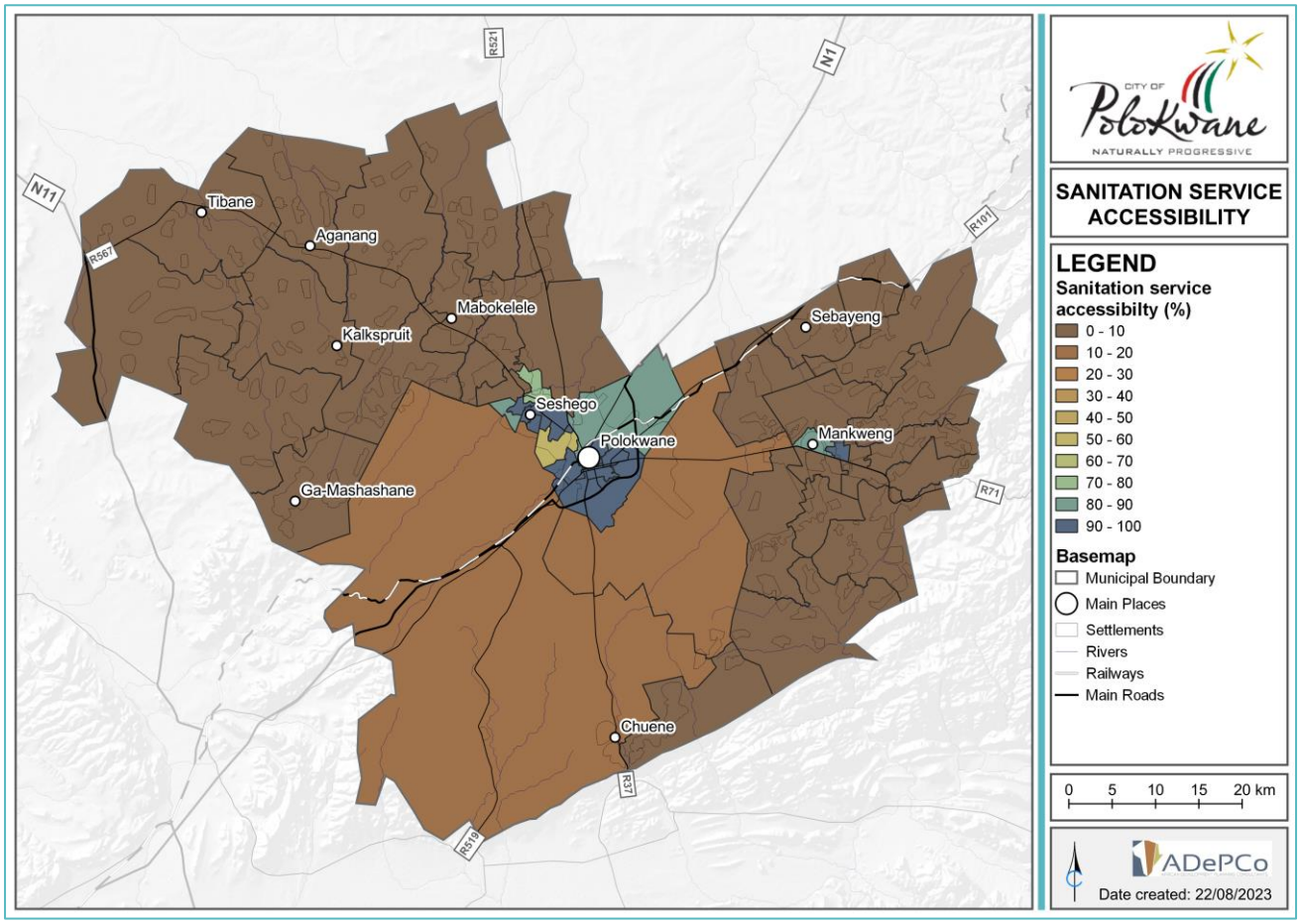


Figure 14: Access to sanitation services

Source: Quantec

Map 8 visually demonstrates the absence of sanitation service access, with rural areas bearing the brunt of the deficiency. Particularly, rural regions located to the southeast and northwest of the central urban core in Polokwane experience the most acute lack of access. Of particular concern is the lack of access to sanitary services around Mankweng, especially when comparing Map 8 to the extent of the dwelling densities highlighted in Map 14: .



Map 8: Access to below basic sanitation services

Access to electricity

While electricity may not carry the same health implications as water and sanitation, its availability holds significance for overall development, particularly in the context of education. Access to electricity remains a top priority. Beyond its immediate implications, access to electricity also plays a pivotal role in facilitating local economic development.

Access to electricity is a fundamental requirement for businesses, industries, and various economic activities. It enables the functioning of essential infrastructure, machinery, and technology that drive economic productivity. Industries such as manufacturing, services, and agriculture heavily rely on a stable electricity supply to operate efficiently and competitively. Reliable electricity access enhances the feasibility of establishing and growing businesses, attracting investments, and generating employment opportunities within a community.

Moreover, electricity is essential for educational institutions. It enables schools to provide modern teaching methods, utilise electronic resources, and facilitate distance learning, all of which contribute to raising the educational standards and workforce skills within a region. Access to electricity is closely linked to the provision of quality education, which is a crucial factor in human capital development and overall socioeconomic progress.

Figure 15 illustrates the shifts in access to electricity in Polokwane since 1996. The accompanying map highlights that areas lacking access are primarily located in rural regions, whereas most urban areas exhibit sufficient access.

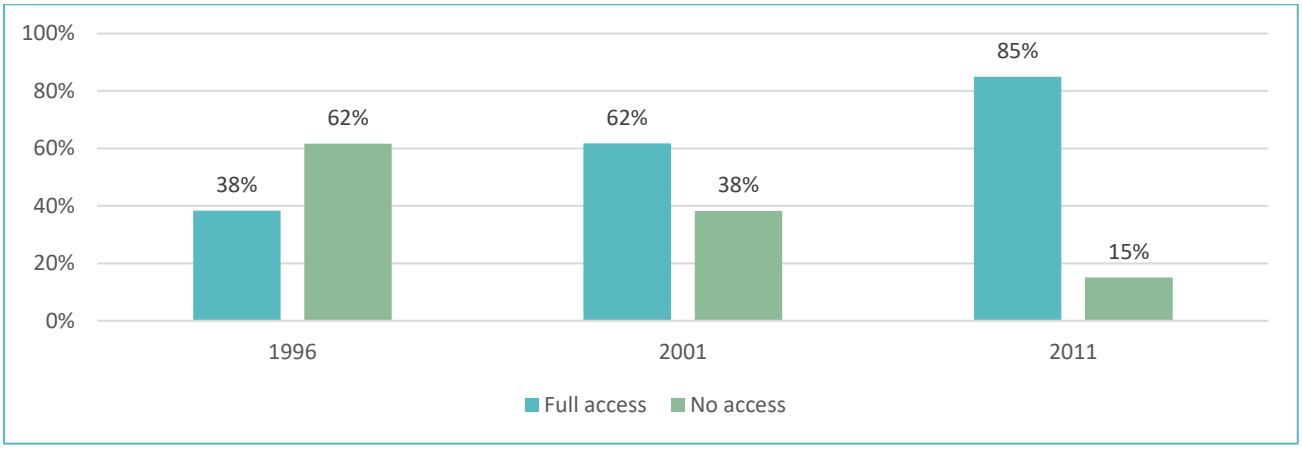
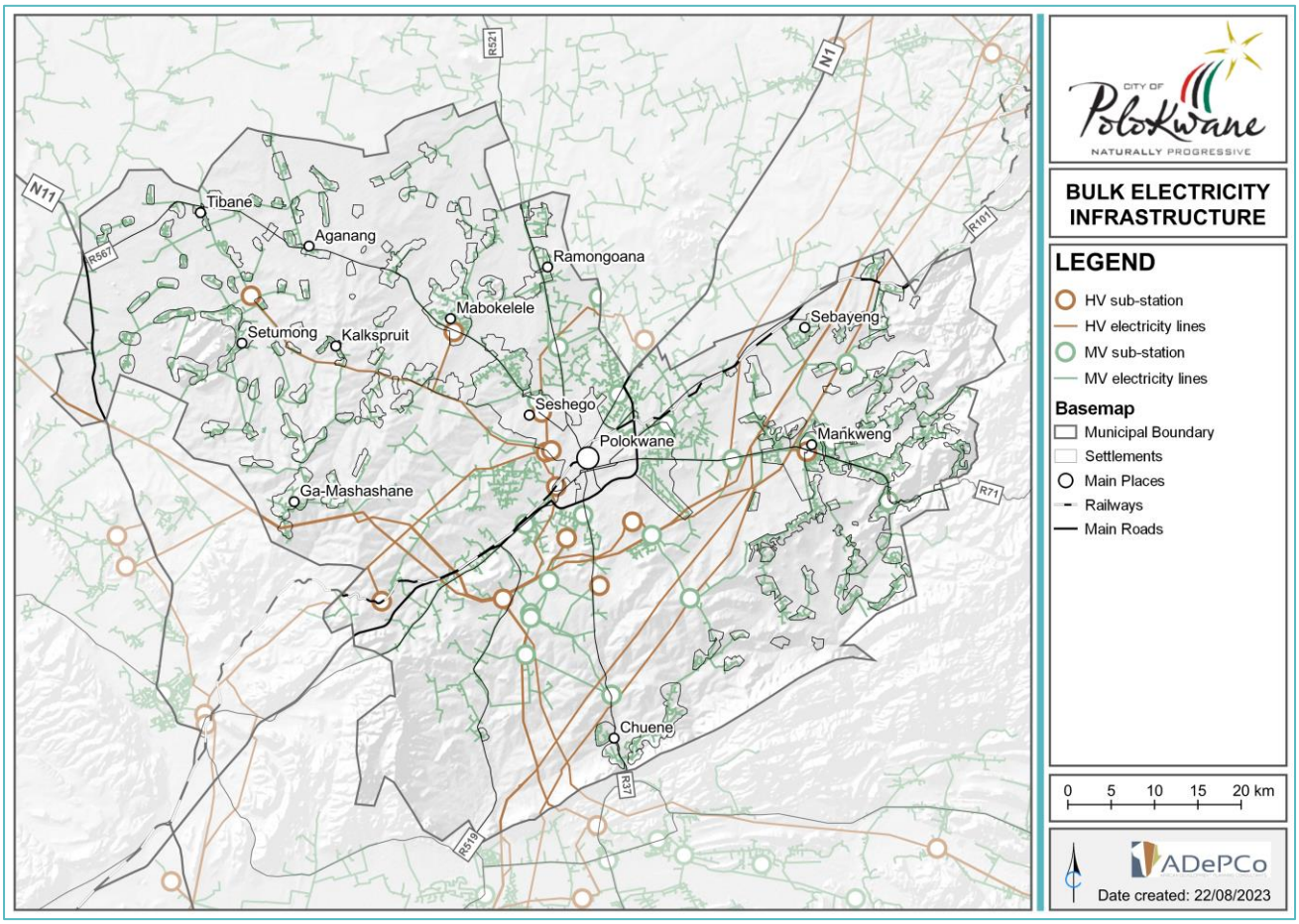


Figure 15: Access to electricity services
Source: Quantec



Map 9: Bulk Eskom electricity infrastructure

Access to refuse removal

Effective solid waste management and refuse removal is of paramount importance for both public health and environmental well-being. The proper disposal of waste contributes to maintaining a clean and safe living environment. The provided table highlights the evolution of access to refuse removal services over the past three census periods, shedding light on the progress made in this domain.

The data from 1996, 2001, and 2011 illustrate the shifts in access to refuse removal services across different categories. Over time, there has been a notable improvement in access to adequate refuse removal services. In 1996, only 20% of households reported full access, while this percentage increased to 39% in 2011.

Simultaneously, there has been a decrease in the proportion of households with below basic or no access, indicating positive strides in waste management infrastructure and practices.

It is evident from the table that efforts have been made to enhance refuse removal services, contributing to improved health outcomes and a more sustainable environment. Nonetheless, there remains room for further progress to ensure that all communities have access to proper waste management services.

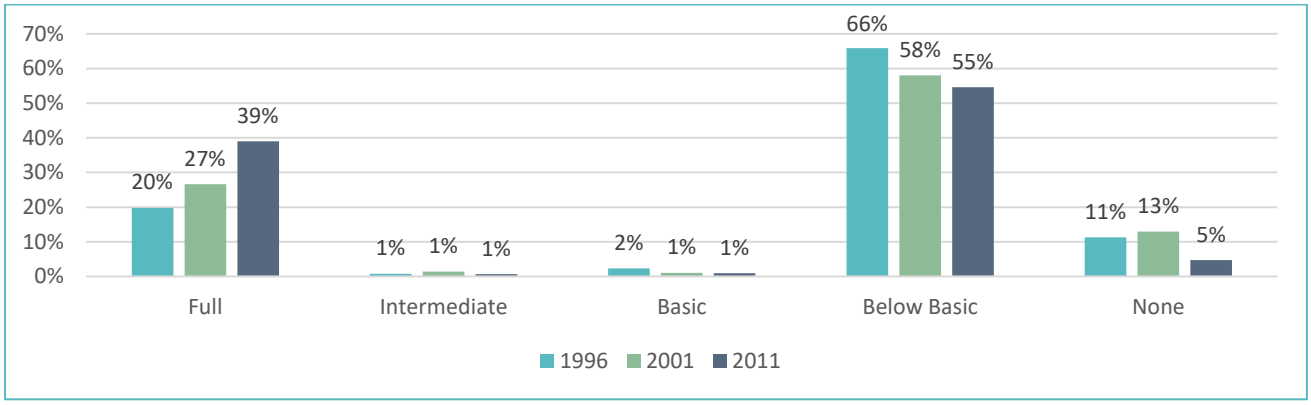


Figure 16: Access to refuse removal services
Source: Quantec

Access to social facilities

The establishment of robust communities hinges on the presence of social and community facilities. These facilities play a vital role in fostering community cohesion, well-being, and overall development. The preceding Spatial Development Framework (SDF) affirms that the municipal area encompasses nodes earmarked for the development of mixed-use districts and expansive residential areas. As these new zones and burgeoning populations take shape, there will be an increased strain on existing facilities and a corresponding demand for fresh or supplementary social and community resources.

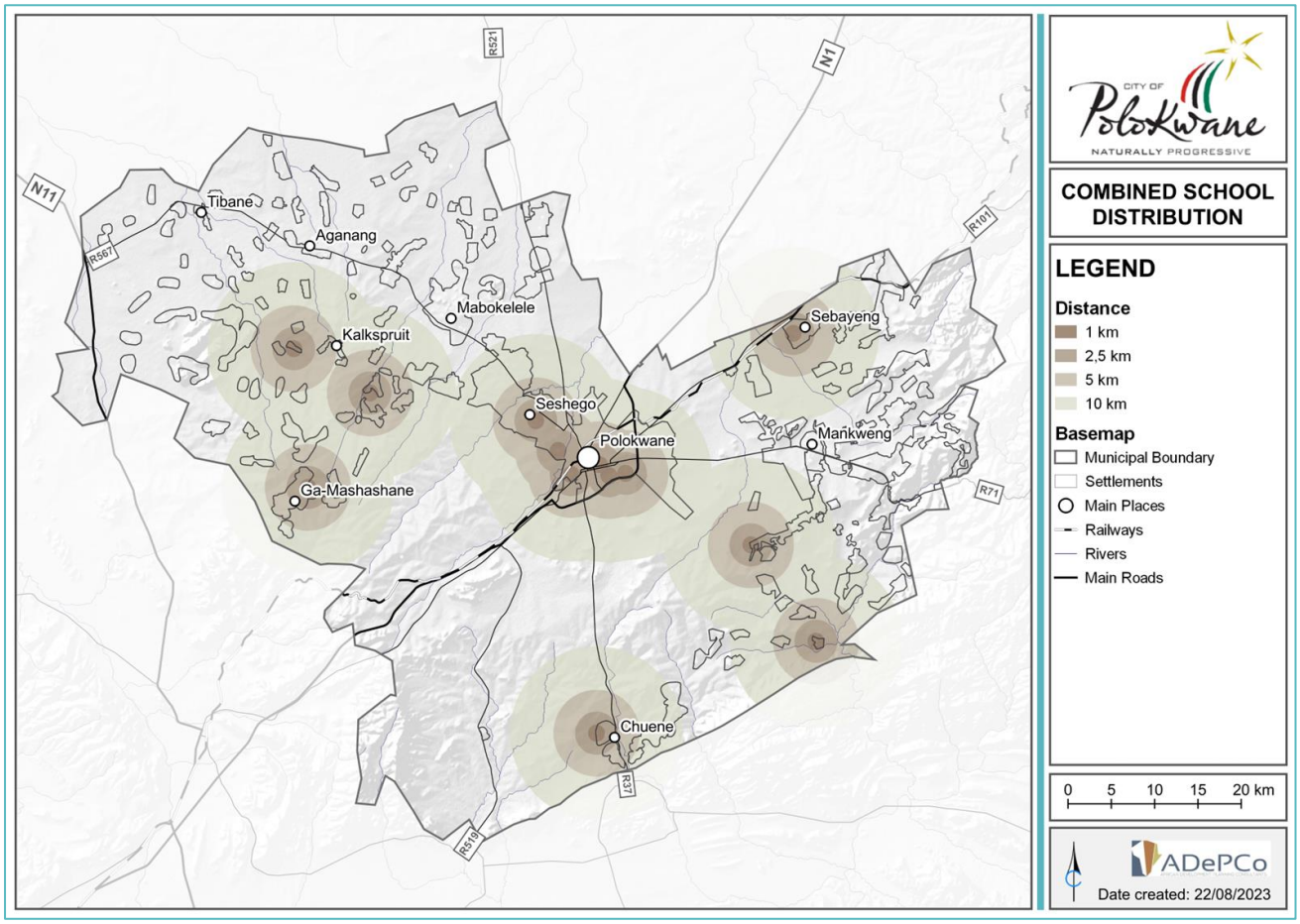
This section offers an encompassing overview of the geographical dispersion and, where data is available, quantification within designated catchment areas of diverse facilities. These encompass educational institutions, healthcare establishments, safety resources, and other essential amenities like municipal facilities, libraries, community centres, and cemeteries. The distribution and accessibility of such facilities within the municipality are pivotal aspects that contribute to cultivating thriving communities and ensuring their holistic development.

Education facilities
Education facilities encompass primary, secondary, and combined schools, as catalogued within the National Department of Education's database. It is crucial to note that this analysis does not delve into the specific intricacies associated with each education facility. For instance, while detailed assessments of facility conditions are not conducted, the primary focus lies in evaluating the geographical spread of these facilities to identify potential shortages.

The gathered data highlights the following observations:

- A total of 251 primary schools are present within the region.
- There are 164 secondary schools located within the area.
- Additionally, 15 combined schools are part of the education landscape.

The accompanying map provide a visual representation of the distribution pattern of education facilities. Notably, areas that experience a dearth of facilities are particularly evident in the rural zones situated to the immediate south and east and northwest of the Polokwane primary urban core. This insight underscores the need for targeted efforts to ensure equitable access to quality education resources across the municipality.



Map 10: Access to education

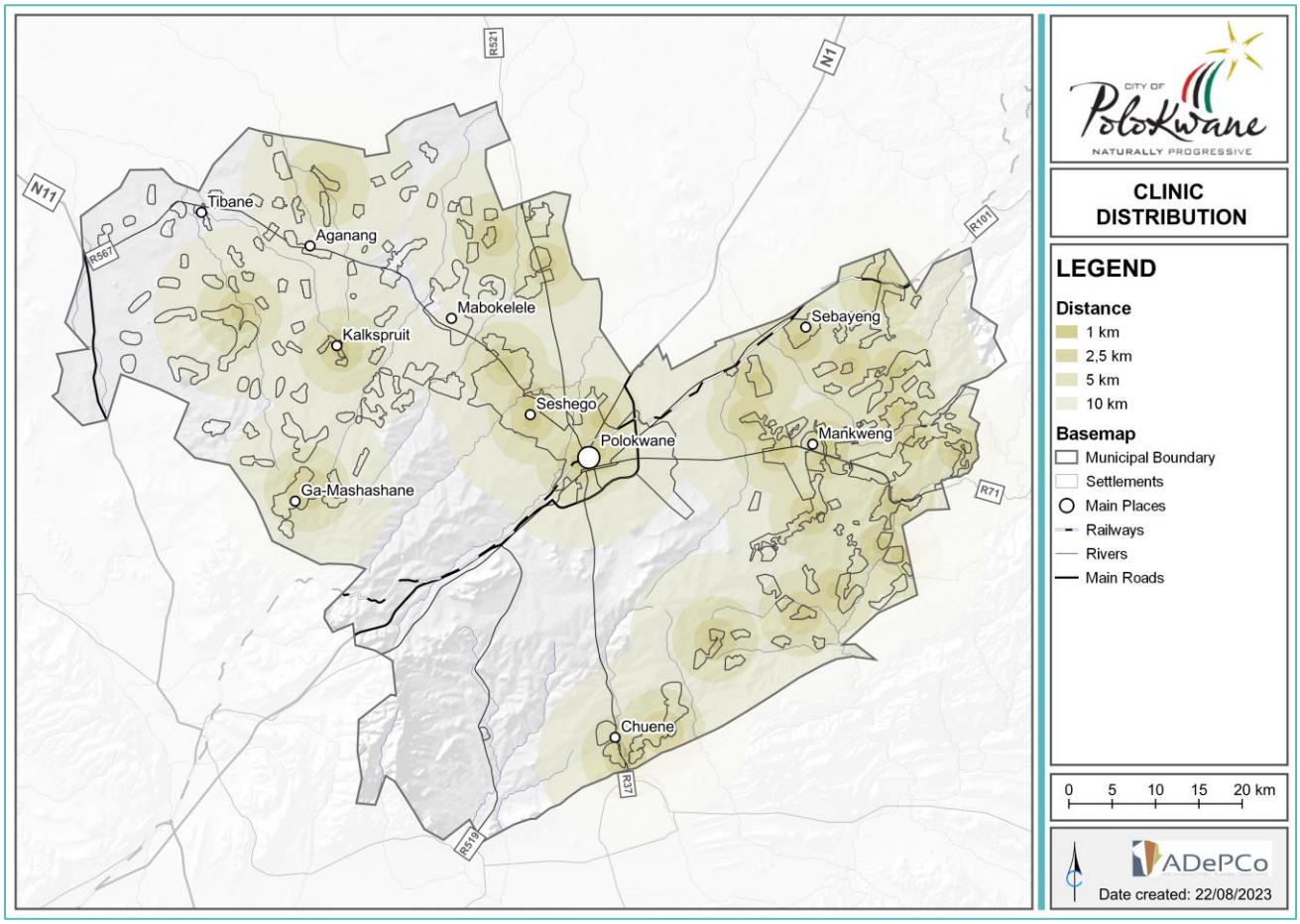
Health facilities

There is a growing trend towards private healthcare among those who can afford it, primarily due to concerns about the poor state of public health infrastructure. However, the introduction of the National Health Insurance program, aimed at providing essential healthcare to all South Africans, could reshape the dynamics of both the private and public healthcare sectors.

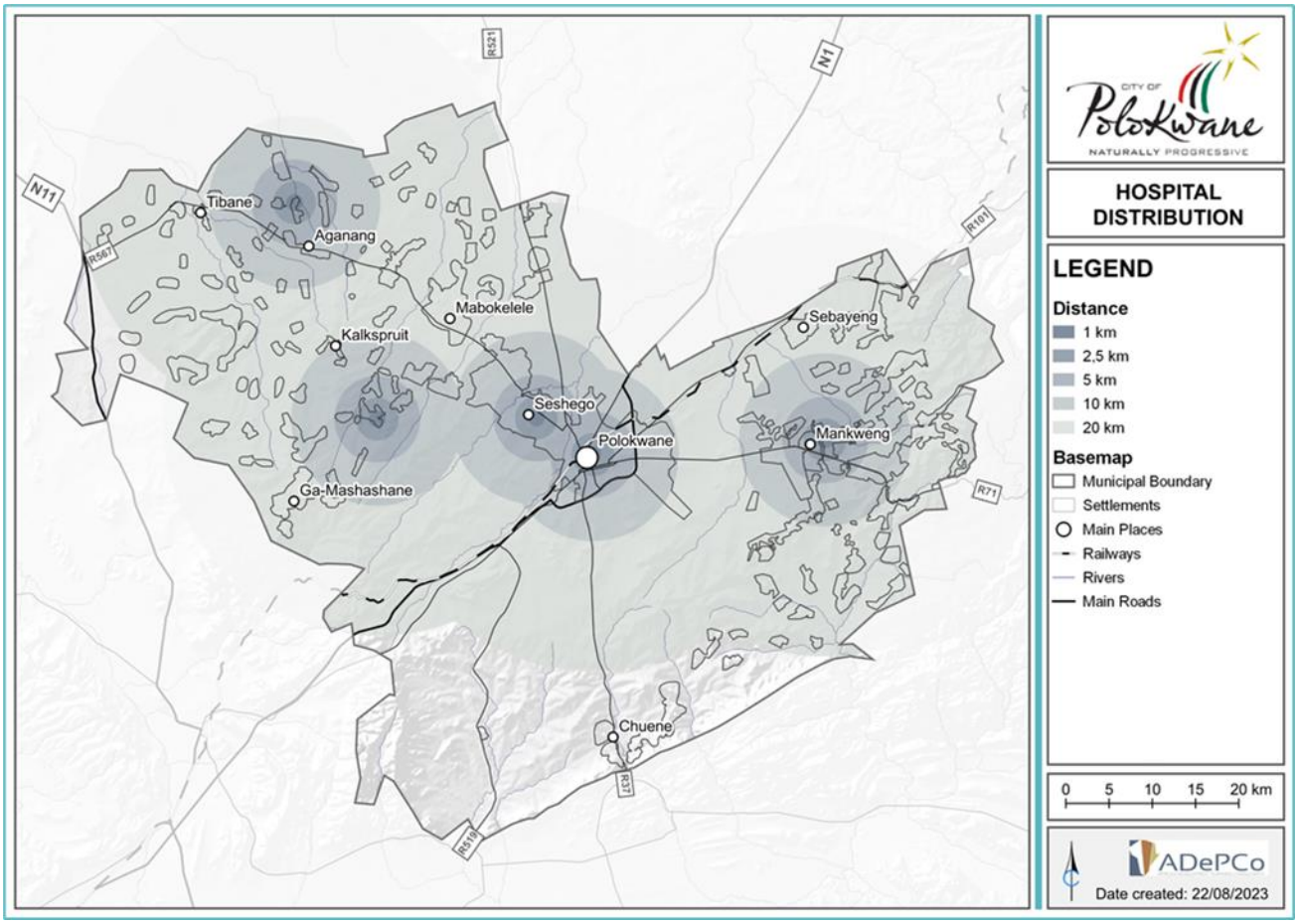
Despite the presence of several health facilities in Polokwane, a significant portion of the population resides more than 10 kilometres away from the nearest healthcare facility. This challenge, in particular, affects the economically disadvantaged rural population, limiting their access to healthcare services.

This assessment distinguishes between public and private healthcare facilities. In Polokwane, there are a total of 53 public healthcare facilities, which are crucial for meeting the healthcare needs of the wider community. Additionally, there is one private healthcare facility, Limpopo Medi-Clinic, which plays a significant role in offering private healthcare services in the municipality.

Map 11 and Map 12 provide an overview of the location of hospitals and clinics across the municipality.



Map 11: Access to clinics



Map 12: Access to hospitals

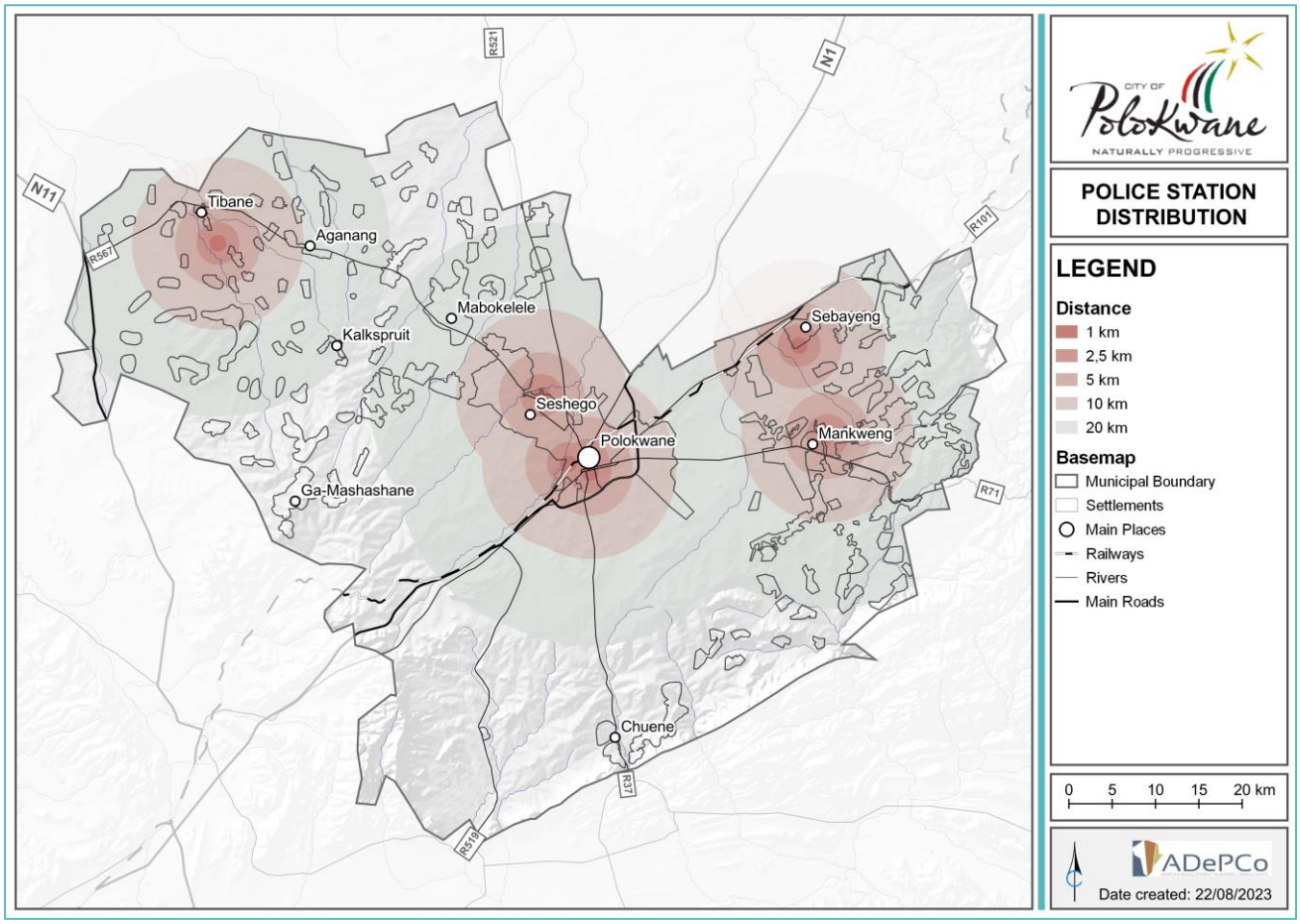
Police Service and Emergency services

The Polokwane district comprises a total of 7 South African Police Service (SAPS) stations. These pivotal police stations encompass:

- Mankweng
- Mashashane
- Matlala
- Polokwane
- Sebayeng
- Seshego
- Westenburg

It is noteworthy that police precincts are delineated independently from other administrative demarcations such as municipal boundaries. This often results in the overlap of jurisdictional territories.

While the location of police stations is indicated in **Map 13,** it is imperative to recognise the extent of coverage specific to each police precinct within the study area. This signifies that even if a police station's geographical location falls outside the study area, its precinct or jurisdictional reach may encompass and intersect with the study area's confines. This consideration underscores the intricate nature of policing jurisdictions and emphasises their potential influence across shared boundaries.



Map 13: Police stations

To summarise this chapter on infrastructure, services and social facilities, it is important to note that the comprehensive analysis of various critical facets of urban infrastructure and essential services within the Polokwane Local Municipality underscores the intricate interplay between development, accessibility, and quality of life. The evaluation of engineering services reveals the municipality's ongoing efforts to address challenges and enhance its service delivery capacity. Access to road networks, water, sanitation, electricity, and refuse removal services illustrates both successes and persistent gaps, with a particular emphasis on the importance of accessible and reliable utilities for sustainable development.

The examination of educational and health facilities highlights the essential role these institutions play in fostering robust communities and promoting overall well-being. The presence of police stations within the district is a testament to efforts aimed at ensuring public safety, although the complexity of jurisdictional boundaries necessitates a strategic approach to effective law enforcement.

While progress has been made in various sectors, the data underscores the need for continued investment and strategic planning to bridge existing gaps and meet the growing demands of a dynamic urban landscape. The multifaceted nature of urban development necessitates a holistic approach that considers not only infrastructure and service provision but also their wider social and economic implications.

As Polokwane navigates its path toward greater inclusivity, resilience, and prosperity, the insights gained from this comprehensive analysis serve as a foundation for informed decision-making, policy formulation, and collaborative efforts across public and private sectors. By addressing these critical areas, the municipality can better position itself to meet the evolving needs of its residents, bolster local economies, and enhance the overall quality of life for the community at large.

Spatial Analysis

Spatial features

This chapter delves into the intricate dynamics of Polokwane's spatial landscape through the lens of spatial analysis. The distribution of dwelling units serves as a starting point, revealing discernible patterns in housing concentration. The absence of housing facilities in rural expanses surrounding the primary urban core becomes evident, setting the stage for a broader exploration. The chapter unravels the multifaceted growth of settlements and corresponding land cover changes, drawing attention to the challenge of sustainable development amid urban sprawl.

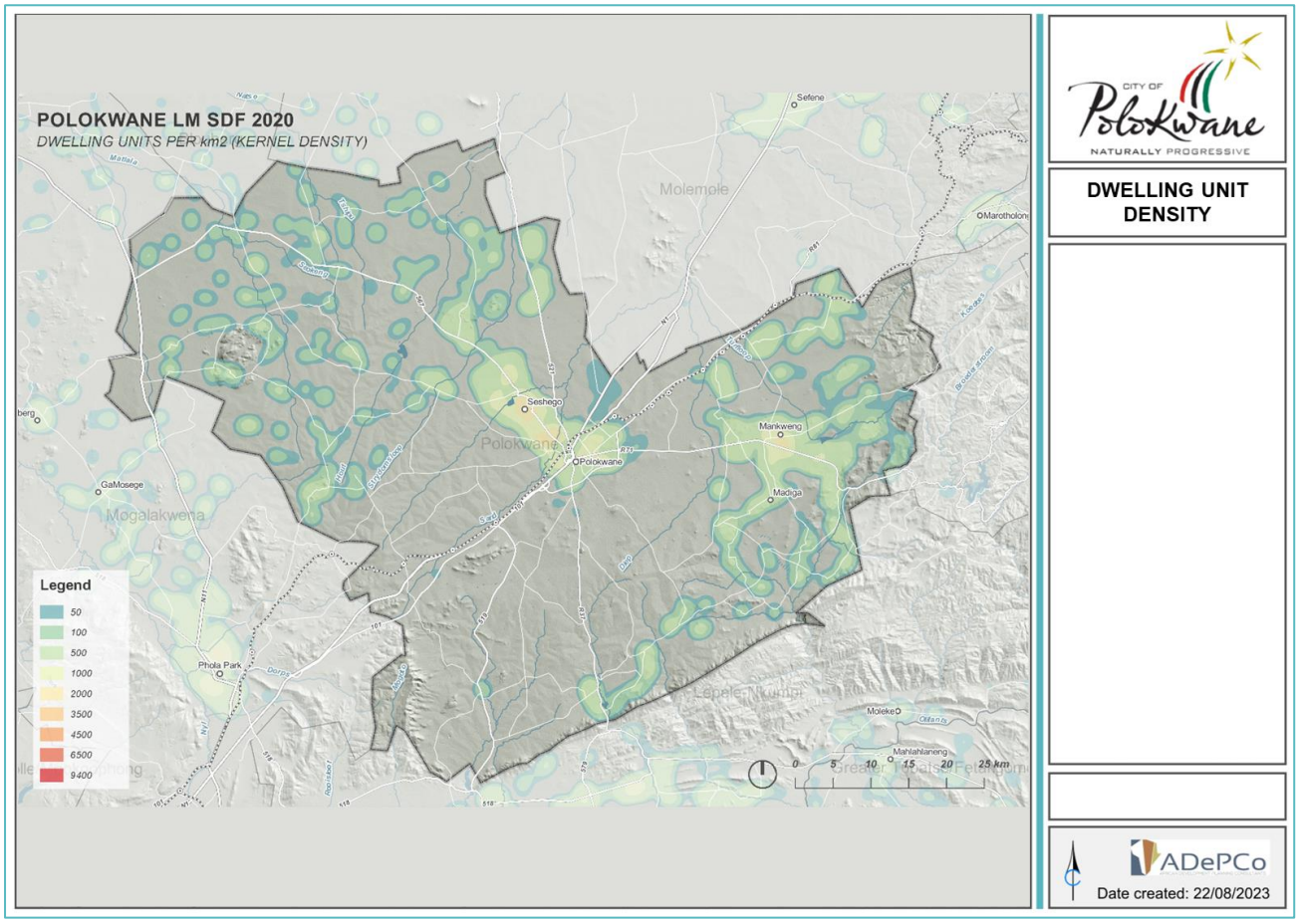
Economic and industrial vitality centres around the Polokwane/Seshego urban complex, while the prospect of a Special Economic Zone takes shape. The region's biophysical features, and biodiversity conservation come under scrutiny. Traditional authorities' influence on land availability prompts consideration, alongside the complexities of land claims and their potential impact on rural settlements. Through comprehensive spatial analysis, this chapter uncovers the intricate layers that shape Polokwane's urban and environmental fabric, offering valuable insights for strategic development.

Dwelling unit densities

The map below shows the dwelling densities across the municipality. It is evident that Polokwane comprise of three distinct nodes, namely:

- **Zone 1**: The Polokwane primary urban core area (including Seshego);
- **Zone 2**: The southeastern zone (around Mankweng);
- **Zone 3**: The northwestern zone (around Aganang).

The absence of housing facilities in the rural areas immediately southeast and northwest of the Polokwane primary urban core is evident.



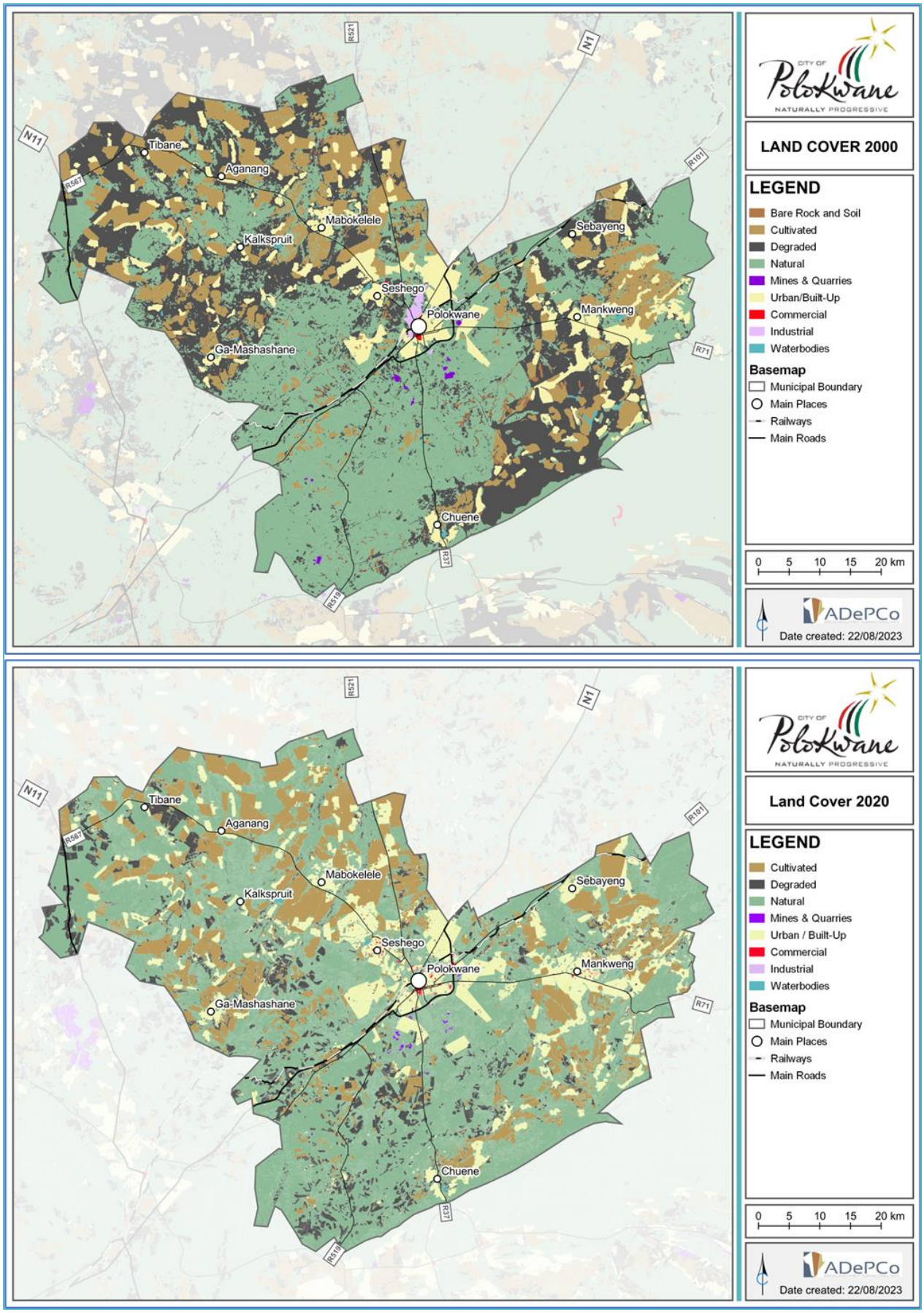
Map 14: Dwelling units per km2 (Kernel Density)

Settlement growth and land cover

Map 15 illustrate the change in land cover from 2000 to 2020. It is evident that numerous villages display expansion along their outskirts, and substantial growth is evident between the central urban core of Polokwane and Seshego. Similar expansion is observable in the southern direction of Mankweng.

This prompts contemplation about the challenge to curb urban sprawl and promote sustainable growth, given the prevailing dispersed settlement pattern in the municipality. The municipality's role in this phenomenon is complex, influenced by multiple factors.

The land cover transformation across the municipality depicts two distinct scenarios. On the one hand, the rural landscape features scattered villages engaged in subsistence farming. On the other hand, the urban domain encompasses Polokwane's central core, featuring formal residential, industrial, commercial, and other urban activities.



Map 15: Land cover change 2000 - 2020

Similar to the visual depictions in the maps, the land cover changes (see Figure 17 below) between 1990 and 2014 in Polokwane reveal significant implications for spatial development and planning. Notably, there has been a decline in land allocated to certain agricultural activities, reflecting shifts in local economic dynamics.

The changes in land cover, specifically the reduction of erosion dongas and water bodies, carry implications for both the environmental and economic aspects of Polokwane. The decline in erosion dongas by 44% suggests efforts to address soil erosion and enhance land stability. This could relate to the broader goal of sustainable land use and agricultural practices.

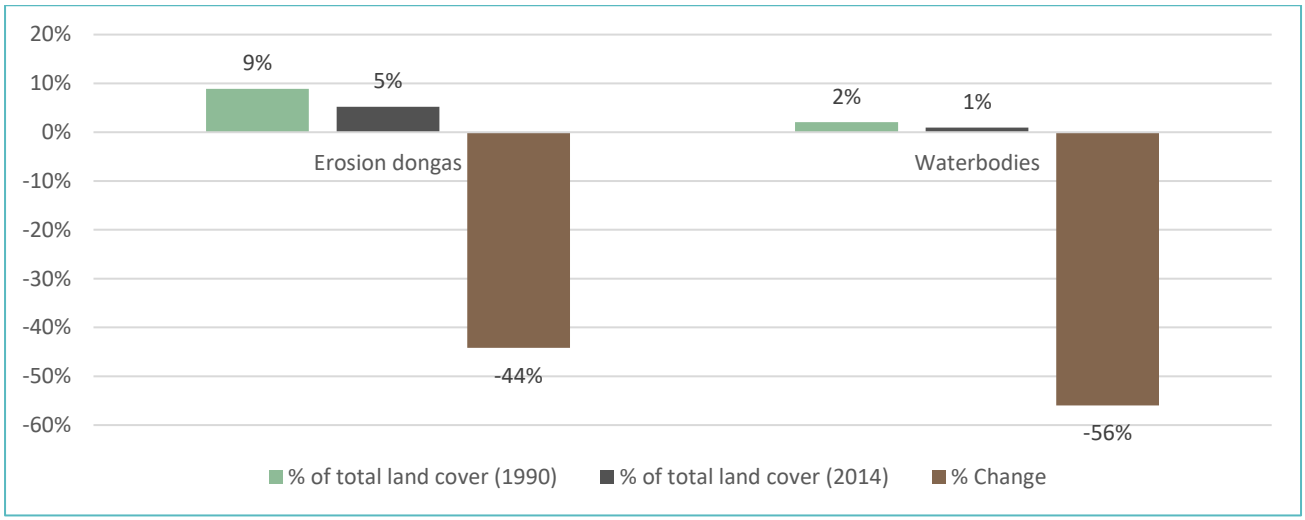


Figure 17: Change in land cover: Erosion and waterbodies

Of particular interest is the significant reduction in water bodies by 56%, reflecting alterations in the hydrological landscape of the municipality. This shift could influence the local environment, affecting water availability, ecosystem health, and aquatic biodiversity. Additionally, the decrease in water bodies could have implications for economic sectors reliant on water resources, such as agriculture, industry, and potentially fisheries.

Cultivated commercial fields have decreased by 43%, potentially indicating changes in agricultural practices or land-use priorities. Conversely, cultivated commercial pivot areas have expanded by 80%, suggesting a preference for more efficient irrigation methods. The significant reduction in cultivated orchard and vine areas by 84% may signal changes in demand for certain crops or land conversion. The stability of small holdings at a 0,2% increase implies a relatively consistent focus on small-scale agriculture. Subsistence farming areas have experienced a minor 5% decrease, which might correlate with broader economic trends.

Notably, forests and plantations have reduced by 28%, possibly due to land-use changes or environmental factors. The decrease in mining areas by 52% raises questions about the local mining industry's economic significance. These shifts in land cover categories underscore the complexity of spatial planning, necessitating careful consideration of economic, environmental, and social factors to ensure sustainable development.

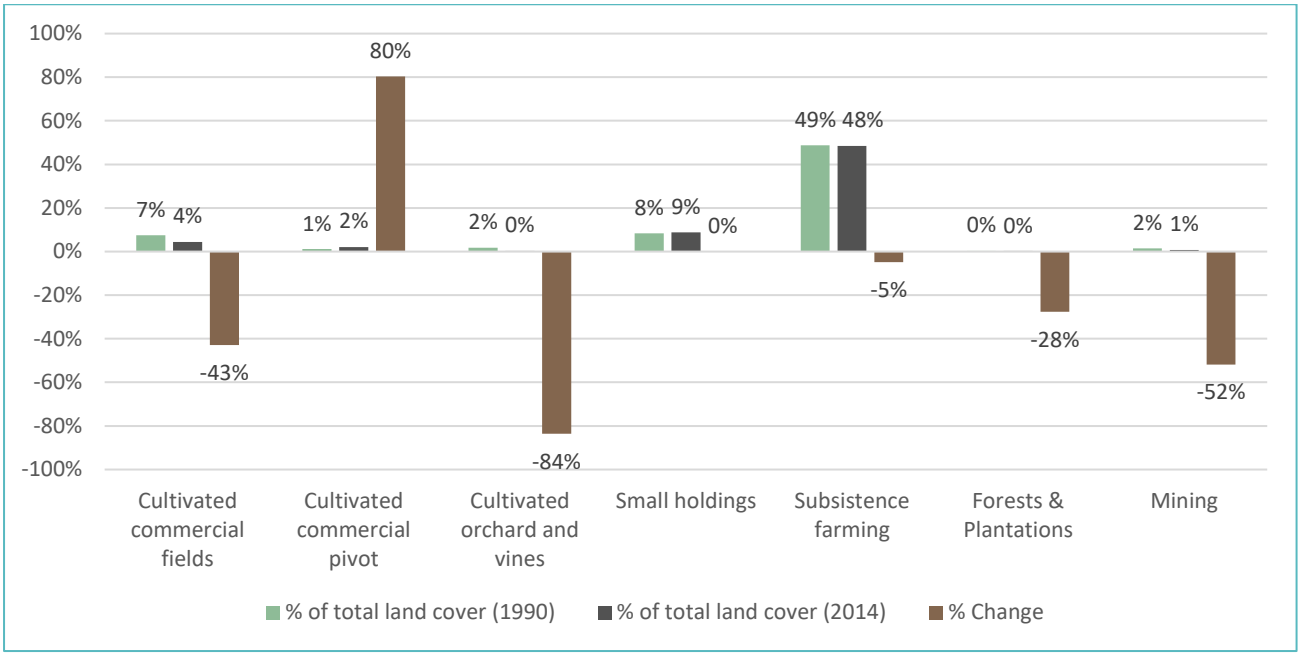


Figure 18: Change in land cover: Agricultural and mining land uses

The land cover changes presented in Figure 21 and their corresponding GVA figures for agriculture and mining reveal an intricate interplay between economic activities and land use in Polokwane. The decline in cultivated commercial fields by 43% aligns with the fluctuating GVA figures in the agriculture sector, which showed significant variations over the years. This suggests a potential correlation between changes in land allocated to certain crops and the economic performance of the agricultural industry.

Similarly, the expansion of cultivated commercial pivot areas by 80 % coincides with the growth in the agriculture GVA in certain years, indicating a possible positive relationship between these factors. On the other hand, the substantial decrease in cultivated orchard and vine areas by 83% is mirrored in the agriculture sector's performance, raising questions about the economic viability of these specific crops.

In the case of mining, the decrease in mining areas by 52% aligns with the fluctuating GVA figures in the mining sector. This suggests that the reduction in mining activity may have contributed to the decline in land allocated to mining, and the economic performance of the mining industry.

The expansion of urban built-up areas, commercial zones, industrial sectors, and residential spaces by 17%, 26%, 28%, and 62% respectively, underscores the municipality's evolving urban landscape (see Figure 19). This growth is indicative of increasing urbanisation, economic activities, and population density.

Notably, the considerable growth of urban townships by 164% and urban informal areas by a staggering 2370% points (see Figure 20) point to the changing dynamics of urban expansion, informal settlements, and population migration. The rapid rate of change in urban townships and urban informal areas is so significant that a separate graph had to be created to accurately visualise and capture the extent of their expansion.

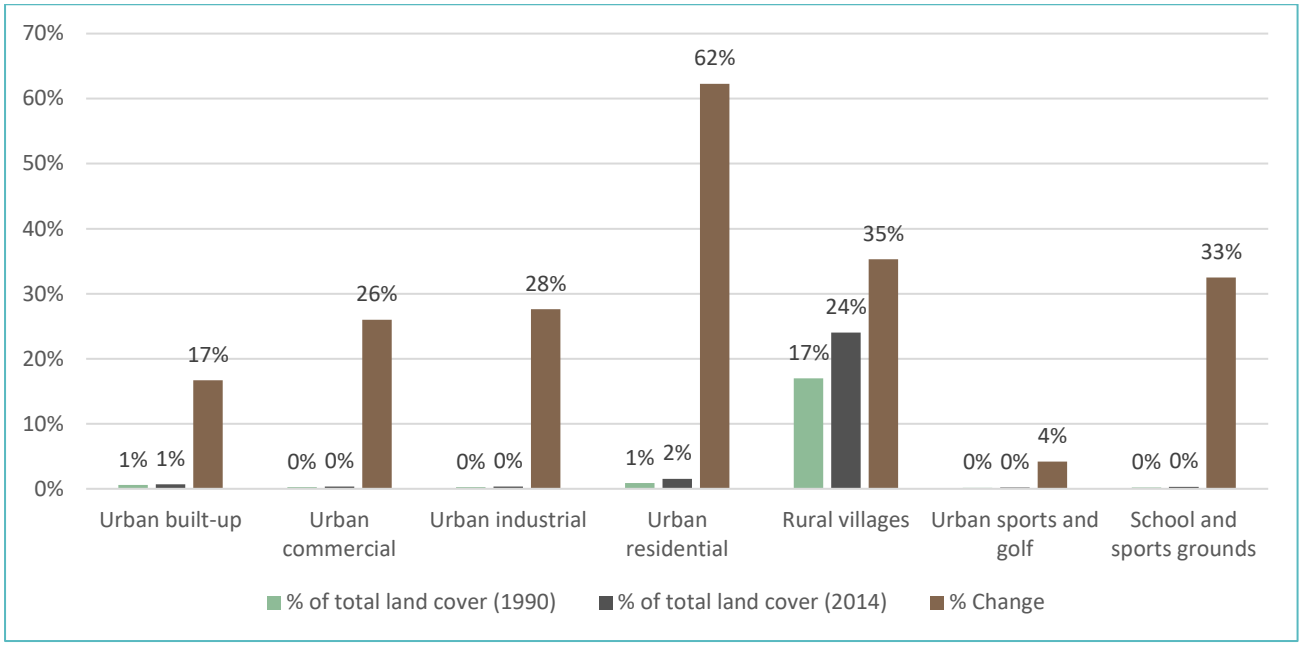


Figure 19: Change in land cover: Development

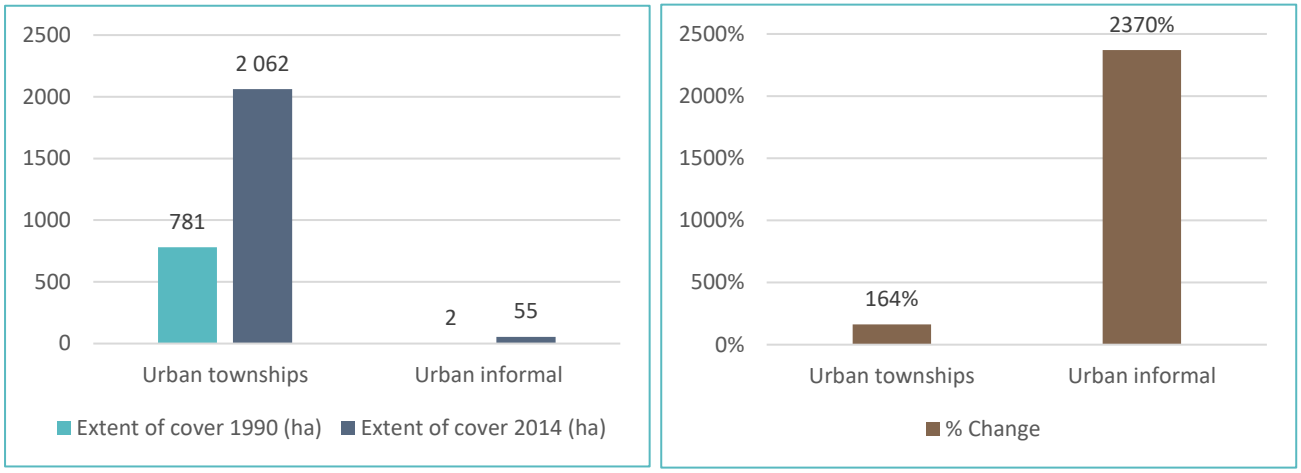
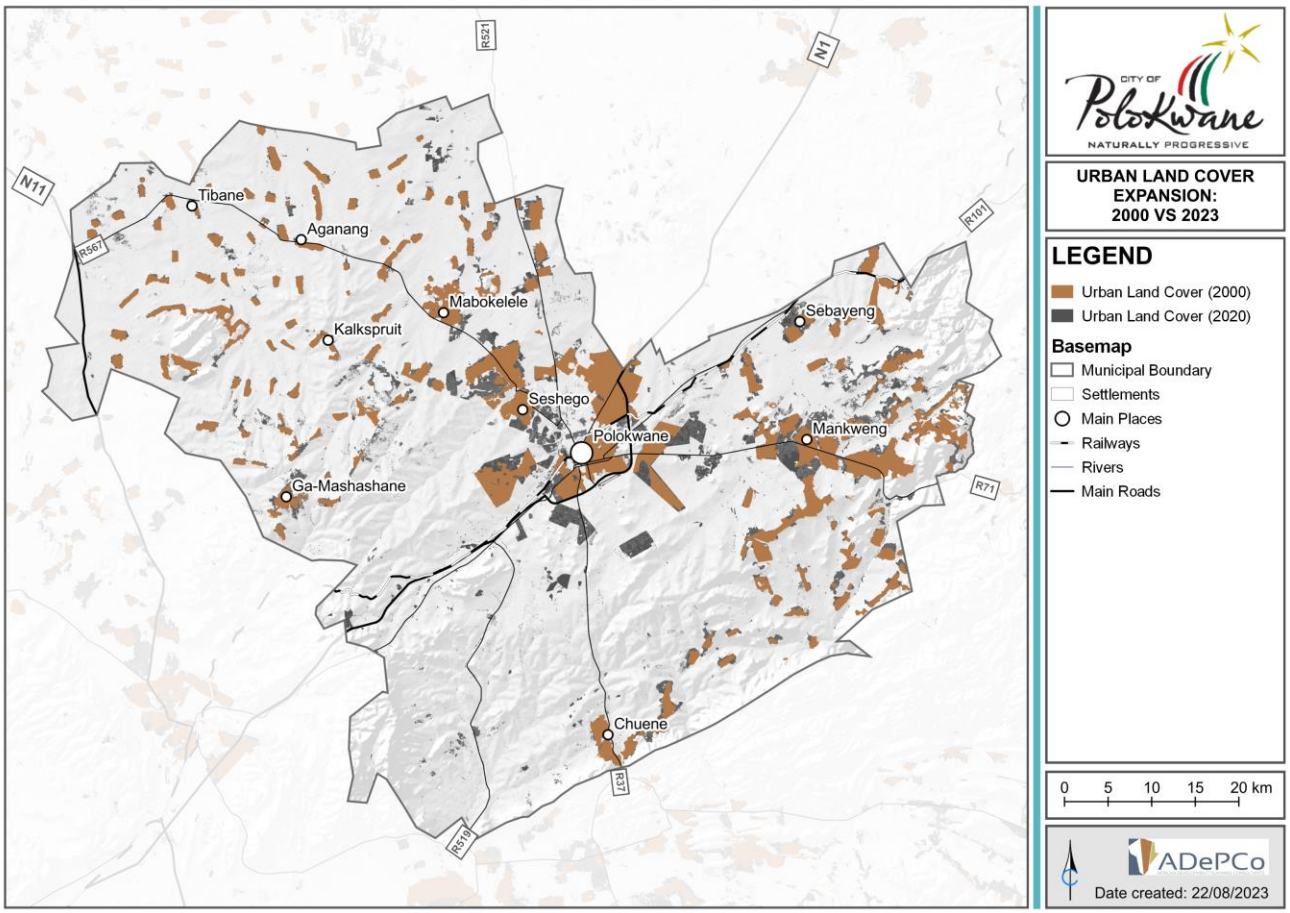


Figure 20: Change in land cover: Urban townships and informal settlements

The shift in land cover also has implications for spatial development and planning. Map 16 illustrates the change in land cover from 2000 to 2020. The increase in urban built-up areas suggests a growing demand for infrastructure and services, which need to be accommodated while ensuring efficient land use.



Map 16: Growth of economic nodes

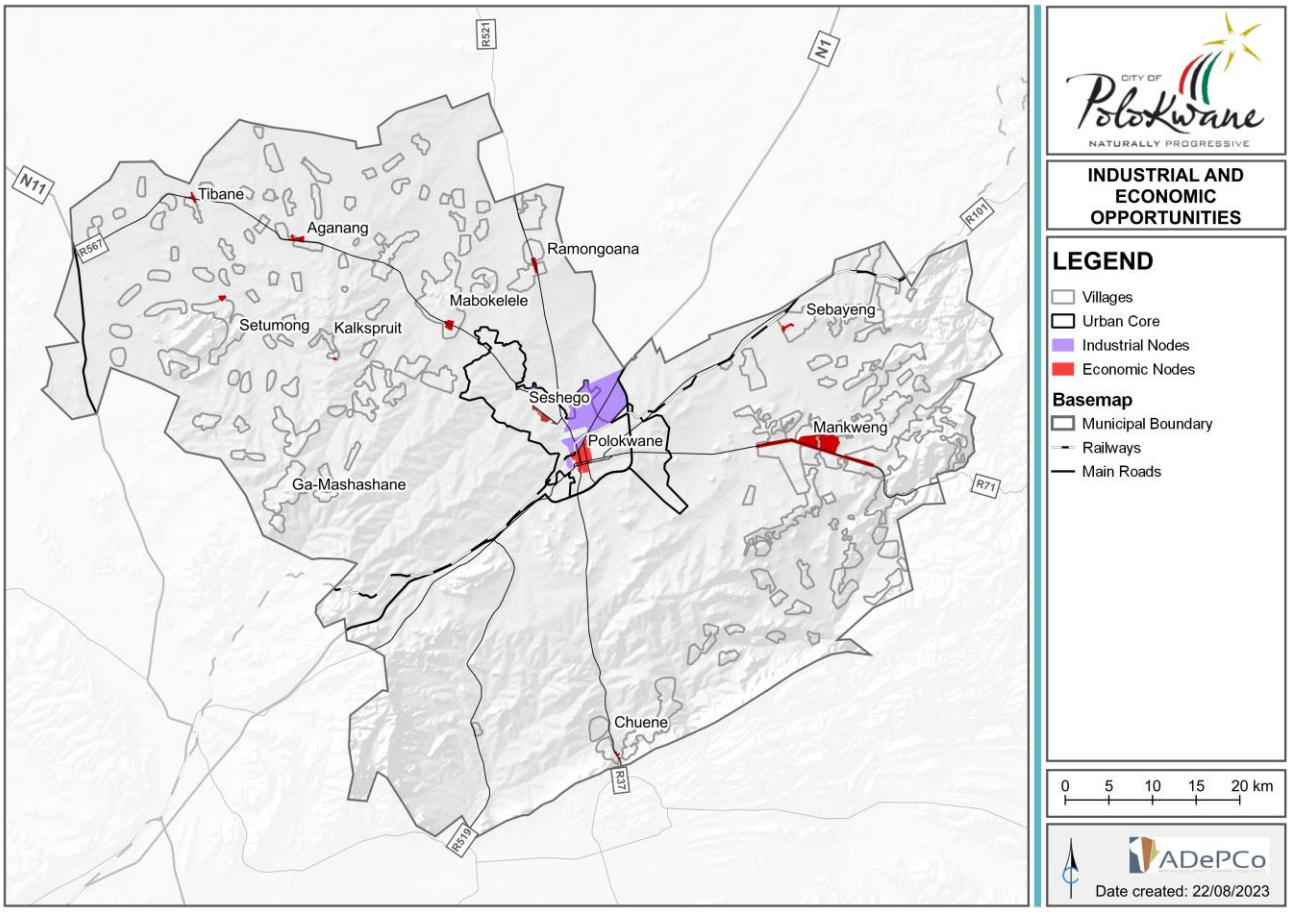
The expansion of residential areas and townships underscores the need for housing and amenities to support the rising urban population. However, the remarkable growth of urban informal areas also highlights the challenges of informal settlements and the need for targeted interventions to improve living conditions and access to services.

The analysis of the changing land cover within the Polokwane municipal area reveals a complex interplay of urbanisation, agricultural activities, and environmental shifts. The data underscores the dynamic nature of the region's spatial development, with notable trends emerging in various land cover categories. Urban expansion, particularly in residential areas, townships, and informal settlements, has surged remarkably, reflecting the municipality's evolving demographic and economic landscape. Concurrently, the decline in cultivated commercial fields signifies potential shifts in agricultural practices, possibly influenced by changing economic factors or urban encroachment. Furthermore, the pronounced decrease in water bodies and erosion dongas raises concerns about the impact of these changes on local ecosystems, including potential implications for the fisheries sector. The findings from this land cover analysis underscore the crucial role of spatial planning in balancing urban growth, agricultural needs, and environmental preservation, highlighting the need for sustainable development strategies that accommodate both human and ecological requirements.

Economic and industrial activities

The majority of economic activities are concentrated in and around Polokwane and Seshego, making these urban areas the provincial growth points in the municipality. There are also smaller economic hubs, district and municipal growth points, such as the Mankweng urban area, which, despite being somewhat more distant, still play a vital role in the overall regional economy by supporting the primary activities in Polokwane and Seshego. Map 17 illustrates the extent of the primary urban core and the location of the surrounding villages, while also highlighting the most prominent industrial and economic nodes.

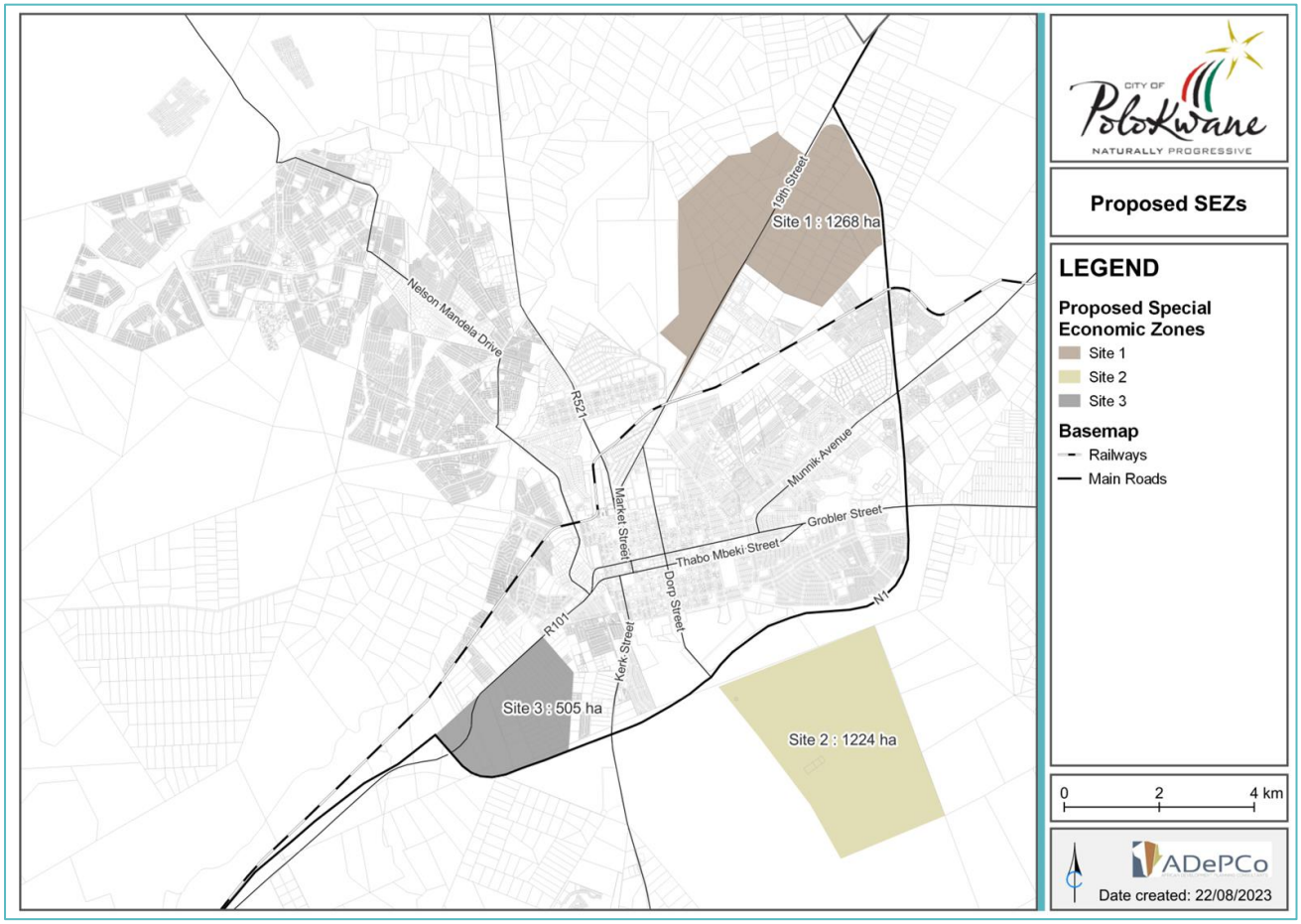
The Polokwane/Seshego urban complex forms the cornerstone of this economic vitality, while the Mankweng urban area provides essential secondary clusters that collectively shape the city's economic landscape. This holistic understanding of the city's economic dynamics is crucial for informed urban planning, policy formulation, and sustainable development in the region. Smaller economic nodes are present within the municipal area – though too small to be represented on the map below. But their importance to the economic vitality of the more distant rural villages is acknowledged, and their incorporation into the spatial proposals will support the development of these smaller nodes.



Map 17: Industrial and economic nodes in relation to Polokwane and surrounding villages

Special Economic Zone

The results of a feasibility study carried out in 2021 endorsed the suggested site for the Special Economic Zone (SEZ) situated to the north of the Polokwane Central Business District (CBD), conveniently adjoining the International Airport. Among the various prospective locations, this particular site emerged as the optimal choice, affirmed by the findings of the study. The three sites proposed for the SEZ are illustrated in Map 18 to follow:

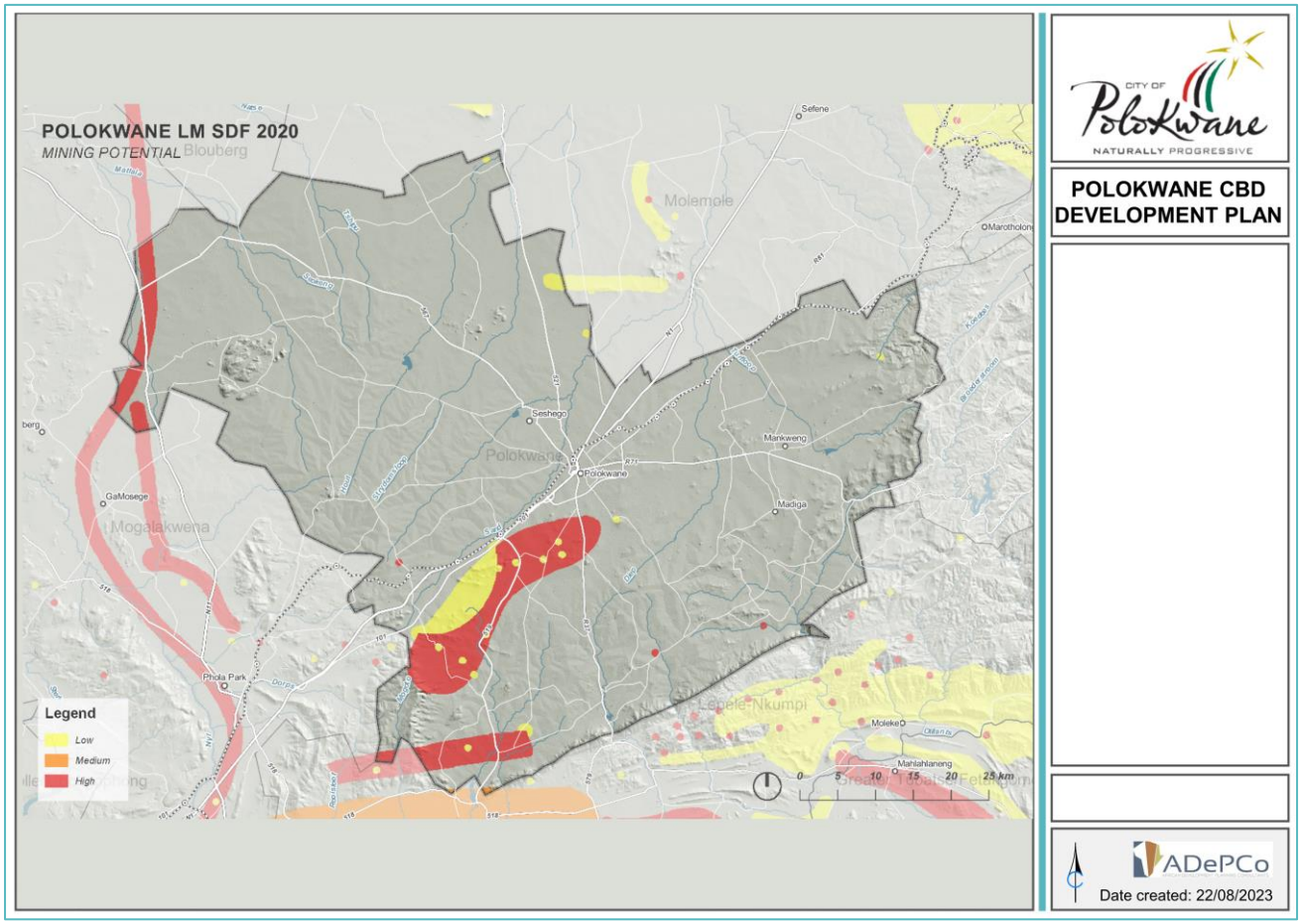


Map 18: SEZ Sites

In the broader context, the feasibility study has identified three potential sites within and around the Polokwane/Seshego urban complex that hold promise for SEZ development. These sites have been meticulously pinpointed as potential zones for the SEZ, reflecting the strategic assessment of the region's economic landscape. This judicious identification of sites signifies a conscientious approach to harnessing the economic potential of the area and underscores the commitment to balanced and informed urban development.

Mining and quarrying

There are substantial reserves of medium and high mining potential southwest of the Polokwane urban centre and southeast of the N1/Railway corridor towards Mokopane. See Map 19. This overlaps with a component of the available land with moderate cultivation potential.



Map 19: Mining potential

The implication of this overlap is that local authorities, policymakers, and planners need to carefully balance and manage the competing interests of mining and agricultural development in these regions. Decisions regarding land use allocation must consider factors such as environmental impact, economic benefits, community well-being, and sustainable resource management. Striking a balance between these two sectors requires thorough assessment, collaboration among stakeholders, and comprehensive planning to ensure that the land's potential is harnessed effectively without causing significant conflicts or negative consequences for either industry.

Tourism and conservation

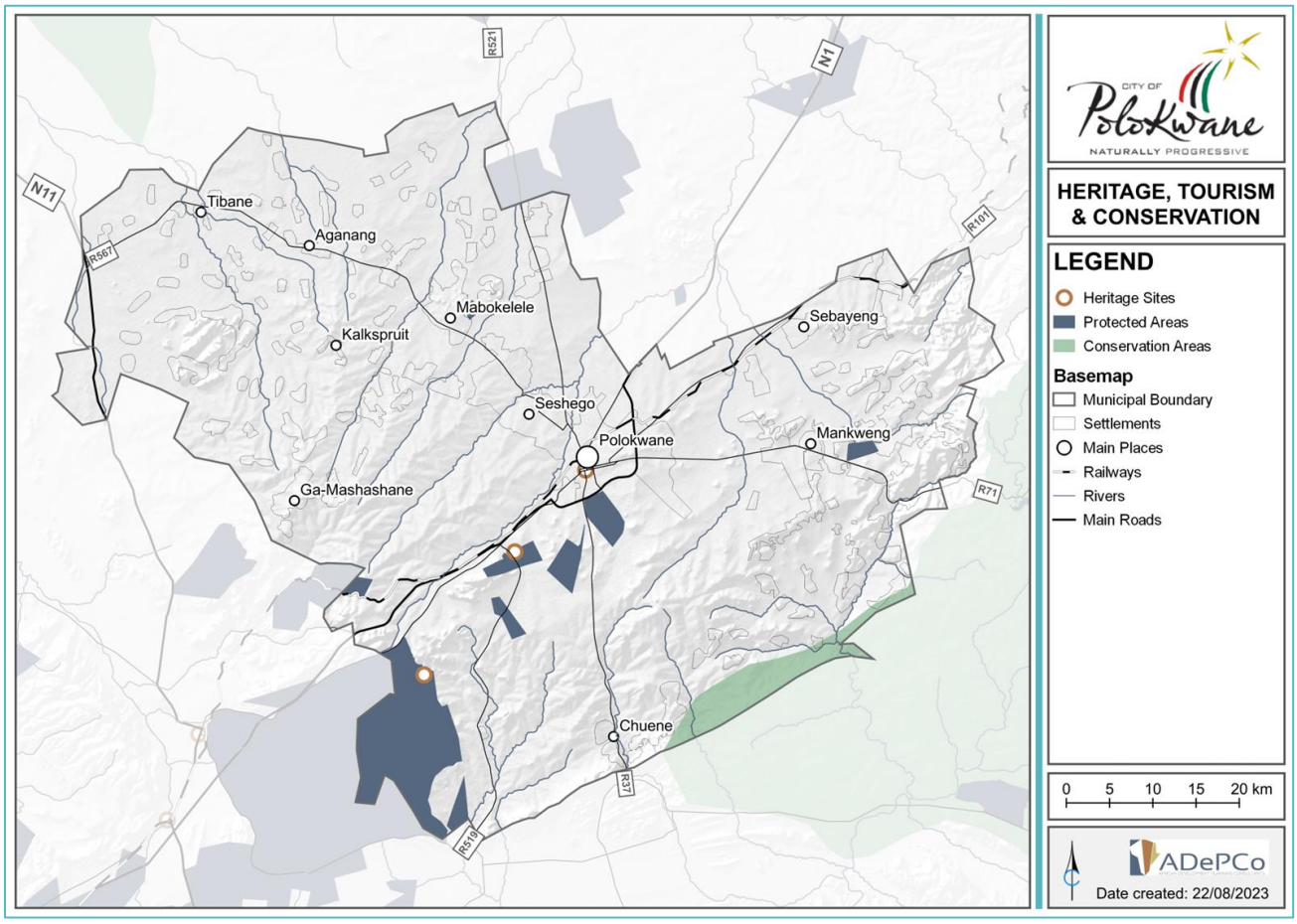
Conservation and tourism hold vital significance within the SDF, as they intersect with the municipality's topography, natural resources, and cultural heritage. The municipality's diverse topographical units, the 'Moderately Undulating Plains' and 'Strongly Undulating Plains,' encompass the 'Pietersburg Plateau' bordered by Strydpoort and the Waterberg Mountains, offering both visual and recreational potential. The preservation of these areas is pivotal for spatial planning due to their ecological sensitivity, potential as heritage sites, and contribution to tourism.

The geological foundation of medium-grained sandstone and granite shapes the landscape and informs decisions related to land use and development. With 19 catchment areas, water resources play a significant role in spatial planning. The identification of wetland areas harbouring rare species underscores the importance of their protection for sustainable development. Yet, the aquifer's vulnerability necessitates strategic planning to prevent the pollution of sources like the Polokwane Cemetery and Seshego Sewerage Works.

The municipality's historical sites, such as Bakone Malapa and Mankweng Rock Art Site, hold potential for educational and recreational use. Spatial planning should incorporate heritage preservation and Indigenous Knowledge Systems (IKS) to harness this potential.

The Polokwane Game Reserve exemplifies the merging of conservation and eco-tourism, preserving the Pietersburg Plateau False Grassland and various species. Protected areas like Polokwane Botanical Reserve, Flora Park Wetland, and Polokwane Frog Reserve are crucial for biodiversity preservation and require safeguarding in spatial plans.

Notable heritage sites, as well as protected and conservation areas are depicted in Map 20.



Map 20: Conservation

Climate change concerns necessitate incorporating sustainable practices into spatial planning, especially given the contribution of transportation, industry, and commerce to greenhouse gas emissions. The dynamic interplay between conservation and tourism calls for a holistic spatial development approach that balances economic growth with ecological preservation, cultural heritage, and climate resilience. Integrating these aspects into the SDF ensures that Polokwane's spatial planning fosters a harmonious relationship between its natural, cultural, and economic dimensions.

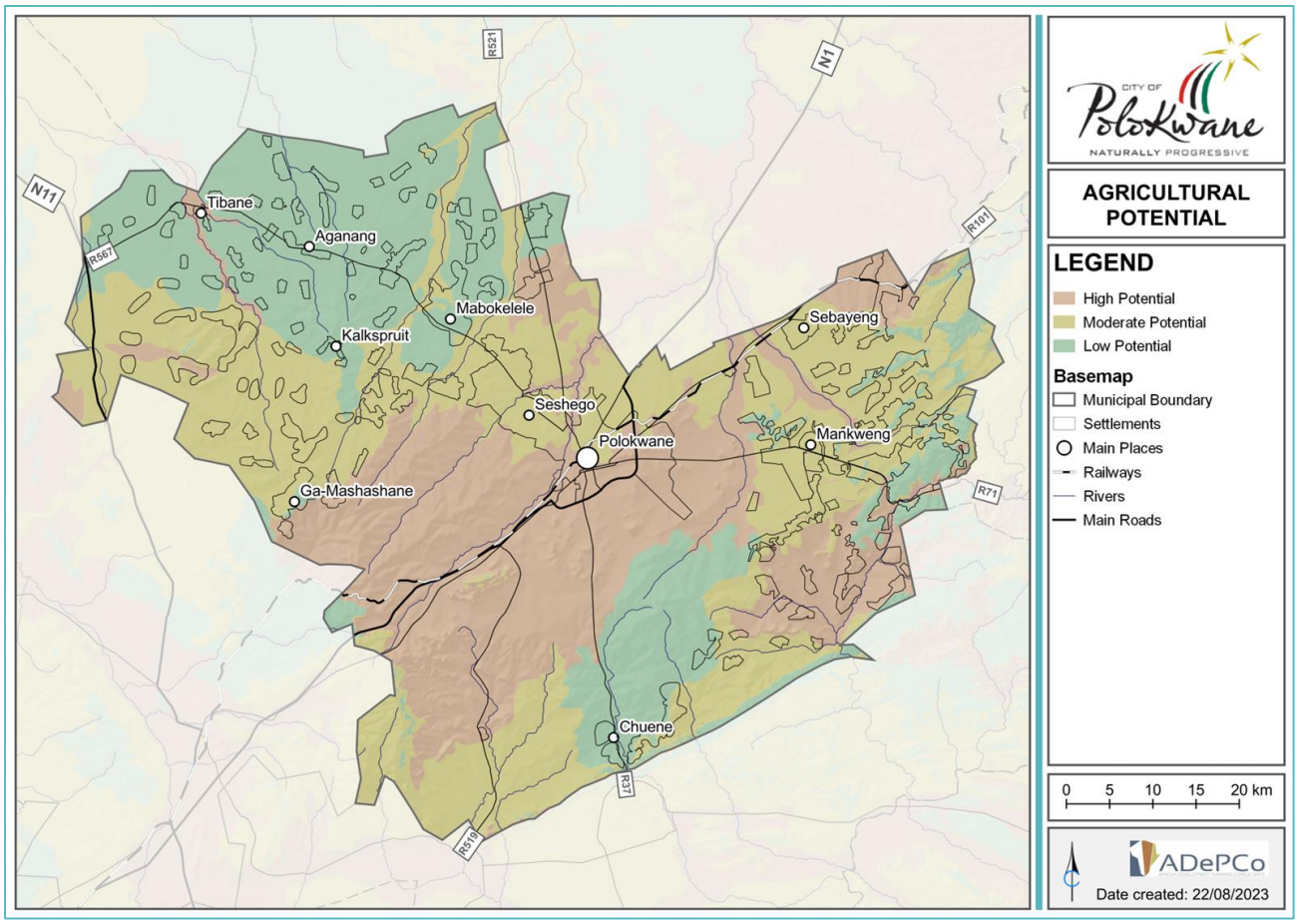
Agriculture, Forestry and fishing

Urban sprawl and low-density developments may encroach arable land. As urban areas expand, fertile agricultural land may be converted into residential or commercial zones, reducing the available land for farming. This conversion can impact the overall agricultural productivity and contribute to fluctuations in GVA figures. Additionally, increased urbanisation might lead to changes in land prices and competition for resources, potentially affecting agricultural operations and investments.

The availability of expansive land with rich agricultural potential is limited within the Polokwane municipal area.

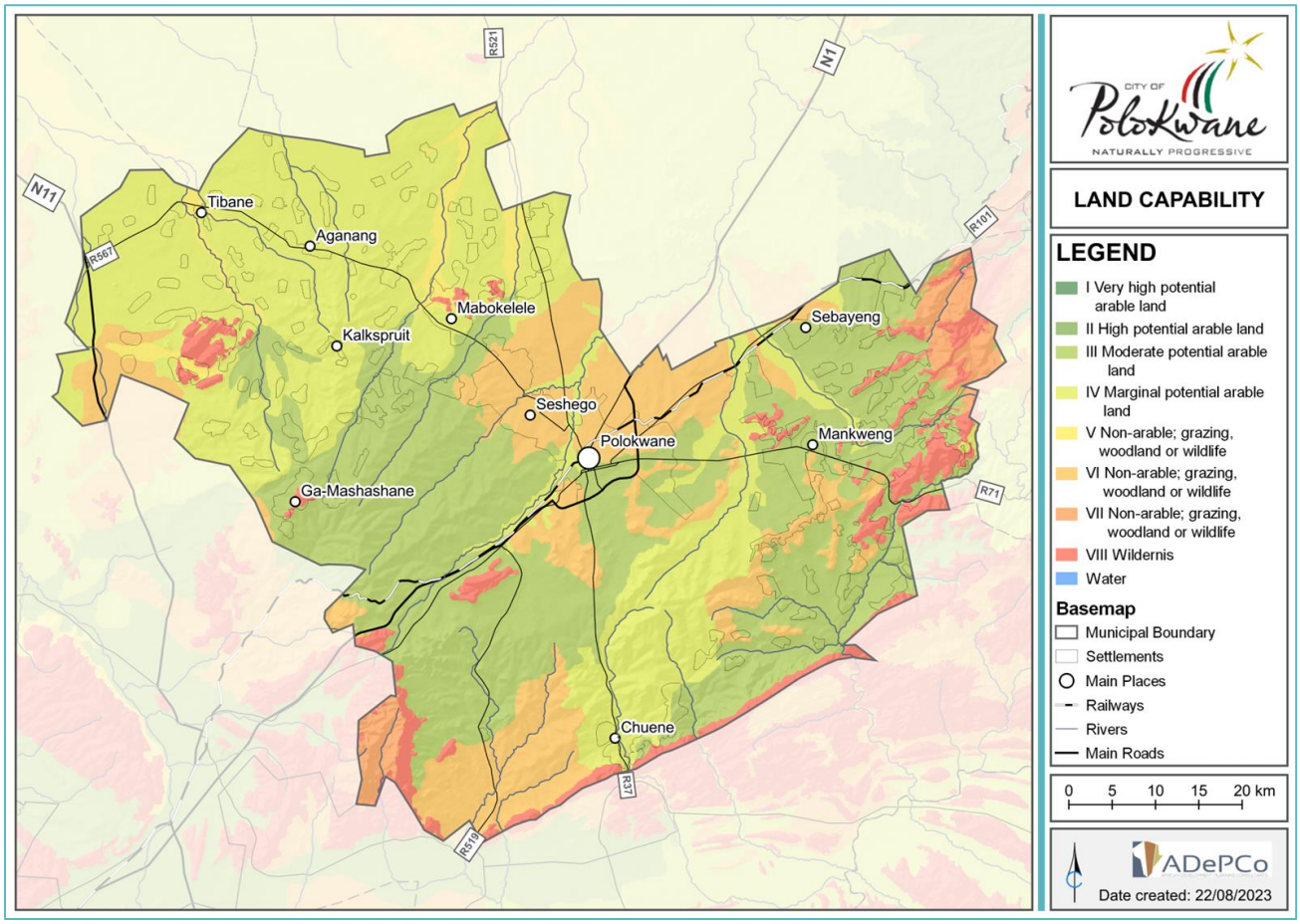
However, the urban complexes within Polokwane play a pivotal role by acting as central hubs that bolster rural hinterlands, fostering diverse agricultural activities. Emphasising the significance of agri-processing at the juncture where urban complexes meet the agricultural hinterland is essential for achieving spatial sustainability. Integrating agriculture into the broader Polokwane economy should be actively promoted, recognising its intrinsic value. This necessitates efforts to restrain urban expansion and thereby safeguard the use of land for agricultural pursuits beyond the urban boundaries.

The following maps illustrate areas of agricultural potential (Map 21), land capability (Map 22), and the transformation of range lands (Map 23).



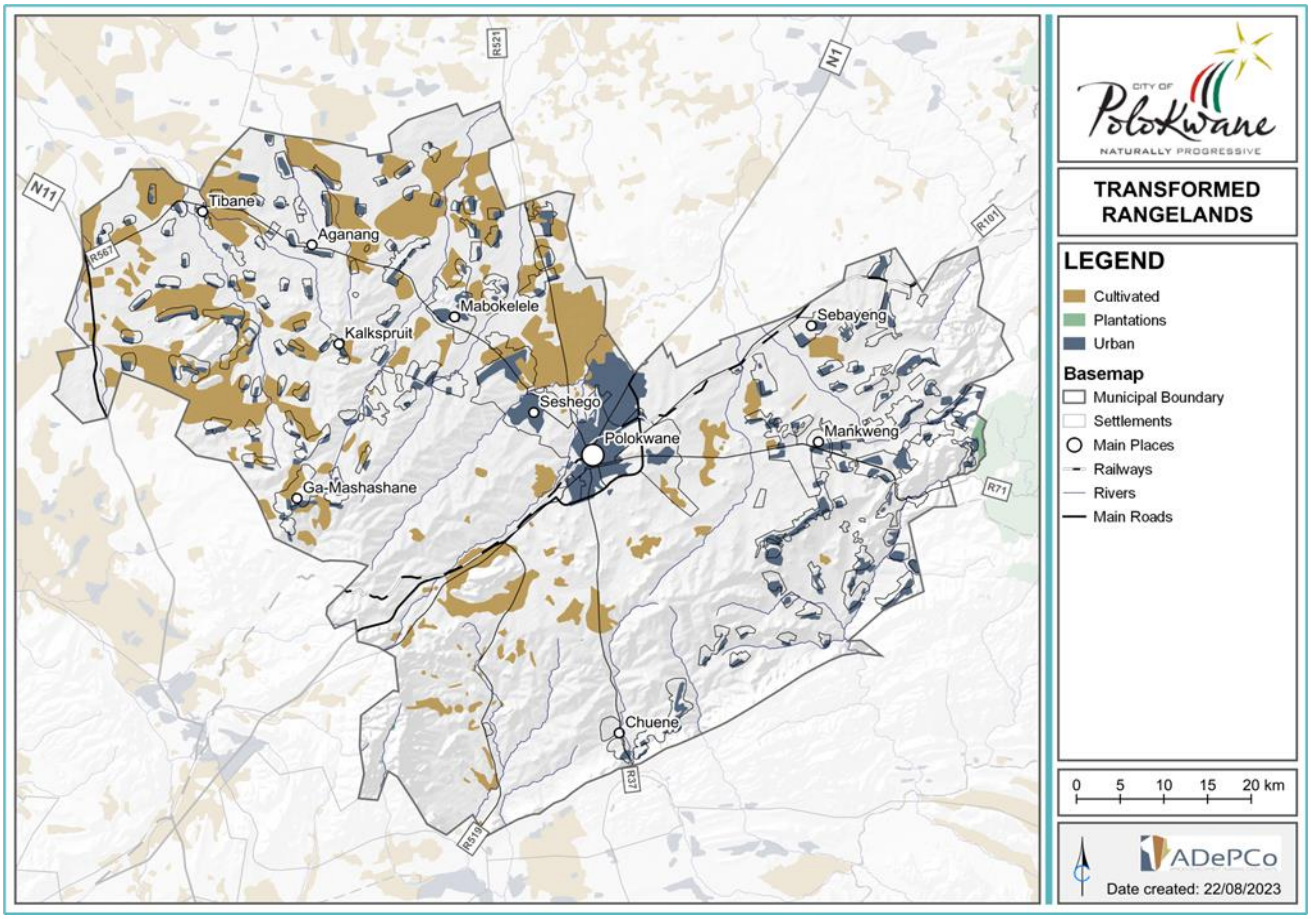
Map 21: Agricultural potential

The southern areas of Polokwane hold significant agricultural potential, raising concerns about urban expansion in that direction. It will be crucial to control urban sprawl in the south. Similarly, the region around Mankweng, experiencing rapid development, is seen as having moderate agricultural potential, and the same considerations apply here.



Map 22: Land capability

In keeping with the agricultural potential of the areas south of Polokwane and around Mankweng, these areas are also considered to have high potential arable land.



Map 23: Transformation of rangelands

Development in the areas south of Polokwane extends up to the N1 highway but does not go beyond it. It is interesting to note that the areas south of the N1 and around Mankweng is not cultivated although these areas are deemed to have significant agricultural potential and value. The objective of the SDF is to seek to balanced urban development with the preservation of viable agricultural land to ensure sustainable economic growth and resource utilisation.

Agriculture/Environmental Protected Areas

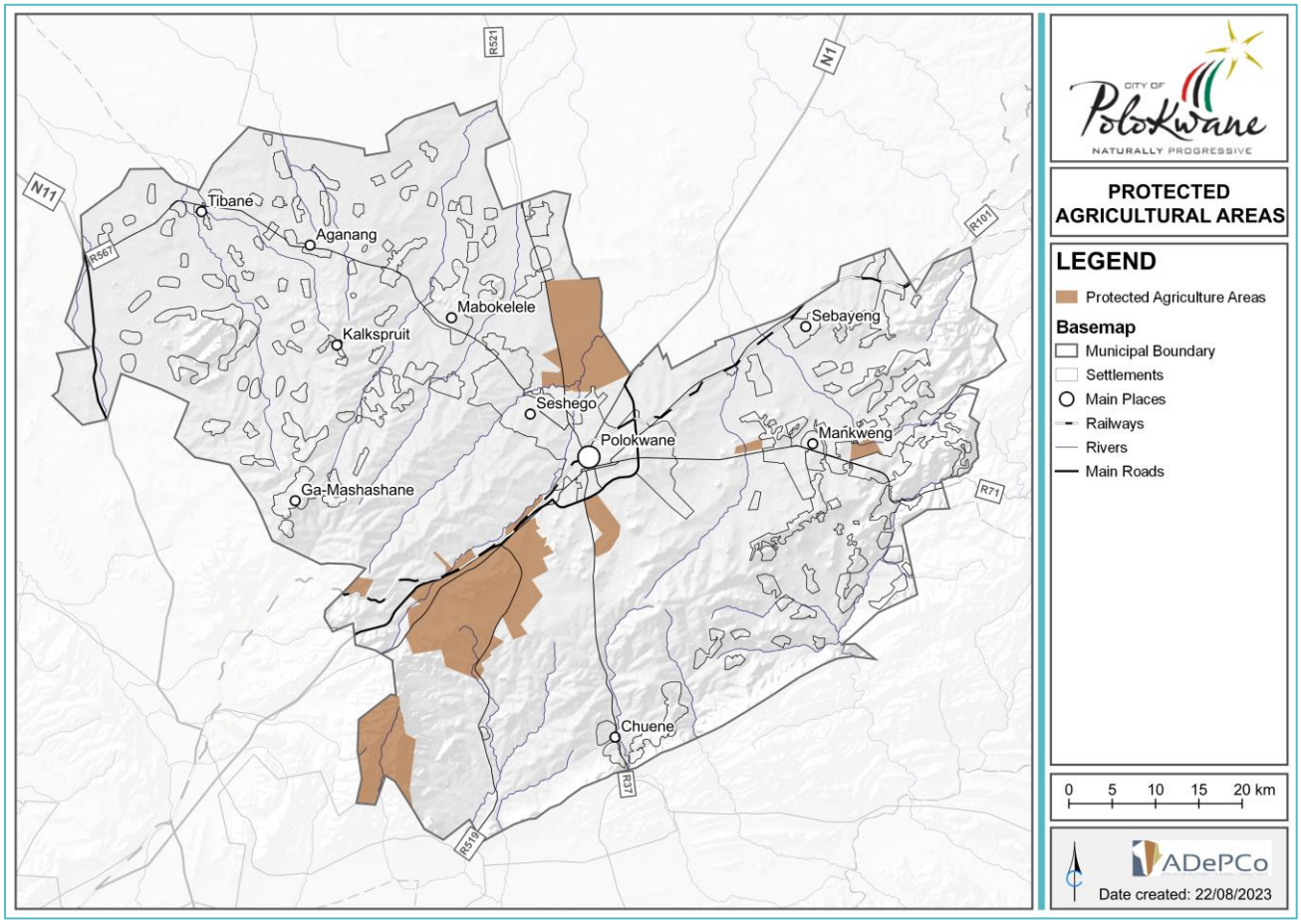
Protected Agricultural Areas (PAAs) and Critical Biodiversity Areas (CBAs) serve as pivotal components in the strategic management of a region's resources. The Critical Biodiversity Areas (CBA) Plan serves as a guiding framework that designates and safeguards essential areas with rich biodiversity. It outlines the specific locations where preservation efforts are paramount to protect the diverse array of plant and animal species.

In tandem with the importance of biodiversity conservation, the significance of agricultural endeavours cannot be overstated, particularly in the context of developing nations. Agriculture functions as a linchpin, not only contributing to economic prosperity and poverty reduction through job creation, but also as the lifeblood of sustenance for a nation's populace. The foundation of this assessment rests on a comprehensive understanding of the land's potential, limitations, and possibilities.

In the light of this, the identification and delineation of agricultural land areas assume critical importance. The evaluation hinges on the inherent capacity and appropriateness of the land for continuous, productive use in agriculture. High-value agricultural land, in particular, holds a special place, warranting exclusive preservation for agricultural purposes.

Effectively safeguarding high-value agricultural land necessitates the application of legislative measures, exemplified by Act 70 of 1970. Supported by pertinent information systems, such legal frameworks ensure well-informed decision-making processes. The Conservation of Agricultural Resources Act, 43 of 1983 (CARA), constitutes a legislative pillar aimed at controlling the sustainable utilisation of agricultural resources. Its overarching goal is the protection and conservation of soil and water resources, critical for agricultural sustainability.

The physical demarcation of these lands results in the creation of Protected Agricultural Areas (PAAs). These PAAs are formally recognised through gazetted regulations under CARA, which detail the procedural aspects and delineate permitted, conditional, and non-permitted land uses within each PAA. Their pivotal role in bolstering food production renders PAAs integral to the agricultural sector's vitality. In the context of Polokwane, two significant PAAs emerge as focal points as illustrated in Map 24**,** namely the Polokwane PAA and The Ranch PAA.



Map 24: Protected Agricultural Areas

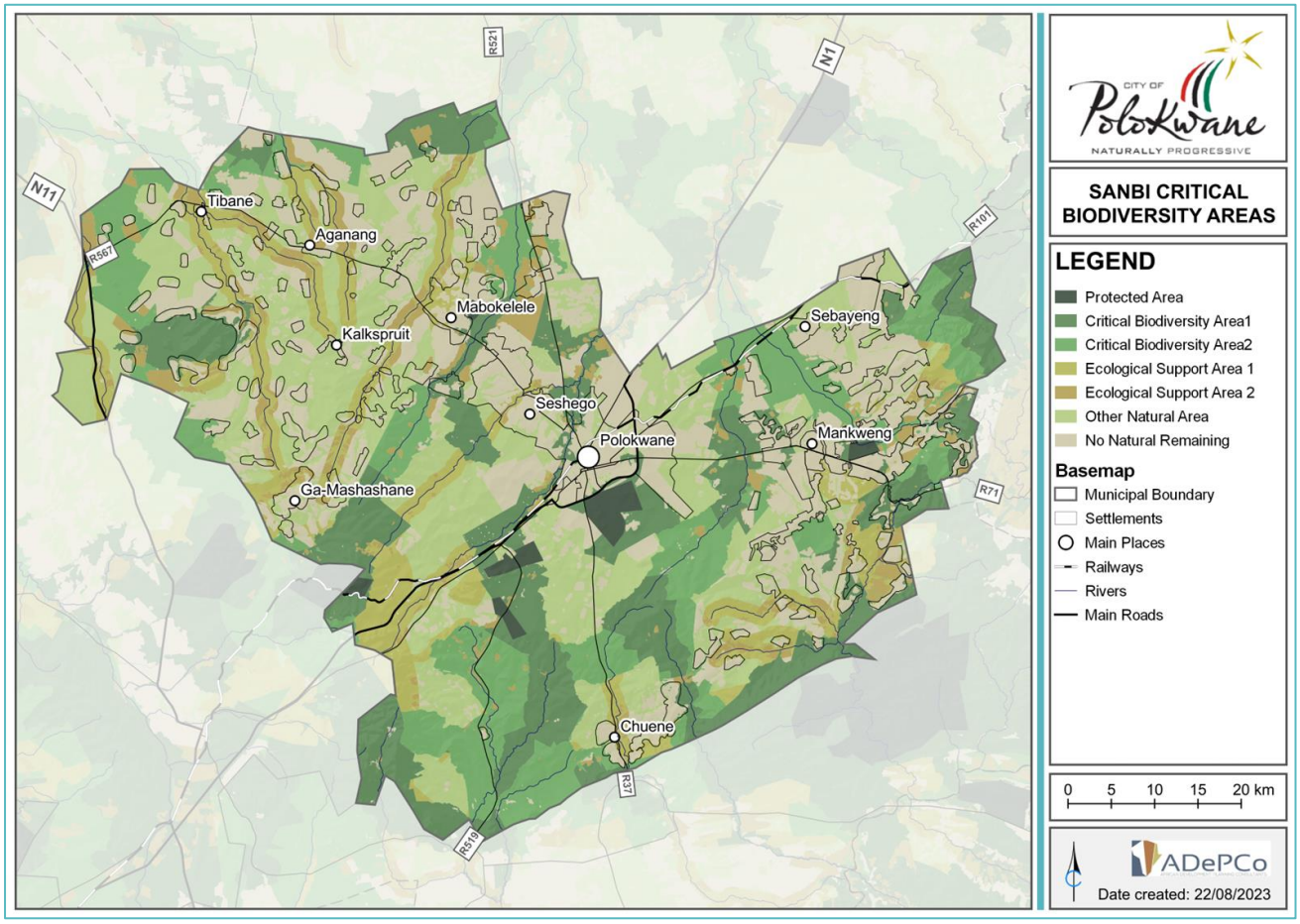
Critical Biodiversity Areas

In 2013, the Limpopo Provincial Government released the Limpopo Conservation Plan v2 (LCPv2), which serves as a crucial spatial component within a broader bioregional plan. This plan entails mapping out Critical Biodiversity Areas (CBAs) and providing associated land-use guidelines. Bioregional plans are authorised by the Biodiversity Act and offer a suite of tools to enhance biodiversity conservation outside of protected areas. The primary objective of a bioregional plan is to guide land-use planning, environmental assessments, authorisations, and natural resource management across various sectors that influence biodiversity through their policies and decisions.

Within the realm of biodiversity conservation, two distinct categories of Critical Biodiversity Areas (CBAs) hold paramount importance, collectively contributing to the preservation of biodiversity features and the equilibrium of ecosystem functioning. Clearly delineated on Map 27 as CBA 1 and CBA 2, these areas form the cornerstone of conservation efforts. Critical Biodiversity Areas 1 represent treasures deemed irreplaceable. They encompass regions of utmost significance in achieving biodiversity goals and thresholds. These areas serve as strongholds for maintaining viable species populations and ensuring the harmonious operation of ecosystems. These locales stand as the solitary known habitats where conservation targets for various biodiversity features can be met. Their uniqueness necessitates their safeguarding, as no substitutes are available elsewhere. In contrast, Critical Biodiversity Areas 2 are strategically optimal. These areas offer a balanced solution to achieving requisite biodiversity conservation aims. They steer clear of high-risk zones prone to biodiversity loss, such as cultivated fields and residential regions. While alternatives to meet conservation goals might exist, they could demand larger land areas or potentially clash with agriculturally valuable spaces.

Within the LCPv2, there are seven designated Critical Biodiversity Areas, each serving a distinct purpose:

- Critical Biodiversity Areas (1): Irreplaceable Sites. These areas are essential for meeting biodiversity pattern and ecological process targets, with no viable alternatives available.
- Critical Biodiversity Areas (2): Best Design Selected Sites. These areas are strategically chosen to fulfil biodiversity targets, and while alternative sites could be considered, these are the optimal choices.
- Ecological Support Areas (1): These areas, comprising natural, near natural, and degraded zones, play a vital role in supporting CBAs by maintaining essential ecological processes.
- Ecological Support Areas (2): These areas lack natural habitat yet contribute to crucial ecological processes.
- No Natural Habitat Remaining: This category refers to areas with no significant direct biodiversity value remaining.
- Other Natural Areas: These are intact natural areas not required to meet specific targets but may be designated as CBAs or ESAs.
- Protected Areas: These encompass Formal Protected Areas and areas pending declaration under the National Environmental Management: Protected Areas Act (NEMPA).



Map 25: Critical Biodiversity Areas

In complement to these CBAs, Ecological Support Areas (ESAs) play a pivotal role. Though not entirely pristine, ESAs are functional zones crucial for maintaining biodiversity patterns and ecological processes within the critical biodiversity areas. These areas act as guardians of the broader ecological equilibrium, ensuring the continuity of essential ecological functions. Connectivity plays a pivotal role in sustaining ecological processes linked to movement, such as species migration, seasonal dispersal, and climate-triggered shifts. Terrestrial corridors, vital conduits for these processes, come in two categories:

1. Landscape Corridors, operating at a provincial scale, comprise a series of altitudinal and bio-geographic pathways. They facilitate evolutionary, ecological, and climate-related functions. Certain segments within these corridors emerge as pivotal linkages, particularly when extensive alterations limit corridor options, risking their integrity.
2. Local Corridors, tailored at a district level, intricately weave links within the landscape. Their primary role is to foster ecological processes and ensure the persistence of key biodiversity features. These corridors bolster biodiversity dynamics on a more localised scale.

The LCPv2 provides a comprehensive framework for conservation planning and land-use management, guiding decisions that impact biodiversity across different sectors and areas within the Limpopo region.

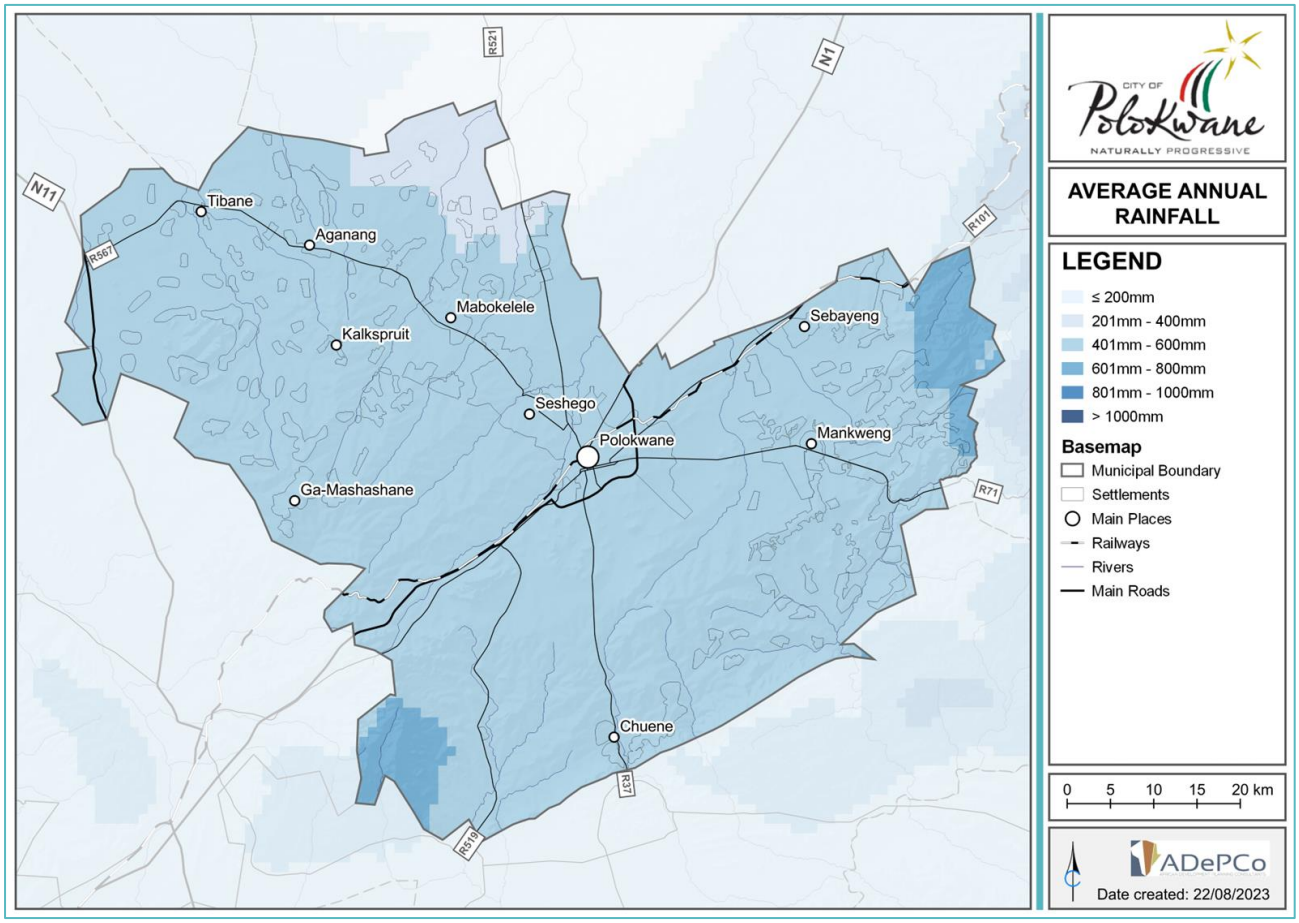
In summary, the symbiotic coexistence of Critical Biodiversity Areas and Protected Agricultural Areas underpins a holistic approach to sustainable land management. This balanced strategy acknowledges the importance of conserving both natural diversity and agricultural viability for the greater welfare of communities and ecosystems alike.

Biophysical features

This section provides an insightful exploration into the diverse biophysical features that shape the landscape of Polokwane. By delving into the intricate interplay between the physical environment and the biological elements it supports, we gain a deeper understanding of the city's ecological dynamics. From the patterns of precipitation and aridity zones to the intricacies of catchments and river conditions, each aspect offers valuable insights into the challenges and opportunities that define Polokwane's natural environment. The chapter further sheds light on the critical importance of conserving biodiversity through the identification of Critical Biodiversity Areas (CBAs) and their respective subcategories. Additionally, it underscores the significance of connectivity for ecological processes and addresses the pressing concern of land degradation. Through this comprehensive overview, we gain valuable insights into the biophysical foundation that shapes Polokwane's environmental tapestry.

Precipitation

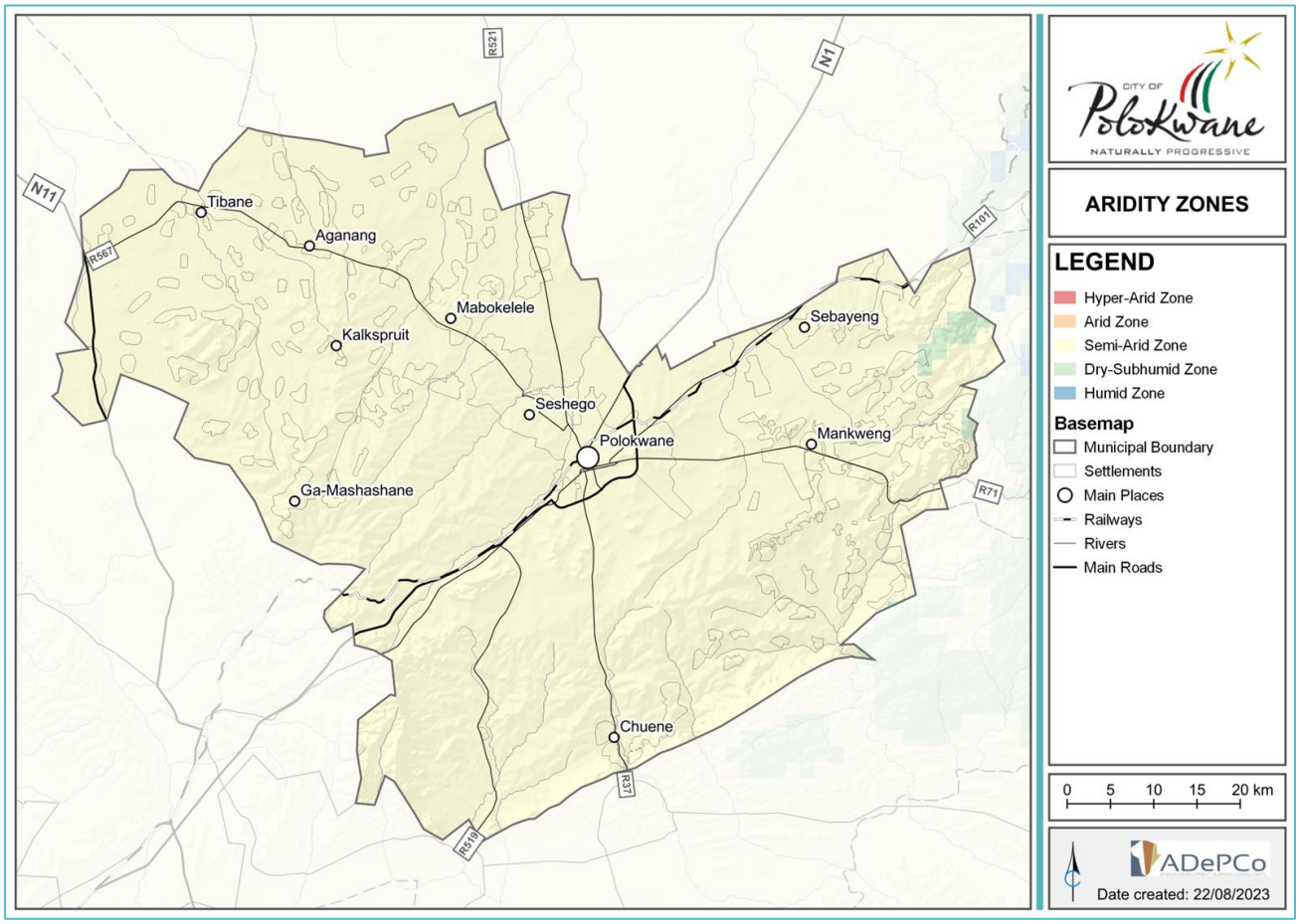
Rainfall becomes consequential when interconnected with soil characteristics, incline, and intensity. When combined with agricultural practices and settlement arrangements, these elements collectively contribute to erosion and overall land deterioration. Further elaboration on these issues is provided in subsequent paragraphs. Polokwane experiences an arid climate typified by a rainy season during summer and a distinct dry period in winter. The yearly average rainfall stands at 495 mm, with December or, less frequently, January being the wettest month, while July records the lowest precipitation levels.



Map 26: Average annual rainfall

Aridity zones

South Africa is characterised by predominantly dry conditions. The entire eastern region of the country, extending beyond the 600mm rainfall demarcation, is classified as generally arid. On a global scale, approximately 90% of South Africa falls within the arid and hyper-arid classifications. This prevailing pattern is also observable in Polokwane, where the area is designated as semi-arid. The convergence of arid climatic conditions with other environmental factors imposes limitations on agricultural prospects in the region.



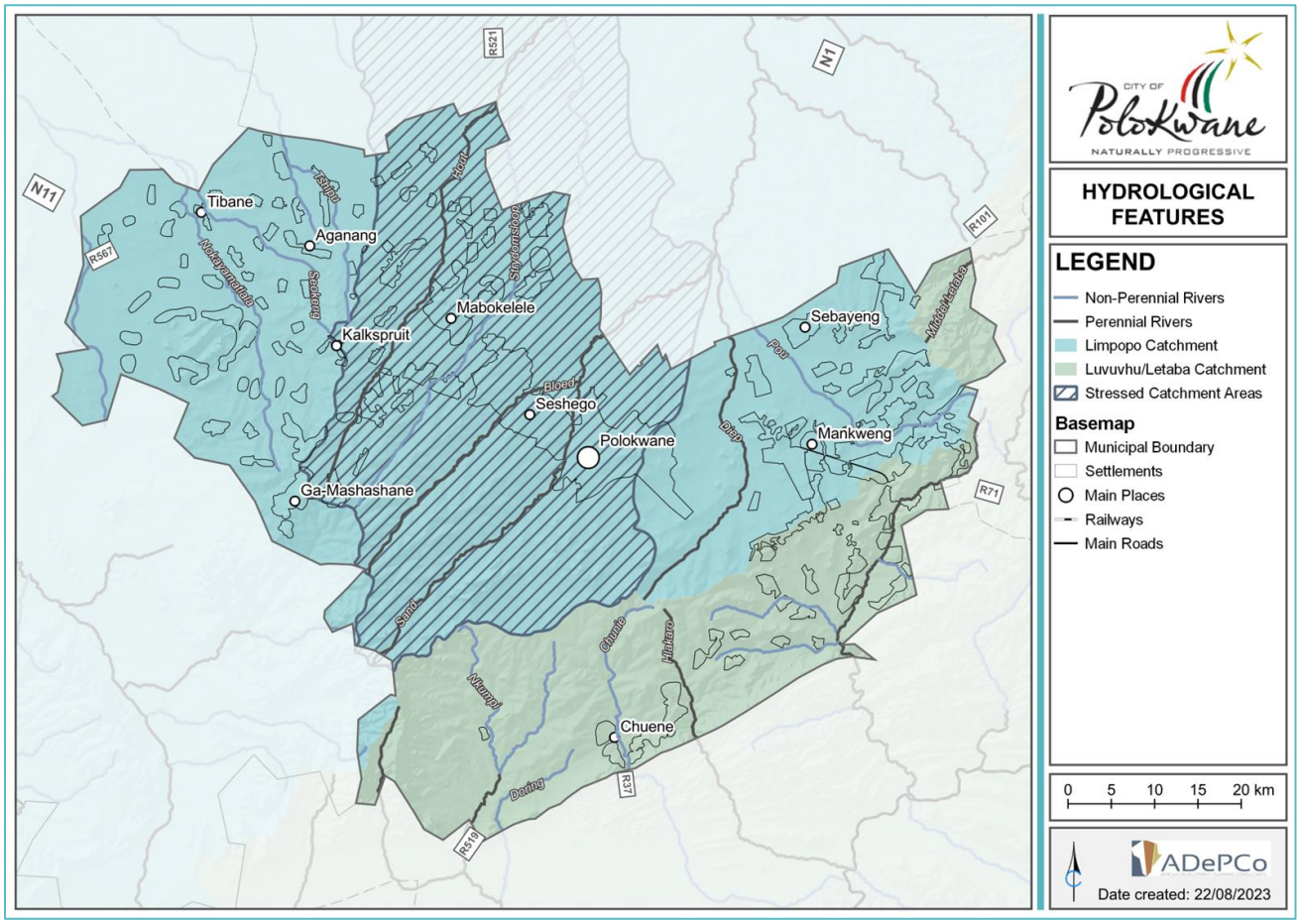
Map 27: Aridity zones

Dams, rivers, wetlands and catchments

Catchments are delineated by watersheds, and the characteristics of rivers, including their physical, chemical, and biological aspects, are shaped by the nature of the catchment and the array of human and natural activities occurring within it.

Within the Polokwane municipal area, a significant portion is encompassed by the Limpopo and Olifants-North basin, constituting two major catchment areas in South Africa. The map below illustrates these primary catchment areas, alongside the stressed catchment zones within the Strydomsloop, Hout River and Sand River catchment areas. Notably, the stressed catchment area encompasses Polokwane's central urban zone, thereby influencing the development potential of new settlements.

To manage water resources effectively, Catchment Management Agencies (CMAs) have been established as legal entities under the National Water Act, 1998 (Act 36 of 1998). Each CMA oversees water resources within its designated Water Management Area. South Africa has been partitioned into 19 Water Management Areas, aligned with the ongoing formulation of the National Water Resource Strategy. CMAs are tasked with devising and implementing catchment management strategies that harmonise with the broader National Water Resource Strategy.



Map 28: Hydrological features & catchments

River condition status

The assessment of conservation status for ecosystems is centred on gauging the degree of integrity loss and the resulting decline in habitat within each ecosystem. This evaluation is conducted relative to two crucial thresholds:

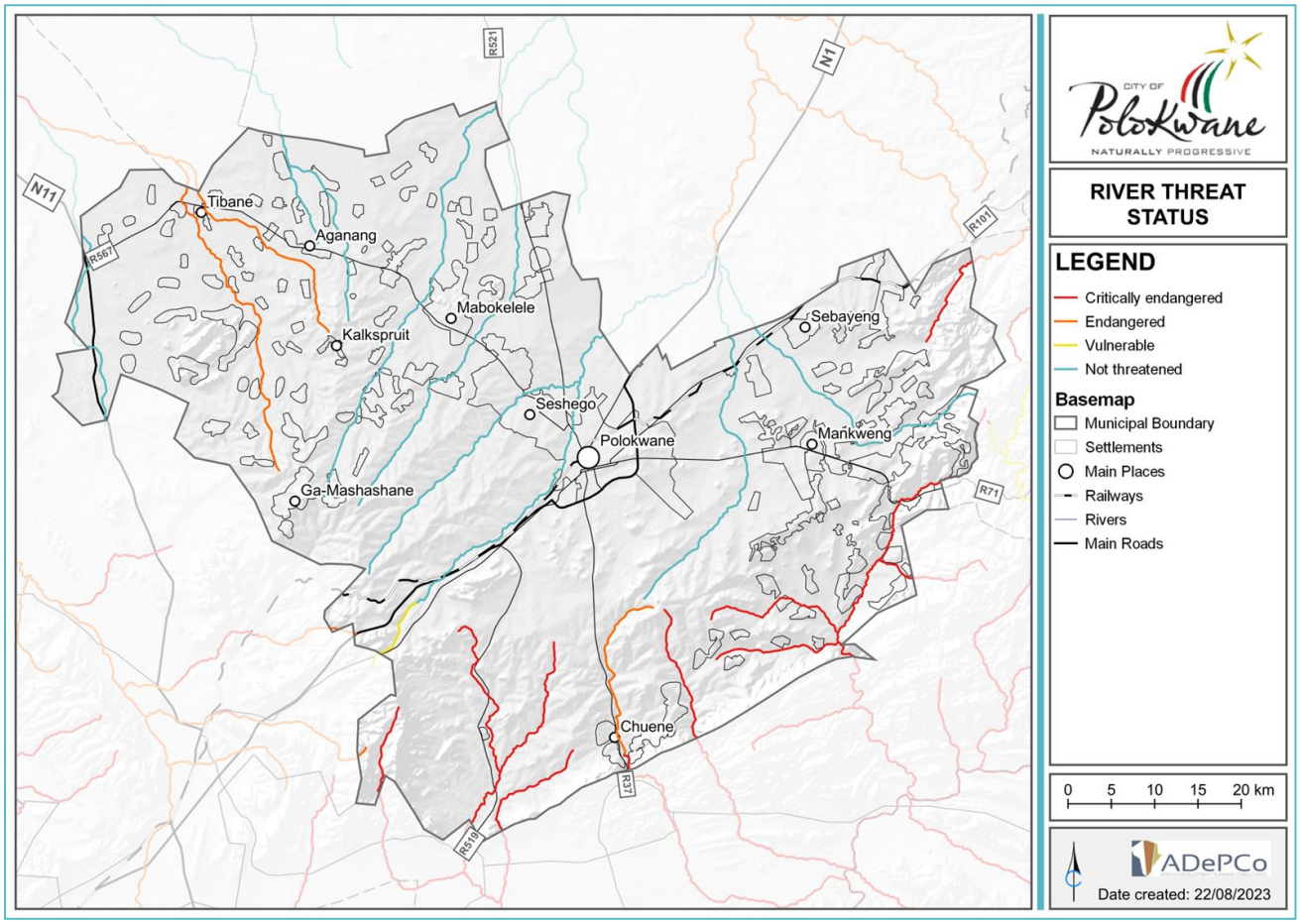
1. One threshold focuses on upholding the health and functionality of the ecosystem.
2. The other threshold aims to safeguard the majority of species closely linked with the ecosystem.

The degradation of river integrity and habitat loss within an ecosystem progressively undermines its functioning, eventually leading to ecosystem collapse and the subsequent loss of associated species.

To evaluate the condition of rivers, the proportion of intact river length in relation to its total length is the foundation. This intact length is compared to the complete length of each river, forming the basis for determining conservation status categories:

- Rivers deemed "Least threatened" retain an intact length equal to, or greater than, 60% of their total length.
- "Vulnerable" rivers maintain an intact length for at least 40% of their total length.
- "Endangered" rivers sustain an intact length for at least 10% of their total length.
- "Critically endangered" rivers have an intact length below their preservation target for less than 10% of their total length.

In the central region of the municipality, rivers are not currently endangered. However, the rivers in the eastern and southeastern parts of the municipality are in a critically endangered state. The Matlala and Sebokeng rivers in the northwestern part of the municipality exhibit indications of vulnerability. This underscores the need for focused attention on any development activities affecting these river systems. Notably, the most vulnerable rivers are situated in regions governed by traditional leadership, which typically poses regulatory challenges for municipal and other authoritative interventions.



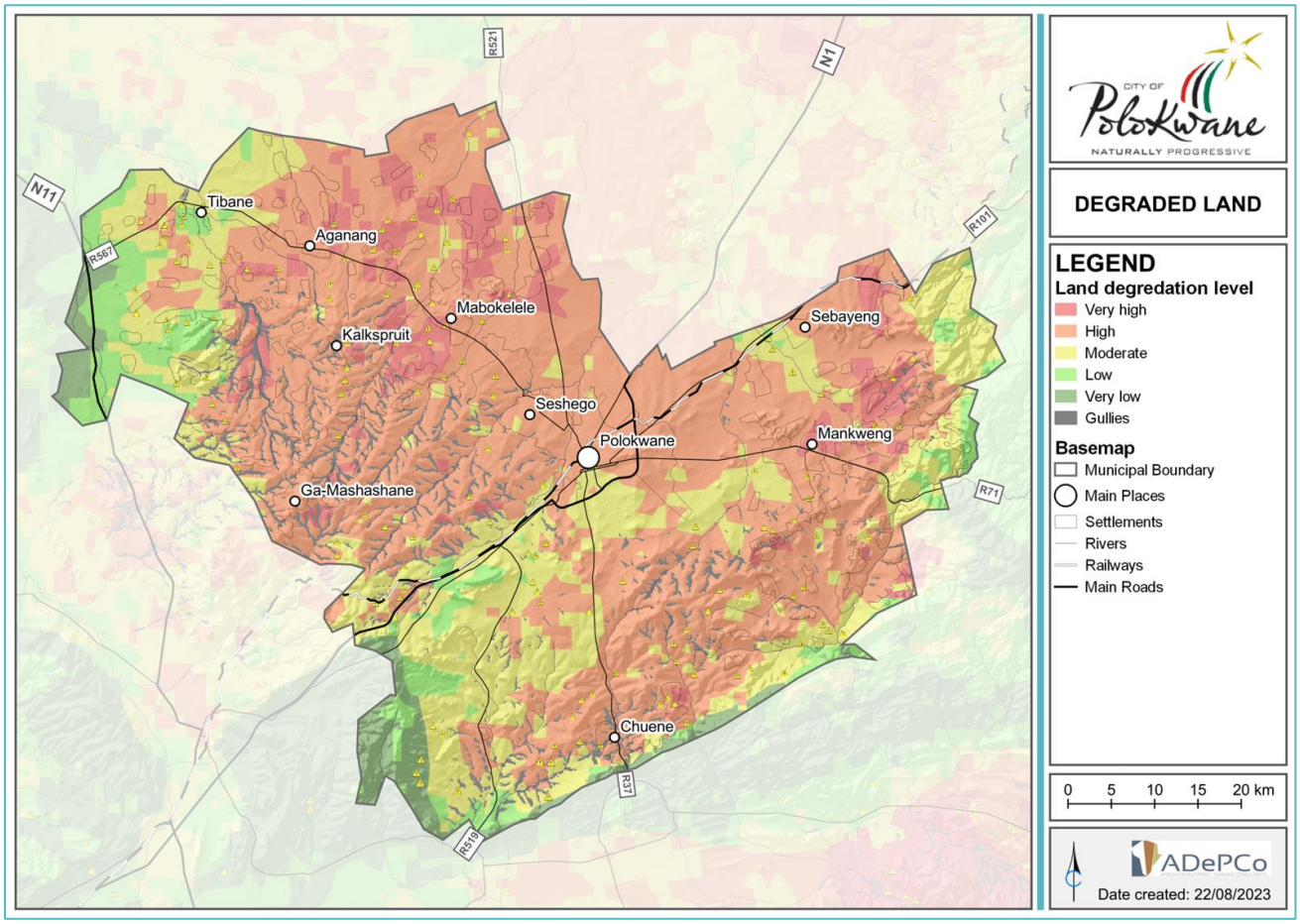
Map 29: River Threat Status

Degraded land

Land degradation encapsulates a notion wherein the quality of the biophysical environment suffers due to the impact of one or more human-induced processes exerted upon the land. This phenomenon encompasses any alteration or disruption to the land fabric that is perceived as harmful or undesirable. Notably, this excludes influences stemming from natural hazards, yet human activities can indirectly contribute to phenomena like floods and bushfires.

A widespread concern on a global scale, land degradation is predominantly linked to agricultural practices. Its underlying causes encompass:

- Land Clearance: This includes practices such as clear-cutting and deforestation, leading to significant alterations in land cover.
- Agricultural Depletion: Poor farming practices can result in the depletion of soil nutrients, affecting the land's ability to support productive vegetation.
- Livestock Impact: Overgrazing by livestock can lead to soil compaction, reduced vegetation cover, and overall land degradation.
- Inadequate Irrigation: Improper irrigation practices can disrupt the natural moisture balance of the land, impacting its long-term fertility.
- Urban Expansion: Urban sprawl and commercial development encroach upon natural land, altering its integrity and composition.
- Land Pollution: Industrial waste and pollutants contribute to soil contamination, deteriorating its overall quality.
- Off-Road Activities: Vehicle off-roading activities can lead to soil compaction, erosion, and the degradation of delicate ecosystems.
- Mineral Extraction: Quarrying for stone, sand, ore, and minerals can leave scars on the land, disrupting its natural form.



Map 30: Degraded land

In the context of Polokwane, areas experiencing land degradation are predominantly situated in the extreme northeastern, southeastern, and northwestern regions. These areas, often associated with rural settlements under traditional leadership, bear the brunt of land degradation processes.

The distinct arid climate experienced by Polokwane, characterised by seasonal rainfall patterns, underscores the challenges of sustaining ecosystems in a semi-arid environment. Notably, South Africa's broader aridity is mirrored in Polokwane's classification, presenting limitations for agricultural prospects.

An exploration of catchments highlights their role as vital determinants of river characteristics. The Limpopo and Olifants-North basins, covering significant portions of Polokwane, illustrate the city's dependence on these catchments. Through Catchment Management Agencies (CMAs), the effective management of water resources is a priority aligned with the National Water Resource Strategy. River condition status, as a measure of ecosystem health, is pivotal for conservation. The classification of rivers into categories of least threatened, vulnerable, endangered, and critically endangered highlights the need for targeted conservation efforts, particularly for those rivers at risk in Polokwane.

Connectivity's role in ecological processes, along with the delineation of landscape and local corridors, emphasizes the importance of maintaining pathways for species movement. Lastly, the sobering reality of land degradation is acknowledged. The impacts of human-induced processes on the land are evident, particularly in the northeastern, southeastern, and northwestern areas, underscoring the need for sustainable land management practices.

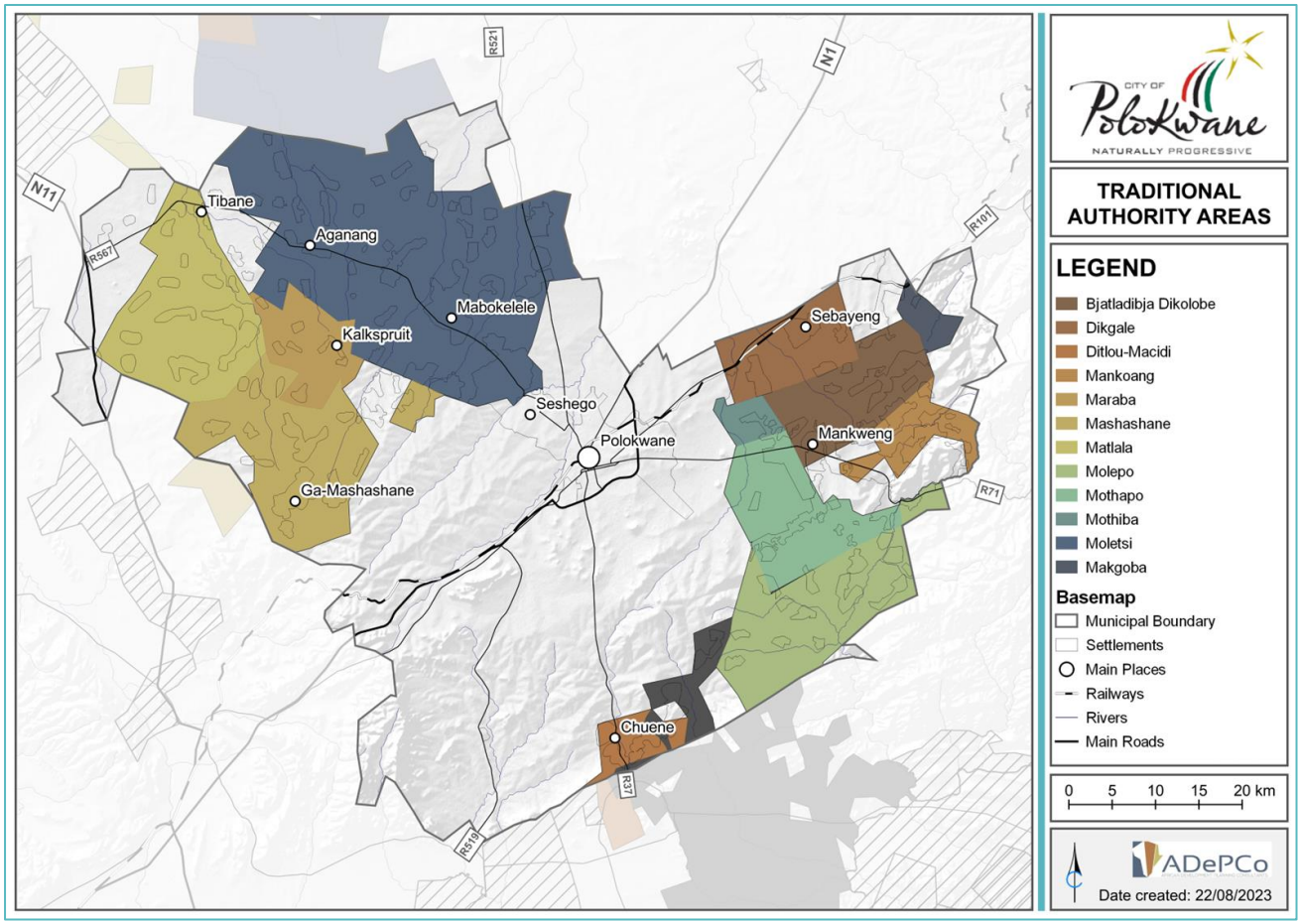
Traditional authorities

Land located within the areas of traditional authorities (i.e., in the Mankweng and Aganang areas) is generally not available as state-owned land on which to launch bigger project-linked RDP projects to effectively deal with the housing backlogs in these areas.

The areas that resort under traditional authorities within Polokwane are restricted to the southeastern and northwestern extremes, with the core urban area (mainly formalised) wedged in between these enclaves. This effectively "divides" Polokwane into four enclaves namely:

- **Enclave 1**: The area traversed by the N1 Corridor including Polokwane primary urban core.
- **Enclave 2**: the far southern and eastern areas around Mankweng.
- **Enclave 3**: The largely rural area as part of Aganang
- **Enclave 4**: The far northwestern area as part of the former Aganang.

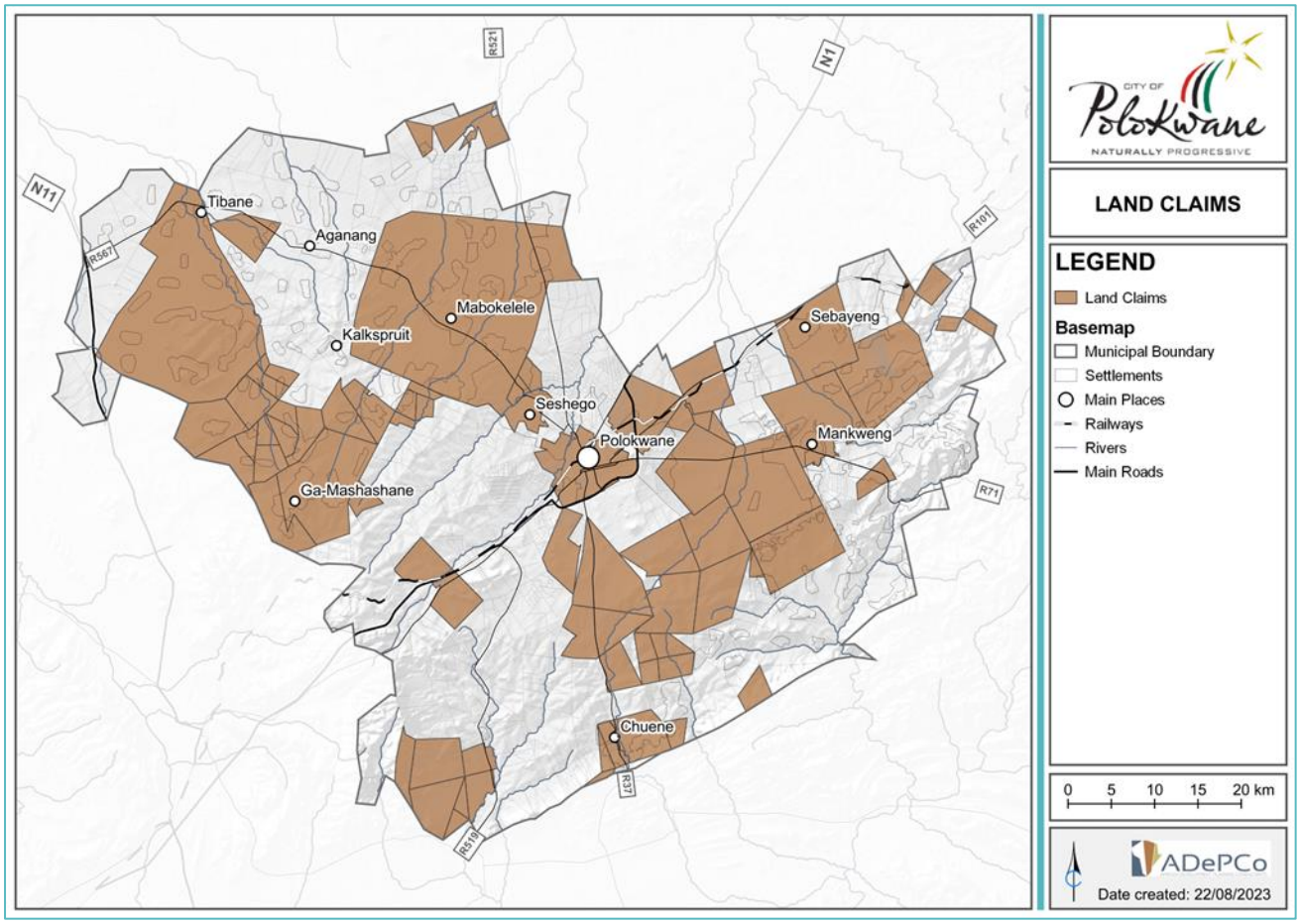
As denoted on **Map 31**, only Enclaves 1 and 4 are effectively available for state interventions to address human settlement backlogs.



Map 31: Traditional Authorities

Land Claims

The national government envisages that at least 30% of land should be transferred to previously disadvantaged people. A number of land claims have been filed with government within the Polokwane area of jurisdiction. The general concern is that even more rural settlements might be established that might not be sustainable through land claims. Specific provision should therefore be made in the SDF to guide future land reform projects in the area. Map 32 indicates the spatial distribution of the existing land claims.



Map 32: Land claims

In conclusion, the intricate interplay of settlement growth, economic activities, land use transformations, and conservation imperatives emphasises the need for holistic planning and sustainable development strategies. As Polokwane strives for equilibrium between urban expansion and environmental preservation, it is imperative to harness the insights presented here to shape a prosperous and harmonious future for the city and its inhabitants. Through strategic, informed decisions, Polokwane can evolve as a model of balanced growth, enhancing its resilience and ensuring a legacy that reflects the dynamic interplay of human aspirations and the natural world.

Strengths, Weaknesses, Opportunities and Threats

The SWOT analysis presented within this chapter aims to provide a comprehensive assessment of the Polokwane SDF. The analysis highlights the Strengths, Weaknesses, Opportunities, and Threats inherent to the development landscape of Polokwane. Through a meticulous examination of both internal and external factors, this analysis seeks to offer valuable insights that will guide strategic decision-making, policy formulation, and development initiatives. By evaluating the municipality's inherent strengths, addressing its weaknesses, capitalising on opportunities, and mitigating potential threats, the Polokwane SDF endeavours to create a resilient, sustainable, and prosperous urban environment. This SWOT analysis serves as a foundation for informed planning, fostering a holistic approach towards effective development and the enhancement of the quality of life for Polokwane's residents.

Strengths

The utilisation of documents focusing on economic development at the national, provincial, and local levels provides a solid foundation for informed decision-making in the SDF.

- **High Agricultural Potential**: Polokwane possesses significant agricultural potential, positioning it to contribute substantially to trade and income. This sector should be nurtured to maximise regional development potential.
- **Growing Mining Sector:** The presence of mineral reserves augments economic growth prospects, particularly with the mining sector displaying continued expansion within the municipal area.
- **Educational Advancements**: The rise in education participation and matriculation rates translates into an increasingly educated population, enhancing employability and consequently contributing to economic development.
- **Emerging Service Delivery Focus**: Initiatives towards improved service delivery and provision of basic services are promising, although progress remains below the desired level.
- **Health Progress**: Decreasing HIV rates, below the national average, reflect positive trends in health management, strengthening the foundation for sustainable development.
- **Strategic Municipal Assets**: Notable strengths include a strong revenue base, effective community consultation processes, political stability, and improved organisational capacity.

Weaknesses

- **Service Delivery Gaps:** Critical service delivery shortages in urban and semi-urban areas could obstruct future development and growth.
- **Infrastructure Maintenance:** Concerns about maintaining existing service infrastructure capacity could hinder sustainability and the attraction of investments.
- **Healthcare Capacity**: Challenges in healthcare capacity, particularly in rural areas, present a potential obstacle to achieving municipal prosperity.
- **Disease Burdens**: Despite declining prevalence, HIV and TB rates continue to limit potential for growth and development.
- **Governance and Accountability Gaps:** Weaknesses in governance and accountability mechanisms pose ongoing constraints on development.
- **Economic Stagnation:** The lack of sustained economic development and job creation in the province poses a significant threat to growth.
- **Skills Shortage**: An inadequacy of skilled workers has the potential to impede economic expansion and employment rates.
- **Income Inequality**: The widening income disparity aggravates the need for social and service infrastructure, perpetuating development challenges.
- **Education Gap**: Lower levels of education compared to the national average can limit employability and restrain economic growth potential.
- **Housing Delivery Challenges**: Issues related to land and planning hinder effective housing delivery, especially in urban areas.

Opportunities

- **Agricultural Development:** Capitalising on the region's agricultural potential can foster trade, income generation, and overall regional growth.
- **Mining Sector Growth**: The continued growth of the mining sector presents an opportunity for economic expansion and development.
- **Untapped Tourism Potential**: The underutilised tourism resources can be harnessed to stimulate economic growth, build international ties, and enhance regional development.
- **Education Enhancement**: Focus on education improvement can lead to higher employment rates, skilled workforce, and stronger economic development.
- **Alignment with National and Local Priorities**: Aligning with national, provincial, and local priorities for growth can ensure coordinated and effective development strategies.
- **Healthcare Improvement**: Enhancing healthcare facilities and services, addressing human capital issues, and tackling diseases can boost overall municipal development.

Threats

- **Service Delivery Constraints**: Severe shortages in service delivery, particularly in urban and semi-urban areas, have the potential to hinder or prevent development.
- **Infrastructure Maintenance Capacity**: Challenges in maintaining service infrastructure may compromise sustainability and future investments.
- **Healthcare Capacity Issues**: Inadequate healthcare capacity, especially in rural areas, poses a threat to prosperous municipal development.
- **Disease Impact**: Prevalence of HIV and TB, despite declining rates, remains a constraint on growth and development potential.
- **Governance and Accountability Deficits**: Weaknesses in governance processes could continue to impede developmental progress at various levels.
- **Economic Stagnation**: A lack of sustained economic development and job creation poses a substantial threat to growth and progress.
- **Skills Shortage**: Shortage of skilled workers may hinder economic expansion and limit employment rates.
- **Income Inequality**: Growing income disparity could exacerbate the need for social and service infrastructure.
- **Education Challenges**: Education levels below the national average may restrict employability and constrain economic growth.
- **Housing Delivery Obstacles**: Issues with land and planning impede effective housing delivery, particularly in urban areas.

Spatial Policy Guidelines

The demarcation between urban and rural areas in Polokwane, with a specific emphasis on smaller settlements frequently associated with regions under traditional leadership control, has a significant influence on defining both the boundaries of the ‘Urban Edge’ (including potential multiple edges) and the extent of the ‘Urban Fringe’ or ‘Transition Zone.’ The 2010 Polokwane Spatial Development Framework (SDF) included guidelines pertaining to various elements of urban structuring, encompassing, among others:

- Hierarchical arrangement of settlements categorised as "First to Fifth" Order Nodes.
- Consideration of "Isolated Villages."
- Establishment of Development Corridors.

Although these structural components do not encompass the entirety of the expanded Polokwane jurisdiction, they significantly inform the essential revision of the spatial development framework. This includes the framework plan that outlines:

- The intended growth directions.
- Long-term envisaged land use patterns.
- Management of urban expansion in specific areas.
- Functional interconnection of nodes along designated corridors.

These considerations bear an impact on the overall allocation of land use, which is influenced by projected shifts in population density and related growth estimates. This also considers the practical capabilities of infrastructure networks to accommodate these anticipated changes. Notably, this review concentrates on reassessing the existing 2010 SDF.

Therefore, the aforementioned structural elements and their associated principles remain unaltered, albeit with adjustments to accommodate changes in geographical boundaries, locational contexts, and pertinent technicalities.

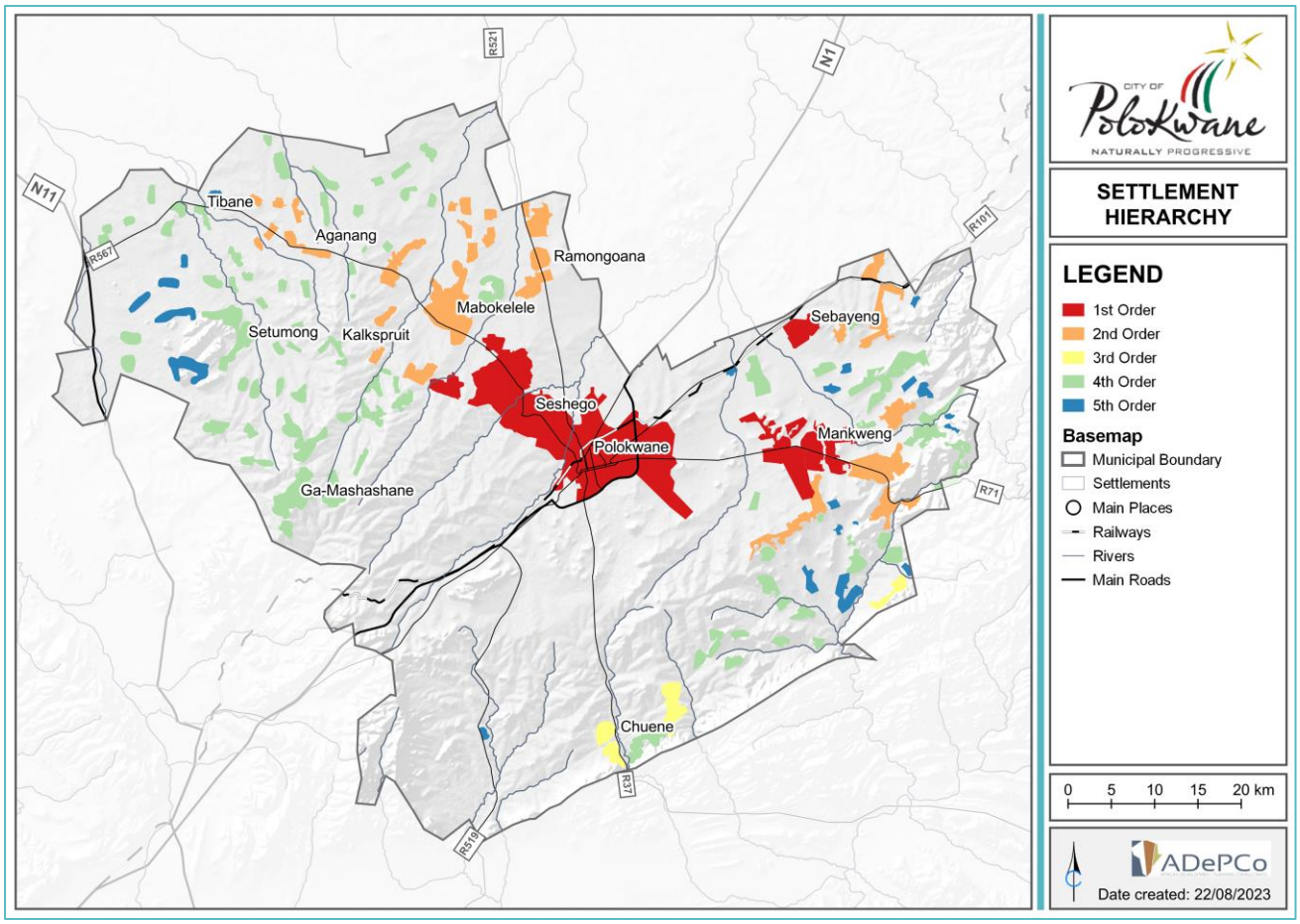
Hierarchy of Settlements

In contrast to the 2007 Polokwane Spatial Development Framework (SDF) which referenced Strategic Development Areas (SDA's) and Potential Development Areas (PDA's), the 2010 SDF took a deliberate shift by focusing on a settlement hierarchy derived from interpretations of provincial, district, and municipal factors:

This hierarchy encompassed:

- Growth points
- Population concentration points
- Local service points
- Isolated villages within rural areas beyond urban nodes.

This led to the establishment of a five-tier municipal nodal hierarchy as depicted in Map 33.



Map 33: Existing Hierarchy of Settlements

First Order Node: This included the Greater Polokwane City, comprising Polokwane, Seshego, Blood River, Kgohlwane, Mabotja, Makgofe, and Mokgokong. This node blended what was recognised as a provincial growth point with certain population concentration points nearby. It was situated at the crossroads of several corridors, such as the Trans-Limpopo N1 corridor, the East-West aligned Corridor (R71 and R81 Roads), and the Dilokong Corridor (including R37 and R521 Provincial Roads).

Second Order Node: This involved a District Growth Point relevant to Mankweng and Badimong, along with the surrounding area. This node was linked to the R71 East-West Corridor, serving as an Activity Corridor connecting central Limpopo to Tzaneen and areas beyond the municipal boundary.

Third Order Node: Focused on a Municipal Growth Point associated with Sebayeng and Dikgale clusters, connected to the R81 Activity Corridor extending northeast of central Polokwane. This node served as a service centre for the neighbouring agricultural regions.

Fourth Order Node: Concentrated on Population Concentration Points like Hlahla, Makibelo, and the Gilead Road cluster. These points were aligned with the P94-1 Provincial Road and the Gilead Road (District Provincial Road D3390), extending northwest from central Polokwane and connecting to Mogalakwena Local Municipality beyond the municipal boundary.

Fifth Order Node: The lowest hierarchical level, focusing on Local Service Points, was subdivided into western (Thokgwaneng and Leshikishi, etc.), central (including Kopermyn and Mmoto-wa-Bogobe), and eastern (including Ga-molepo) nodes. These service points were primarily situated in the southern part of the municipal area, tied to the P33/1 Provincial Road and the District Provincial Road D4000, which extended south from Polokwane and connected to Lepelle Local Municipality and surrounding areas.

This refined approach departed from the 2007 SDF's focus, acknowledging the significance of settlement hierarchy in shaping Polokwane's developmental landscape.

Identified Corridors

The 2010 Spatial Development Framework (SDF) made explicit reference to the National Spatial Development Perspective of 2006, which centred on the pivotal idea of ‘Corridors’ and ‘Nodes’ as foundational structural elements. Over time, this concept has evolved with the introduction of the National Development Plan and the forthcoming National Spatial Development Framework (currently in draft form). These developments have augmented and reinforced the principles concerning the pivotal role and objectives of development corridors and nodes.

Embedded within the 2010 SDF was the concept of development corridors, materialising as Linear Zones of Development. These zones ran parallel to public transportation routes or main thoroughfares, interlinking various nodes. These corridors were categorised into a distinct hierarchy:

- **Activity corridors** served as primary development conduits offering an array of social and employment prospects. These corridors were harmonised with high-density, mixed land use configurations.
- **Activity spines** encompassed major routes that accommodated public transportation services, serving adjacent mixed-use activities. They also established connections between prominent development nodes, rendering convenient access to mixed land use arrangements.
- **Activity streets** delineated substantial linkages within the encompassing urban area. Not only did they attract passing trade, but they also provided opportunities for business expansion, synergistically benefiting neighbouring nodes.
- **National/Provincial corridors** represented the chief development arteries, inclusive of the N1 Trans-Limpopo Corridor acting as a gateway to Africa to the north of Limpopo. This was substantiated by the corresponding Delokong Provincial Corridor extending toward Burgersfort and the R71 Provincial East-West Corridor extending toward Tzaneen.

This integrated approach illustrated how the 2010 SDF incorporated the evolving conception of development corridors, fostering connectivity and strategic growth within Polokwane's broader urban landscape.

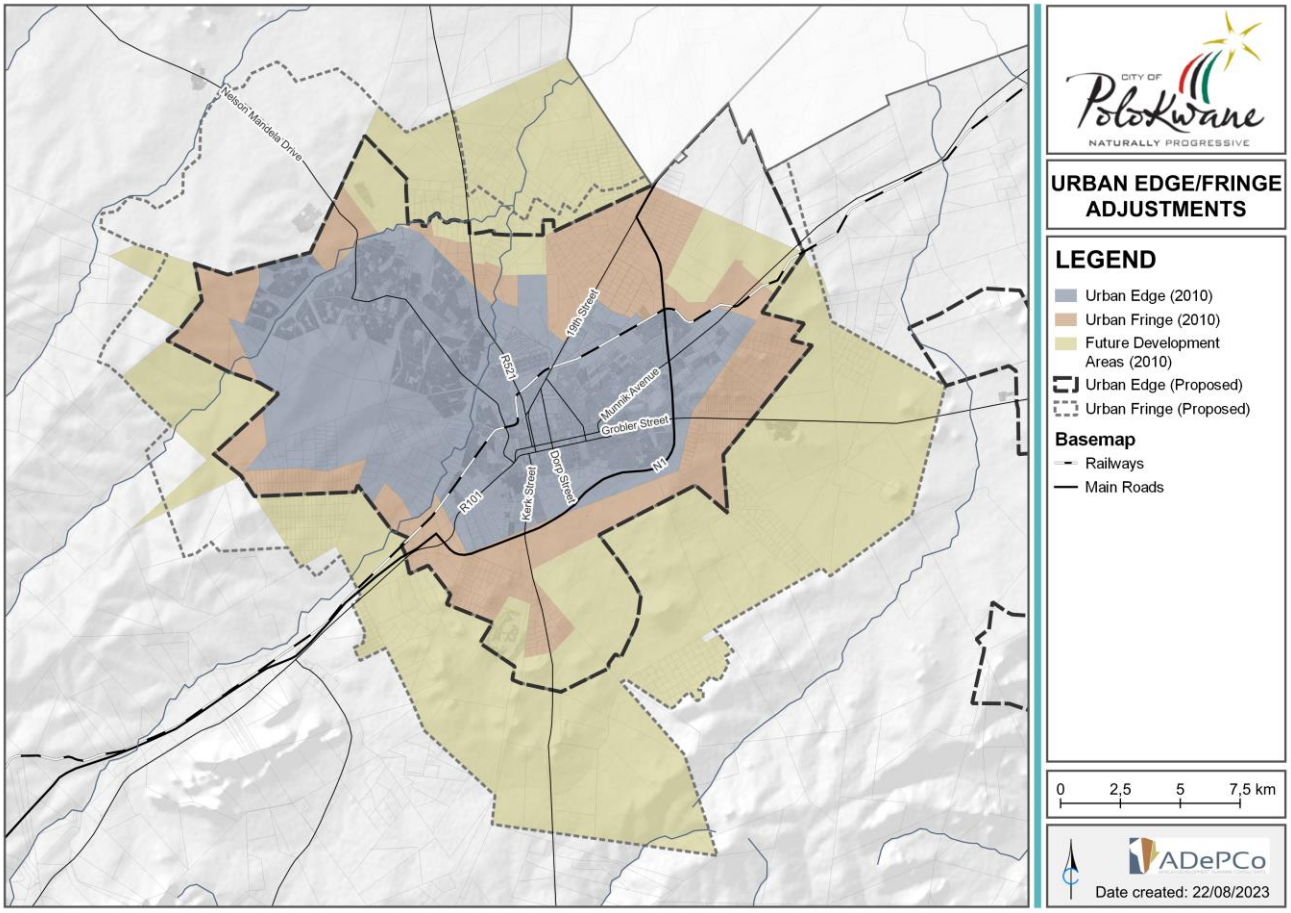
This review of the 2010 SDF relevant to 2023 retains the aforesaid concepts of nodes and corridors and builds upon them.

Urban Edge and Urban Fringes

In addition to these structuring elements, it is recommended that the greater Polokwane area be divided into Development Zones denoted by same.

The urban edge serves as a delineated boundary that outlines an area earmarked for future urban expansion. Its primary purpose is to mitigate urban sprawl, encourage higher-density development, and safeguard valuable agricultural land situated beyond its demarcated limits. Within the confines of this boundary, short to medium-term developmental projects are typically envisioned to take shape. The urban edge entails the establishment of distinct geographic zones, which need not necessarily be contiguous but are instead "ring-fenced" by the urban edge's boundaries. This approach aims to carefully manage the outward growth of the city while fostering more efficient land use.

Additionally, the urban fringe represents a transitional zone situated immediately beyond the defined urban edge. This zone, often referred to as a "zone of transition," extends into the surrounding rural hinterland. The urban fringe is not precisely defined and encompasses a variable expanse of land. It accommodates a blend of urban and rural features, allowing for certain limited developments to take place. The concept of "urban infilling," primarily associated with the area contained within the urban edge, underpins these notions. In essence, the urban fringe acts as an intermediary space where urban elements gradually yield to rural characteristics, embodying a balanced and gradual shift from the built-up urban environment to the open rural landscape.



Map 34: Existing Urban edge and Urban Fringe (2010)

Synthesis

This section provides a comprehensive overview of the key issues identified during the analysis and their implications for Polokwane. These insights are condensed into three primary sections, each addressing a distinct aspect of the municipality's development:

- **The Biophysical Environment:** This section delves into the ecological and natural factors shaping Polokwane's development. It examines the municipality's geographical features, climate, ecosystems, and natural resources, shedding light on how these elements interact with development goals and projects.
- **The Socio-Economic Environment:** Focusing on the human dimension, this section delves into the social, cultural, and economic factors that influence Polokwane's growth. It explores demographic trends, education, healthcare, income distribution, and more, highlighting their impact on development efforts and the overall well-being of the community.
- **The Built Environment:** This part scrutinises the physical infrastructure, land use, and urban planning aspects of Polokwane. It addresses the layout, design, and functionality of urban spaces, as well as the existing and potential infrastructure projects that shape the municipality's development trajectory.

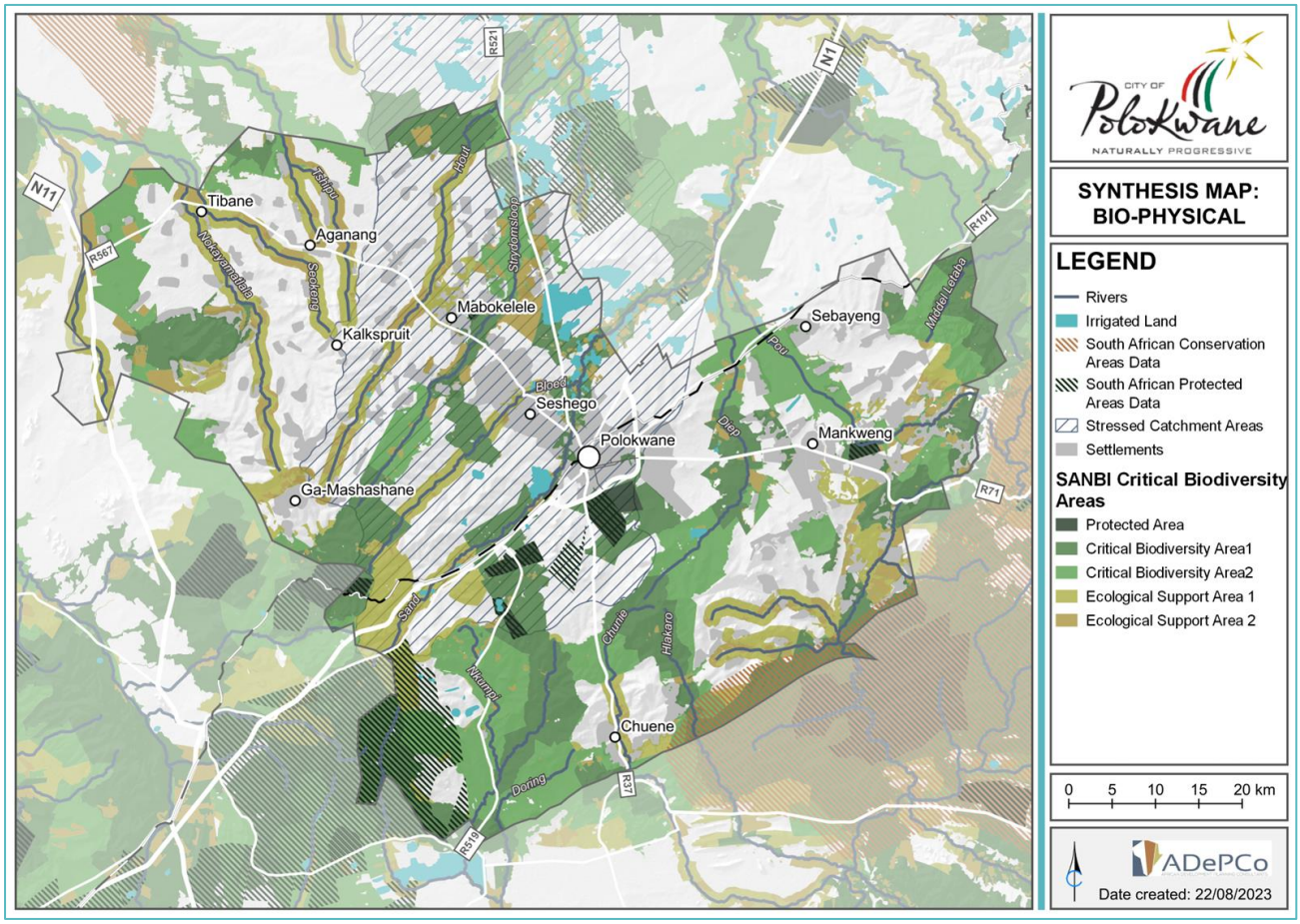
Biophysical environment

Key challenges

- Polokwane is characterised by a semi-arid climate, classified under the Köppen system. This climatic condition adversely affects its agricultural potential.
- Similar to much of inland South Africa, Polokwane has undergone progressively warmer seasons over the past decade, deviating from the long-term average.
- Climate change poses potential threats, including heightened risks of fire, drought, floods, and heat stress.
- Certain regions along the municipality's eastern boundary may be unsuitable for development due to their environmental characteristics.
- The agricultural potential remains limited, predominantly conducive to grazing activities.
- Widespread low-density settlements have transformed a significant portion of the Polokwane area, restricting its potential for cultivation.
- The unchecked expansion of rural villages carries the risk of encroaching upon ecologically fragile lands, exemplifying unabated urban sprawl.
- The primary urban core currently spans about 20km from the central business district, offering substantial opportunities for infill development within its radius. Vigilance against outward expansion is imperative to preserve this spatial arrangement.

Key opportunities

- The municipal area boasts a predominantly gentle slope profile, providing a favourable backdrop for development, particularly within the 20km radius from the central business district (CBD).
- Considerable reserves of medium and high mining potential are situated south of the N1, extending towards Mokopane. Despite recent declines, these mining prospects can still play a pivotal role in the area's economic development.
- Emphasis should be placed on promoting infill opportunities in proximity to the CBD, offering a more sustainable alternative to outward expansion. This strategy aligns with preserving the existing urban structure while optimising available space.



Map 35: Synthesis of the biophysical environment

Comparing **Map 35** with the section on agricultural it is somewhat concerning to notice that areas with high agricultural potential (south of Polokwane and around Mankweng) are situated within a 'stressed catchment area'. It is also worth noting that Mankweng, which is developing at a rapid rate, is surrounded by critical biodiversity areas.

Socioeconomic environment

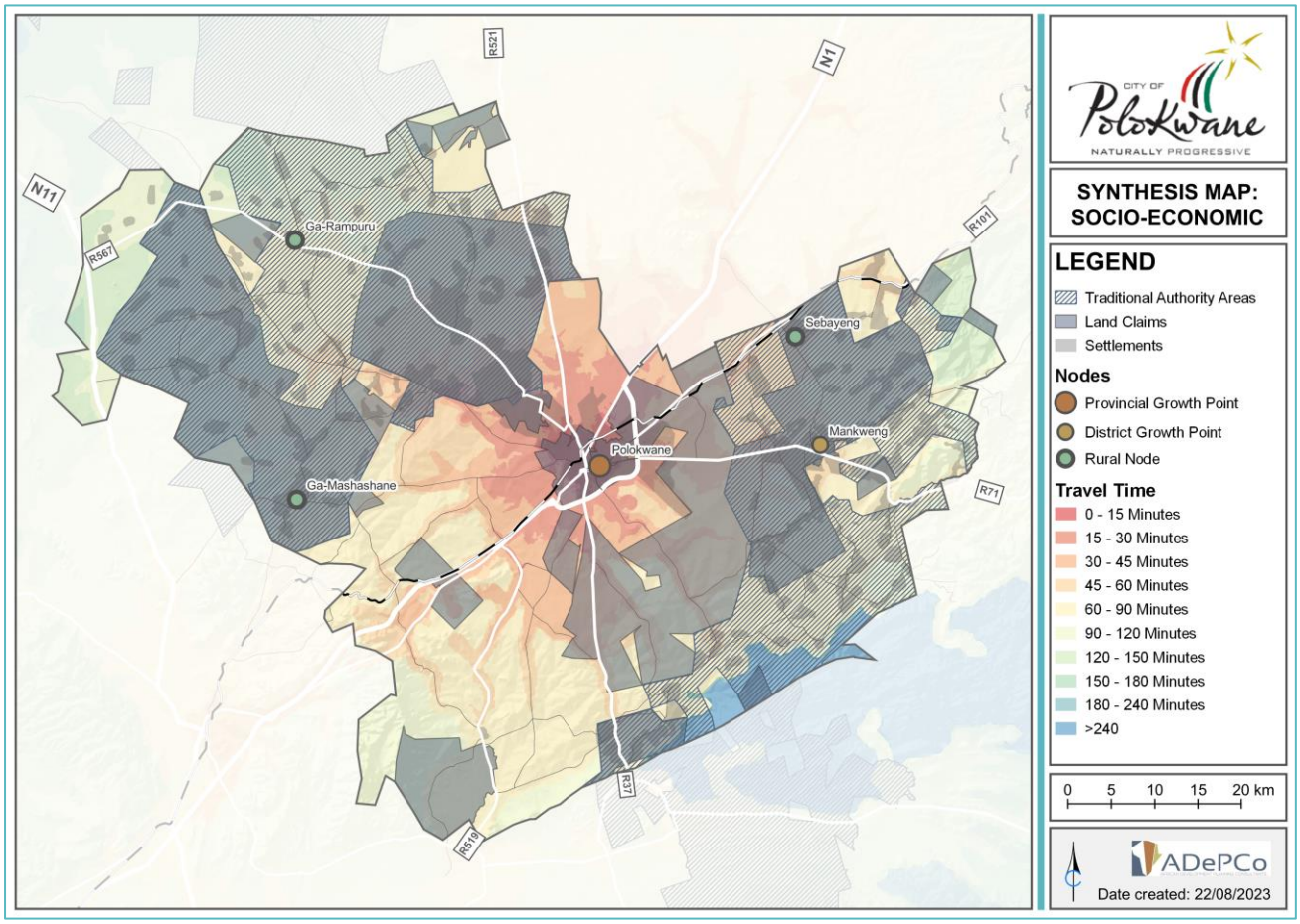
Key challenges

- Percentage of working-age population without school completion (52%): This indicates that more than half (52%) of the working-age population in the area has not completed their schooling. This could suggest a lower level of educational attainment, which might have implications for the skill level of the labour force and the types of jobs available in the region.
- High percentage of people not employed (57,6%): The economic landscape could potentially benefit from initiatives that encourage the growth of industries or sectors that could absorb more workers.
- High Tress Index (80,6): PLM's economy is relatively concentrated or specialised in certain sectors, making it more vulnerable to external factors, such as adverse climatic conditions or fluctuations in commodity prices.

Key opportunities

- Positive population and household growth: The average growth rate observed over the last five years (2018-2022), which stands at 0,7% and 1,1% respectively
- Reduced household size: Household size is slowly decreasing. The average household size was 3,8 persons per household in 2010 and is currently 3,6.
- Local Economic Strength: Although the primary sector does not employ many people (location quotient nearly zero), Trade and Utilities, Construction, and Business services exhibit the highest locational quotients.

The following synthesis map, Map 36 depicts the location and extent of Traditional Authority areas, farms subject to land claims, and current settlements.



Map 36: Synthesis of the socio-economic environment

It is evident from the drive time assessment, that the rural nodes are roughly an hour's travel from the Polokwane CBD. This speaks to the challenges related to accessing employment opportunities, essential retail products and business services.

Built environment

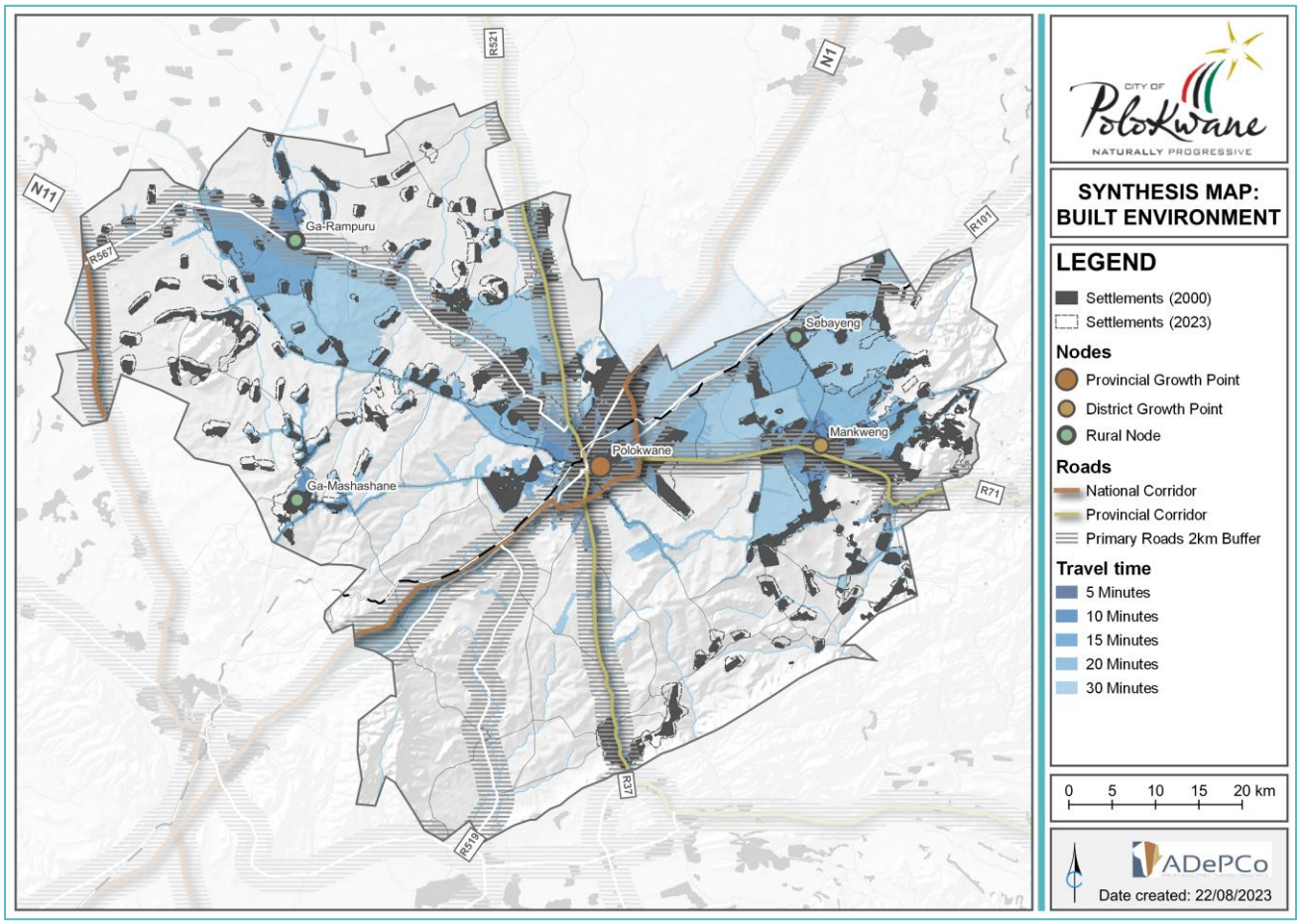
Key challenges

- Escalating Informal Uses: Rapid growth of informal activities is leading to increased land usage within the municipality.
- Spatial Isolation of Villages: Villages situated in the western part of the municipality are spatially detached.
- Unplanned Growth: Peripheral growth predominates in villages, highlighting a lack of effective growth management and spatial planning within the municipality.
- Inadequate Intermodal Facilities: Passengers requiring transfers between rail, bus, or taxi lack significant intermodal transfer facilities.
- Limited Airport Utilisation: Despite the presence of two airports, only Polokwane International Airport is operational.
- Transportation Modalities: The Comprehensive Integrated Transport Plan indicates daily work trips of approximately 81 583 within the municipality, with bus, taxi, car, and walking accounting for the majority.
- Challenges in Public Transport: The current public transport services available are unattractive, as indicated by the Urban Realm and Movement Plan.
- Basic Services Accessibility: Subpar access to water (11%), sanitation (53 %), electricity (15%), and refuse removal (60%) presents a challenge.
- Land Ownership Complexities: Traditional Authority areas face difficulties in land ownership, hampering larger projects aimed at addressing housing backlogs.

Key opportunities

- Strategic Location: Polokwane's advantageous position along the N1 national road corridor, with strong links to Gauteng, positions it prominently for economic development and freight transport.
- Secondary Access Roads: Roads like the R521, R71, and R37 offer valuable secondary access and mobility across Limpopo.
- Growth Potential: Mankweng has shown significant growth to the south, presenting opportunities for further development.
- Education and Healthcare Facilities: A substantial number of primary and secondary schools (251 primary, 164 secondary, and 15 combined) along with 53 public health facilities offer potential for education and healthcare improvements.

The extent to which settlements have expanded over the past 23 is depicted in Map 37. Significant expansions are noted between Ga-Rampuru and Ga-Mashashane, as well as the northern parts of Mankweg and south of Sebayeng.



Map 37: Synthesis of the built environment

Spatial Proposals

Vision

Polokwane, the seat of the Provincial Government of Limpopo Province and the Provincial Capital has the following spatial vision:

> *"A vibrant and inclusive economy, supported by appropriate infrastructure, enabling a responsive development environment and the creation of an inclusive municipality where basic services provision to residents are prioritised."*

The spatial vision must inform the spatial pattern of the municipality by maximising the brownfield developments (compact) whilst strategically developing greenfield developments.

Spatial development objectives

In the context of the municipality's vision, various spatial development objectives have emerged based on the Theory of Change and the results of the spatial analysis and opportunities assessment, with due regard to concerns and issues raised by participants during the stakeholder engagement session. The spatial development objectives are as follows:

Objective 1:
To protect, sustainably manage and share Polokwane's limited agricultural and economic opportunities and assets and to seek ways of introducing agro-processing as part of the municipality's unfolding industrial development component.

Objective 2:
To protect and manage sensitive ecological systems to support strategic water resource areas in the municipality.

Objective 3:
To enhance, strengthen and maintain the economic vitality, attractiveness, and quality of life of the municipality's main urban areas, enhance the image and value of Polokwane as the provincial capital of Limpopo, and leverage optimum economic value regarding that.

Objective 4:
To improve and maintain transportation connectivity, including road, rail and air infrastructure, to serve all local, national, and international clients.

Objective 5:
To develop and expand industrial manufacturing, agro-processing and secondary beneficiation within the municipality.

Objective 6:
To strengthen rural nodes and create an inclusive economy through infrastructure development.

Spatial development drivers

Compact urban form and sustainable development

The spatial concept for Polokwane revolves around compacting urban form and fostering sustainable development. This approach encompasses well-defined urban zones and identified rural areas, aligning with policy guidelines and legislation across governmental levels in South Africa. Spatial sustainability, a central concept, aims to minimise the necessity for extensive commuting and reduce reliance on private motorised transport. Therefore, improved public transport is essential to address existing commuting disparities.

Mixed profiles and optimised access

From a spatial planning standpoint, sustainability necessitated walkable urban areas, including mixed land use profiles, optimised access to amenities, and enhanced public transport offerings. Achieving these objectives demands strategic planning.

Compactness demands each zone or node in an urban context to be as condensed as possible, accommodating a balanced mix of land use types. This strategy aligns with sustainability benchmarks of walkability and reduced reliance on private motorised transport. Simultaneously, promoting proximity between employment opportunities and residences ensures convenient access to essential services and facilities.

Integrated public transport
While a single zone might not encapsulate all aspects, providing affordable and reliable public transport between zones remains essential. Current efforts mainly revolve around bus and taxi nodes. The integration principle extends both horizontally and vertically, supporting the coexistence of various land use types within zones and nodes. This integration includes higher-intensity development and compaction, contributing to a sustainable urban form.

Enhanced urban density
Addressing historical factors that led to low-density urban development is crucial to enhance sustainability. Intensifying and achieving higher occupation density supports infrastructure efficiency and transportation systems. Promoting socio-economic complexity encourages less segregated social organisation, fostering diversity and embracing urban complexity. Actively pursuing sustainability could promote these outcomes.

Inclusive residential development
Affordable housing is integral to the urban landscape, and so is avoiding a model where urban facilities and residential offerings are disconnected. Inclusionary housing is a global principle of integrated subsidised housing within developments catering to affluent segments. The role of the public realm as an accessible and secure public environment facilitates urban integration. The municipality's role in providing and maintaining this environment is pivotal in achieving successful integration and encouraging private development.

Environmental stewardship and open spaces
Developing a well-connected network of ecologically defensible open spaces informs urban design and enhances biodiversity. The value of the public realm and its proper maintenance is crucial. An integrated, holistic approach is essential for sustainable development. Siloed planning impedes integration, and interconnected thinking across municipal divisions is necessary to achieve holistic sustainability.

Collaboration for holistic development
Collaboration among various entities is crucial for successful urban planning. It is essential to coordinate for holistic development, emphasising inter-governmental cooperation. A Smart City is built on comprehensive thinking rather than just technology. An integrated approach to land development and incremental growth supports Smart City principles.

Balancing investment and operations
As urban growth demands capital investment, focusing on long-term planning is critical. Public sector funding should drive development visions, necessitating cooperation between service providers. In essence, the spatial concept for Polokwane seeks to create a compact, sustainable, and interconnected urban environment that addresses historical disparities, enhances social organisation, promotes diversity, and optimises land use to achieve a prosperous and inclusive community. This approach involves strategic planning, collaborative efforts, and a commitment to long-term sustainability.

Spatial structuring elements

Nodes
Nodes are growth points deemed significant areas based on scale, location, impact, diversity, and aggregation of functions. These are typically focused areas with higher intensity land uses and activities. A hierarchy of nodes usually represents the relative intensity of uses and anticipated development pressure.

Linkages
A linear zone of development flanking a public transport or main route. Public transport facilities, mixed land uses and people are focused here – therefore, a strong relationship exists between linkages and the adjacent land uses.

Character areas
Different areas face different development pressures and must protect or promote other land uses. The implementation of character areas aids in delineating areas with similar development pressures, proposing a range of land use types that are compatible with and support the area's character.

Urban edge and fringe
The urban edge manages, guides and contains urban expansion. Its core objective is curtailing urban sprawl, channelling urban growth pressures away from critical biodiversity areas, and safeguarding prime agricultural land with significant potential.

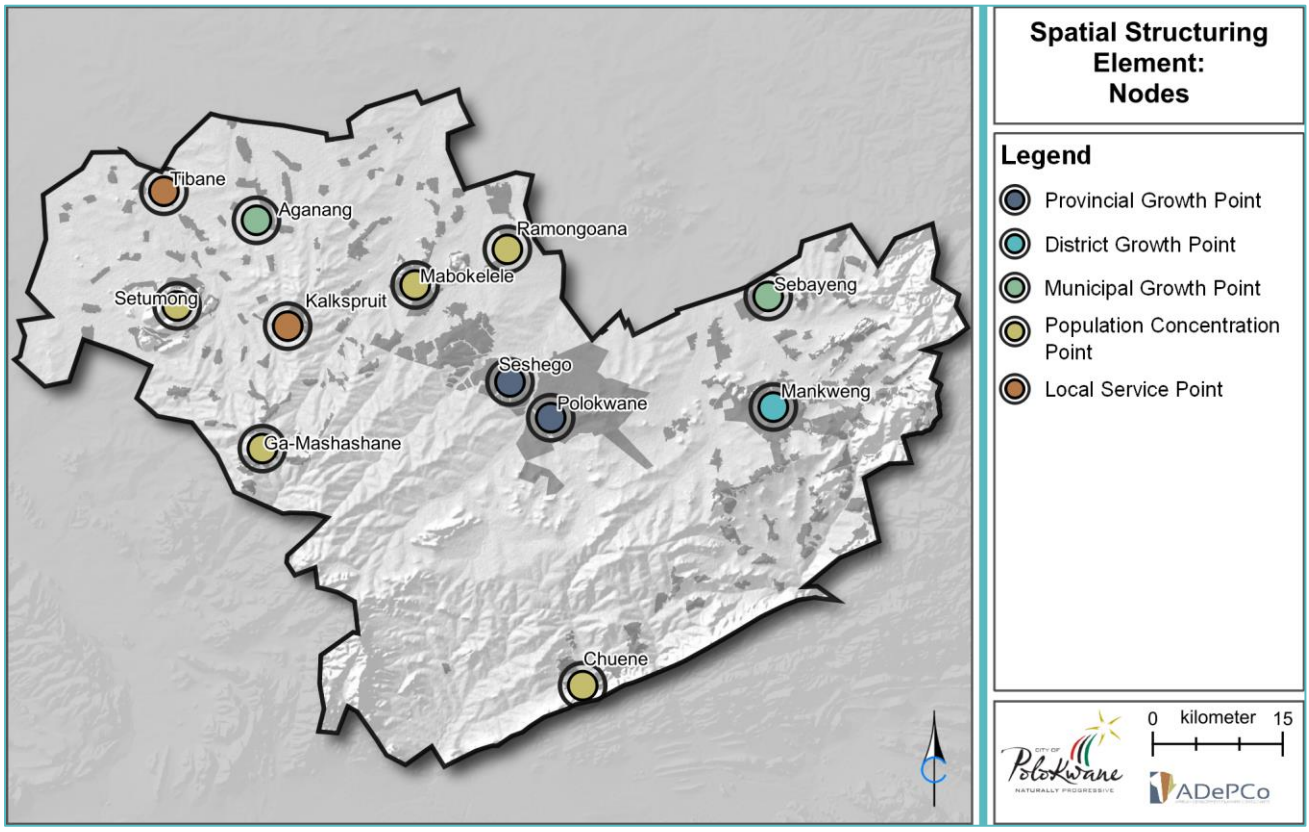
The urban edge stimulates the consolidation of economies within its bounds, fostering the growth of scattered secondary or emerging nodes through infill development into primary nodes, as opposed to disconnected leapfrog development. Additionally, it champions the conservation of land, a finite resource, by promoting brownfield developments over greenfield ones.

Urban fringes are typically allocated as an extension of the urban edge to accommodate future development and urban expansion expectations within longer-term timeframes.

Proposals

Nodes

The Polokwane LM municipal area accommodates a hierarchy of nodes that indicates the anticipated relative intensity of development and where to concentrate certain engineering and social services. **Map 38** highlights the nodes applicable within the municipal space, and **Table 6** defines the implications and development guidelines that apply to these nodes.



Map 38: Spatial Structuring Element: Nodes

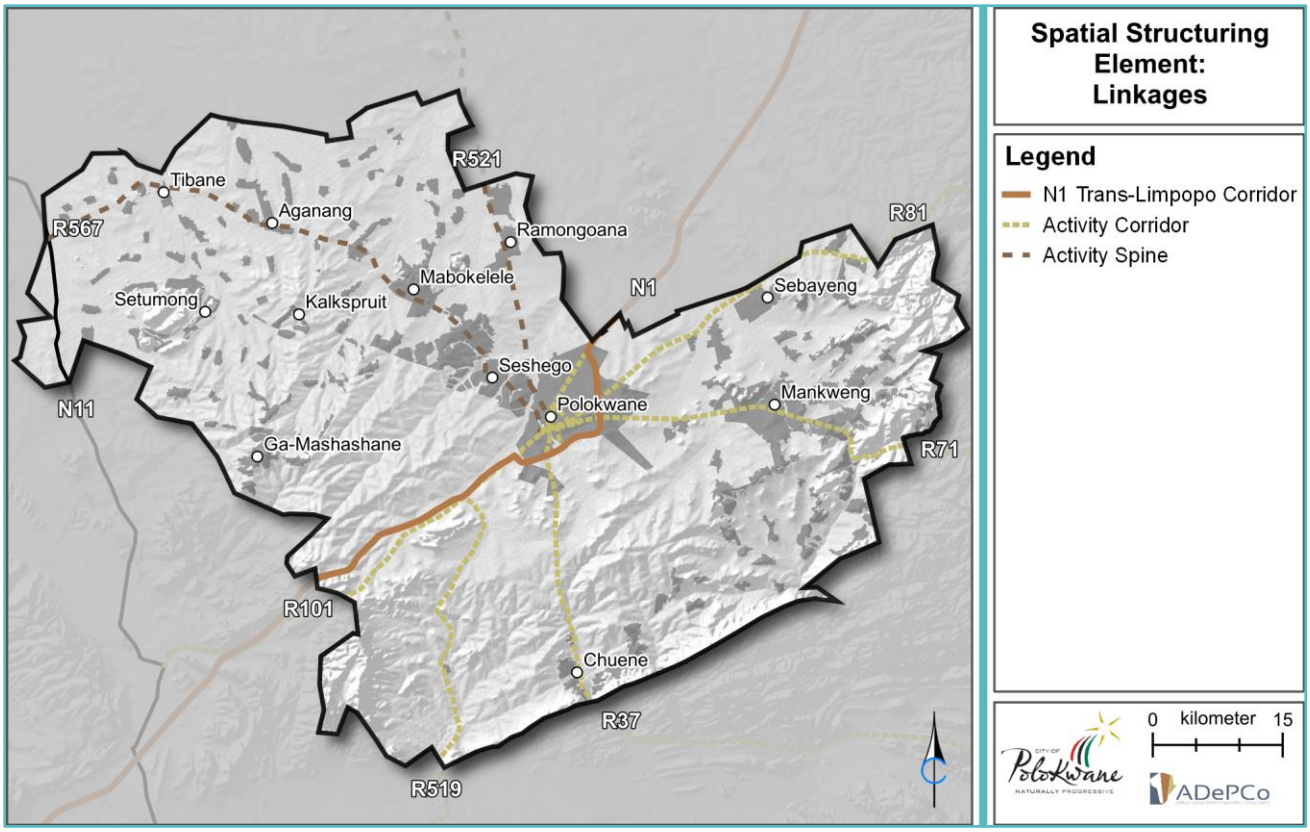
Table 6: Nodal development guidelines

NODE HIERARCHY	LOCALITY	DEVELOPMENT GUIDELINES
Provincial Growth Point These areas have a sizable economic sector providing jobs to many residents. They have a regional and provincial service delivery function and many social facilities. They have institutional facilities such as government and local and district municipal offices. These growth points serve many people and support a large population base.	Polokwane	• Economic base: regional service centre • Function: commercial, business, services, and government • Location: at the convergence of several regional roads (N1, R101, R81, R71, R37, R521 and R567) • Development potential: high • Service needs: high • Investment type: large-scale infrastructure • Residential densification • Diverse educational facilities
	Seshego	• Economic base: residential and commercial • Function: extension of Polokwane primary node • Location: on regional road R527 • Development potential: medium • Service needs: high • Investment type: service infrastructure to support densification. • Residential densification • Development of Seshego Urban Hub
District Growth Point These areas have a meaningful economic sector with some job creation, various higher-order social facilities (such as hospitals and health centres) and can accommodate tertiary educational institutions. These growth points have regional government and district and local government offices. These points support a significant population point.	Mankweng	• Economic base: residential and commercial • Function: extension of Polokwane primary node • Location: on regional road R71 • Development potential: medium • Service needs: high • Investment type: service infrastructure to support densification. • Residential densification
Municipal Growth Point These areas support a small economic centre and mainly serve the surrounding villages and farming areas. These growth points have few lower-order social and institutional activities and, in most instances, support a sizable but small population.	Sebayeng Aganang	• Economic base: residential and commercial • Function: extension of Polokwane primary node • Location: Sebayeng - on regional road R81; Aganang on regional road R567 • Development potential: medium • Service needs: high • Investment type: service infrastructure to support densification. • Residential densification
Population Concentration Point These areas consist of towns/villages or a group of villages located close to each other, which have virtually no economic base. Still, a substantial number of people are in these villages.	Ga-Mashashane Setumong Mabokelele Ramongoana Chuene	• Economic base: residential • Function: service concentration points to support nearby villages • Development potential: low • Service needs: high • Investment type: service infrastructure to support densification
Local Service Point These areas have some development potential based on population growth and servicing function potential, although they have a very limited or no economic base. Most of these settlements are in traditional rural areas.	Tibane Kalkspruit	
Activity Node These areas have a concentration of mixed-use activities around a central core serving a particular neighbourhood or larger sites. While not the vision for future nodes, some existing activity nodes are purely shopping centres but are acknowledged in the spatial structure as nodes.	Polokwane Seshego Sebayeng Aganang Tibane Kalkspruit Setumong Ga-Mashashane Mabokelele Romongoana Chuene	The activity nodes aim to concentrate compatible and supporting uses in specific areas to create a concentration of mixed-use typologies that leverage existing economic functions within larger settlements. The following guidelines are applicable: • Concentrate on public facilities. • Promote the development of mixed-uses. • Create safe and attractive public areas. • Ensure interfaces along adjoining lower-intensity residential areas are treated sensitively.

NODE HIERARCHY	LOCALITY	DEVELOPMENT GUIDELINES
Future Node These areas highlight potential for growth and development, offering opportunities for a concentration of a range of land uses and economic activities. These areas should be designed, managed purposefully and actively stimulated.	Mankweng Sebayeng	The realisation of the potential of these localities into fully fledged nodes will depend on several factors. While the future of these nodes is uncertain, the possibility for more significant development is clear. Management of future nodes will be subject to growth management principles.

Linkages

Map 39 highlights the linkages applicable within the municipal space, and **Table 7** defines the implications and development guidelines that apply to these linkages.



Map 39: Spatial Structuring Element: Linkages

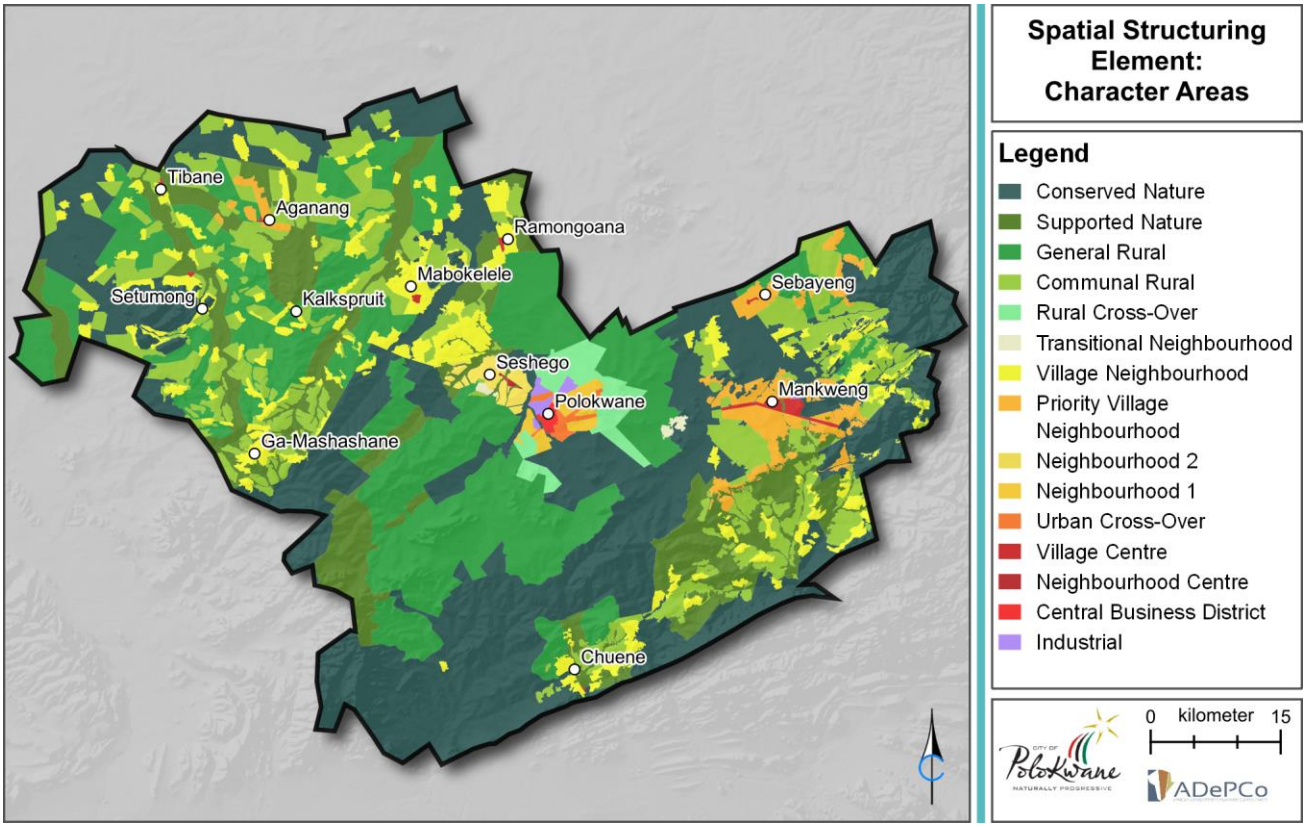
Table 7: Linkage development guidelines

LINKAGE TYPE	ROAD	DEVELOPMENT GUIDELINES
N1 Trans-Limpopo Corridor This corridor is an extensive and complex linear development system of regional and municipal significance. Given the national status of the road, direct access to adjacent land uses is usually impossible. High visibility is a major feature, and the corridor includes linear activity spines providing access to adjacent developments.	N1	The aim is to focus on industrial and agro-processing activities and associated businesses along the N1. Effective land use development and change management along the N1 remain paramount to balance excellent mobility and secondary accessibility and visibility. The following imperatives are required to achieve development success: • Upgrade the railway line and associated infrastructure. • Expand existing agro-processing facilities near the corridor nodes to benefit from these linkages. • Promote light industrial and agro-processing initiatives along the corridor. • Upgrade, manage and maintain the corridor to ensure ease of movement and facilitate development initiatives.
Activity Corridors These corridors are the main routes within the urban area, linking the City of Polokwane with adjacent municipalities and towns.	R81, R71, R37, R101	The aim is to reinforce the use of current mobility roads linking: • Polokwane and Tzaneen • Polokwane and Mogalakwena • Polokwane and Molemole • Polokwane and Sebayeng The movement of residents to and from their place of employment remains the core purpose. Guidelines applied in this regard will be to: • Introduce nodal development with a mixed-use character focusing on major intersections along the route. • Enforce limited direct access to and from these routes to ensure their mobility function. • Improve public transport offerings along these routes. Development along the R71 towards Mankweng will mainly take the form of light industrial development to promote the growth of non-polluting industrial nodes close to the main distribution line and low-income residential areas to provide employment opportunities closer to growing residential areas.
Activity Spines These urban-level routes form the primary distribution network within and between different urban areas.	R521, R567	The aim is to reinforce the use of current mobility roads linking Polokwane and Seshego. The movement of residents to and from their place of employment remains the core purpose. Guidelines applied in this regard will be to: • Introduce nodal development with a mixed-use character focusing on major intersections along the route. • Enforce limited direct access to and from these routes to ensure their mobility function. • Improve public transport offerings along these routes.

Note: The above is not an exhaustive list of the linkages within the municipal area but instead represents the most critical linkages on a municipal-wide scale. The functional areas and relevant spatial indexes will note additional activity streets and spines.

Character areas

Table 8 details the character description and proposed land uses applicable to each character area (as illustrated in **Map 40**). The black bullets represent land uses based on the primary land use categories of SPLUMA Act 16 of 2013. The grey bullets are examples of uses appropriate for the character area (this is not an exhaustive list).



Map 40: Spatial Structuring Element: Character Areas

Table 8: Character area development guidelines

CHARACTER AREA	DESCRIPTION	PROPOSED LAND USES
Conserved nature	This character area protects critical biodiversity areas, protected areas and areas that should be reserved for ecological protection but are not formally protected. Areas should be protected and restored to their natural state, and no development should be allowed.	• Conservation • Agriculture ◦ Only low-impact such as game/wildlife breeding

Supported nature	This character area provides adequate measures for the protection of ecologically sensitive areas. It also provides the opportunity for limited tourism uses that are low-impact and nature-based	• Conservation
		• Agriculture
		  ◦ Only low-impact such as game/wildlife breeding
		• Recreation
		  ◦ Eco-lodge, hunting farms, nature-based recreation

General rural	This character area identifies, preserves, and protects land with high agricultural potential, where the predominant activity is extensive agricultural production of agricultural industries, crops, and animals.	• Agriculture • Forestry • Residential • Industrial
Communal rural	This character area identifies, preserves, and protects land with high agricultural potential, where the primary activity is agricultural production on a subsistence level. Surrounding villages communally own the land.	• Agriculture • Forestry • Conservation

Rural cross-over	This character area pertains specifically to agricultural holdings and smaller farm portions near urban areas, where development pressure manifests in urban expansion. This character area allows for the development of both agricultural and residential uses.	• Agriculture • Residential ◦ Single residential, overnight accommodation • Commercial • Industrial • Recreation

Transitional Neighbourhood	This character area refers to those residential areas that might be deemed informal settlements, predominantly ascribed to regions outside the Traditional Authority areas without a formal layout.	• Residential
		• Community
		• Institutional
		  ◦ Clinic
		• Education
		• Recreation
		  ◦ Sports ground
		• Public
		  ◦ Public open space
		• Business
		  ◦ Beauty salon, farmstall, household enterprise, shebeen, tavern, spaza shop, shisanyama, etc.

Village Neighbourhood	This character area demarcates traditional villages as contained within Traditional Authority areas. It comprises land uses that support the rural character of these settlements. The predominant land use is rural residential, with additional uses that promote sustainable livelihoods.	• Residential
		  ◦ Rural residential, flats, tenements, student accommodation
		• Community
		• Institutional
		  ◦ Clinic
		• Education
		• Recreation
		  ◦ Sports ground
		• Public
		  ◦ Public open space

Neighbourhood 2	This character area is predominantly residential, with supporting land uses that protect the area's character, promote sustainable livelihoods, and cater to the community's needs. In these areas, greater flexibility exists regarding additional uses (such as spaza shops, home enterprises, and informal trading).	• Residential
		  ◦ Rural residential, single residential flats, tenements, student accommodation, overnight accommodation
		• Community
		• Institutional
		  ◦ Clinic, hospital, medical consulting rooms
		• Education
		• Recreation
		  ◦ Sports ground
		• Public
		  ◦ Public open space
		• Business
		  ◦ Beauty salon, farmstall, household enterprise, shebeen, tavern, spaza shop, shisanyama
		  ◦ Offices, wholesale trade, scrap yard, motor dealership

Neighbourhood 1	This character area is predominantly residential, with supporting land uses that protect the area's character, promote sustainable livelihoods, and cater to the community's needs.	• Residential
		  ◦ Single residential, multiple residential, overnight accommodation, flats
		• Education
		• Recreation
		• Public
		• Community
		• Business
		  ◦ Restaurant, bakery, beauty salon, household enterprise, service enterprise, tea garden

Priority village neighbourhood	This character area pertains to village neighbourhoods in Traditional Authority areas with municipal and district growth points. These settlements will support a limited economic sector and mainly serve as access points to community and institutional services to the surrounding villages.	• Residential
		  ◦ Rural residential, single residential flats, tenements, student accommodation, overnight accommodation
		• Community
		• Institutional
		  ◦ Clinic, hospital, medical consulting rooms
		• Education
		• Recreation
		  ◦ Sports ground
		• Public
		  ◦ Public open space
		• Business
		  ◦ Beauty salon, farmstall, household enterprise, shebeen, tavern, spaza shop, shisanyama, restaurant, bakery, offices, wholesale trade, motor dealership

Urban cross-over	This character area denotes residential areas comprising a range of horizontal mixed-use businesses and residential uses. The area typically has higher-density residential developments, with some remnants of the old single residential stands. The character area identifies those transition areas between the CBD and adjacent residential areas with an unidentifiable mix of land uses.	• Business • Institutional • Education • Residential ◦ Hotel, lodge, overnight accommodation, student accommodation, flats, • Recreation
Village centre	Allows for the concentration of business and community services within Village Neighbourhood Areas to serve the needs of the surrounding villages.	• Business ◦ Beauty salon, farmstall, household enterprise, shebeen, tavern, spaza shop, shisanyama, etc. • Community • Public • Institutional • Government • Residential
Neighbourhood centre	This character area is in the Neighbourhood 1 and Neighbourhood 2 character areas and functions as a secondary CBD. They concentrate on the same uses within the CBD but have lower order importance and intensity.	• Business • Commercial • Community • Public • Institutional • Education • Government • Residential

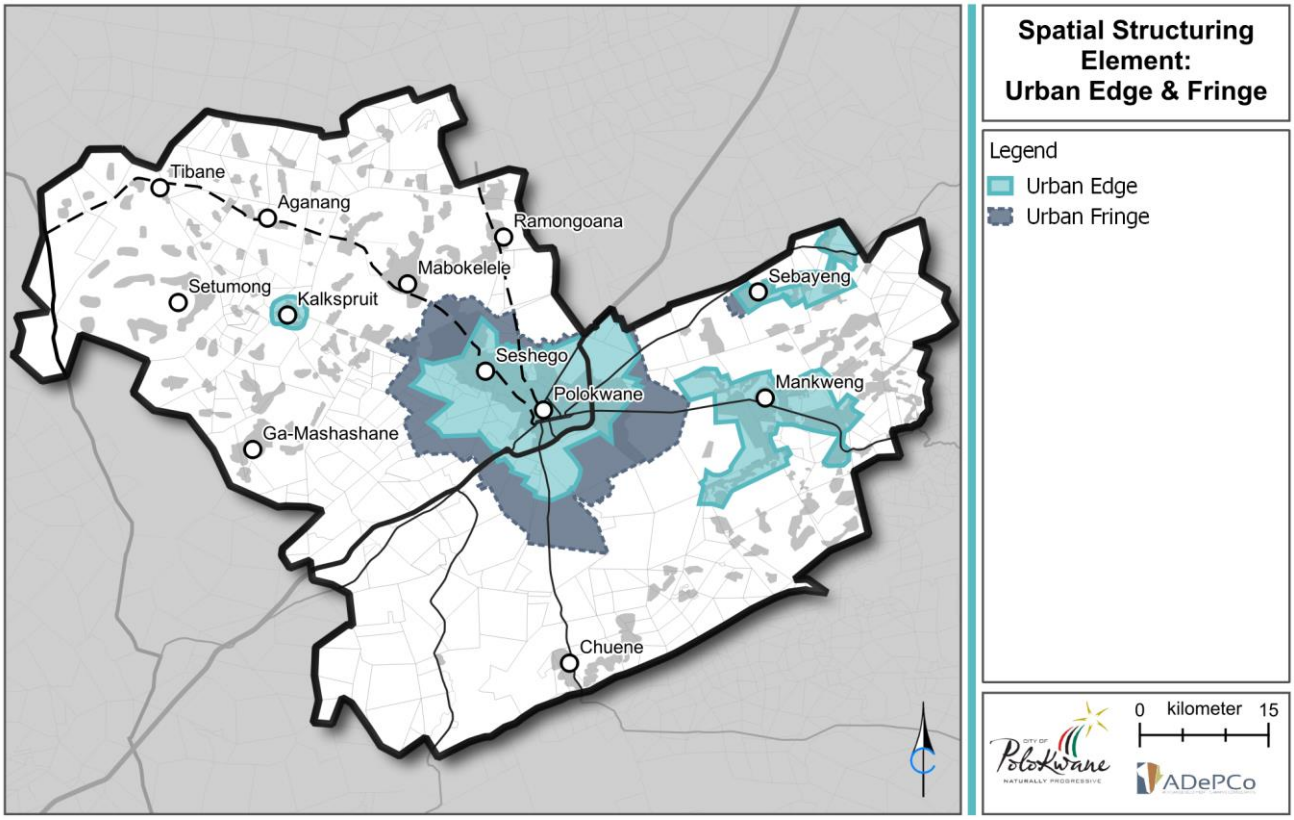
Central business district	This character area provides intensive business and mixed-use development with few restrictions to promote urban vitality and economic growth while providing opportunities for the concentration of provincial, district, and local services.	• Business
		  ◦ Offices, retail,
		  ◦ Offices, wholesale trade, scrap yard
		• Commercial
		• Community
		• Public
		• Institutional
		• Education
		• Government
		• Residential
		• Recreation

Industrial	This character area allows for the full range of industrial land uses while considering environmental effects. Ensuring a sustainable location accommodates the requirements for industrial activities and minimises the impact on the surrounding area.	• Commercial • Industrial • Transportation

Urban edge and fringe

The Polokwane Local Municipality accepted the establishment of an urban edge, which defines a specific region for gradual urban development. However, its presence doesn't imply that urban development within this boundary will be permitted haphazardly or without control. Such development relies on factors such as the availability of engineering services, sustainable maintenance, environmental protection, and adequate transportation networks. All regulations and policies that promote sustainable urban growth apply within this urban boundary.

Additionally, the urban fringe is delineated, serving as a transition zone outside the confines of the urban edge. This zone has the potential to encompass the surrounding rural hinterland. Within this urban fringe, conventional urban expansion is actively discouraged. However, select "spill-over" uses might be considered on their merits and appropriateness.
In Polokwane, the urban edge links to the Polokwane/Seshego urban complex, with additional urban edges proposed around the Mankweng, Sebayeng, and Kalkspruit Growth Points (Map 41). Map 42, Map 43 and Map 44 provide more detail regarding the applicable farm portions included in the urban edge and fringe delineations.



Map 41: Spatial Structuring Element: Urban Edge and Fringe

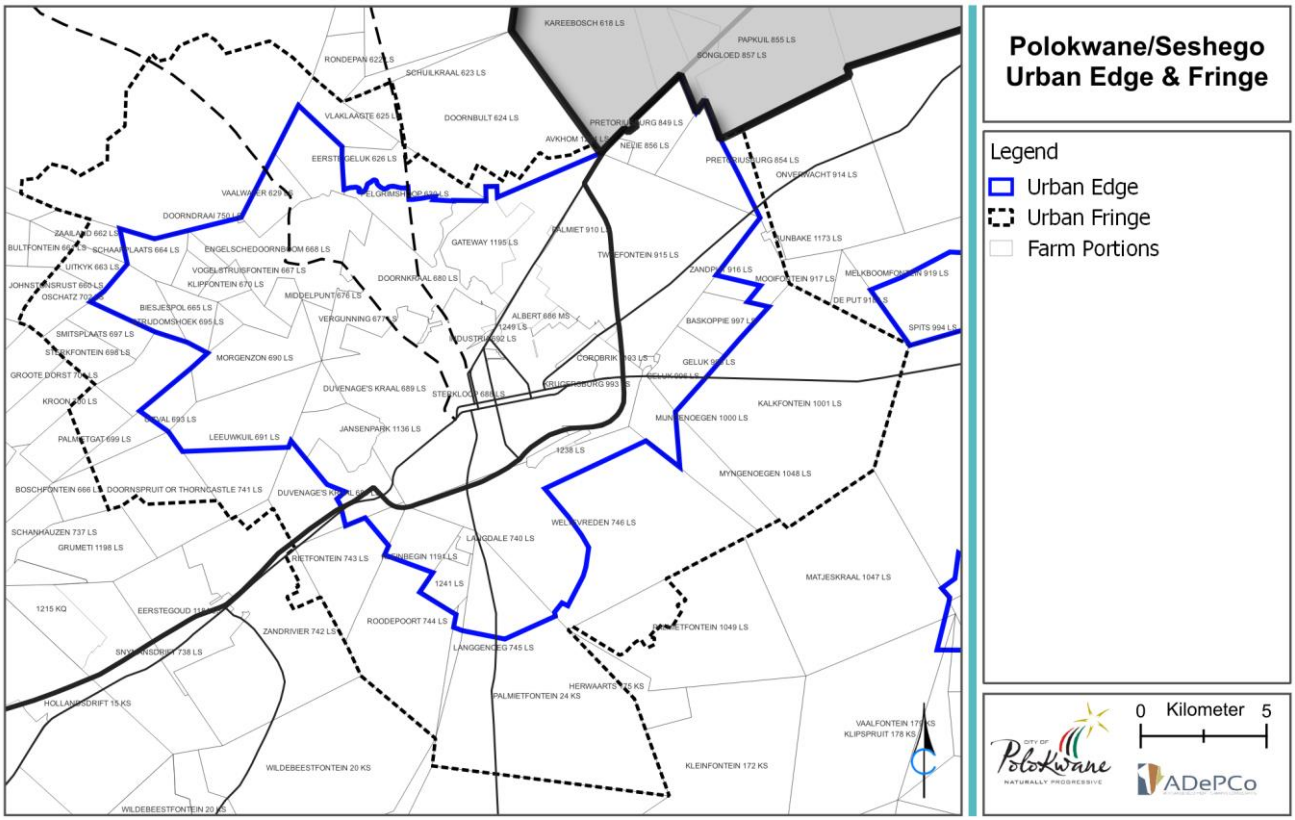
Land uses appropriate outside of the defined urban edge and fringe include:

- Agriculture: For purposes usually associated with, or reasonably necessary in connection with, agriculture and agri-villages. These purposes may include dwelling uses related to the agricultural use of the property.
- Conservation and nature reserves: Areas designated for nature conservation include tourism and recreational facilities directly related to the primary use.
- Tourism and recreation-related facilities: Outdoor and tourism-related activities, including hiking trails, hotels, restaurants, curio markets, conference facilities, wedding venues, game lodges, and other similar uses. These uses should have a rural character and not cause a nuisance or harm the environment.
- Social amenities: To serve communities in proximity but not within the urban edge/fringe and consider the scale of these facilities.

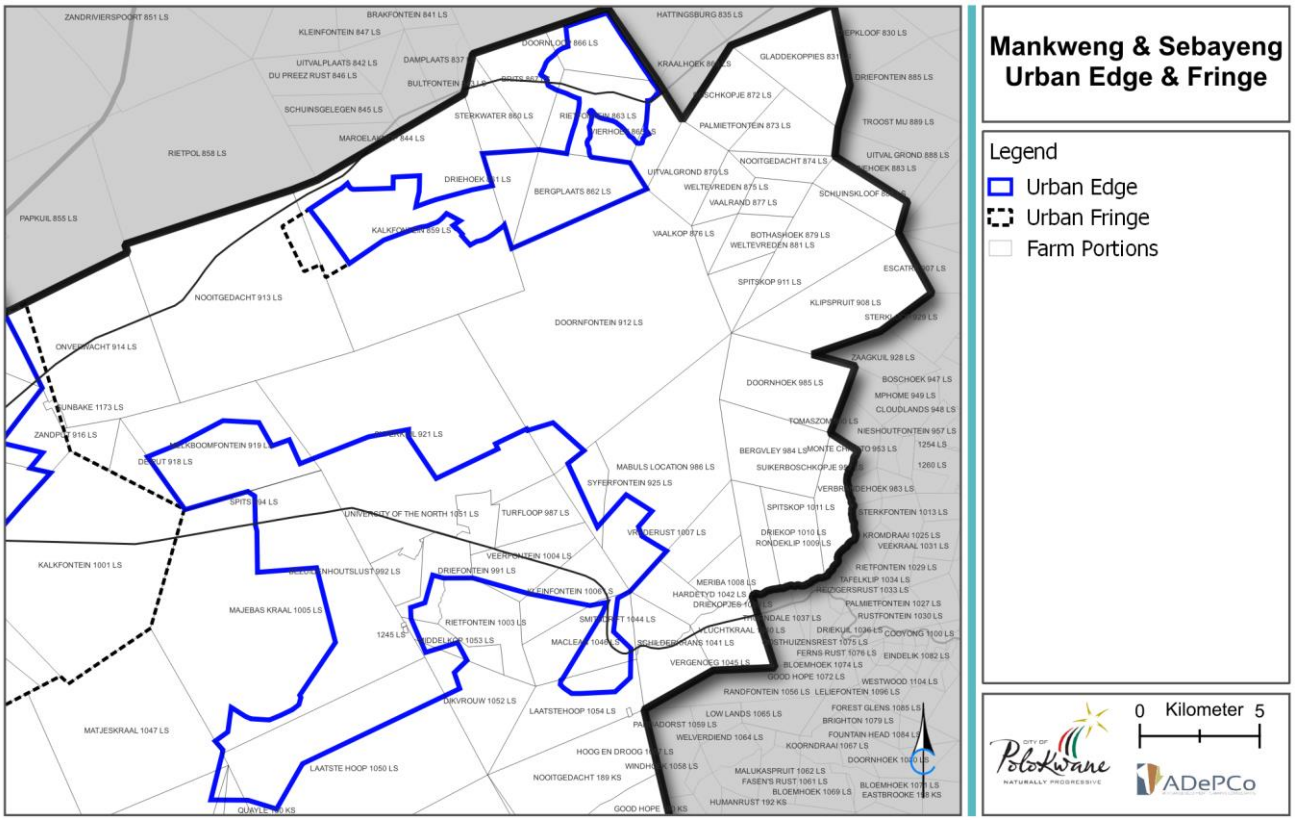
Subdivision of agricultural land outside of the urban edge will only be allowed if it complies with the following conditions:

- Compliance with land use criteria as noted in the above bullets.
- The division is within the policy's parameters on subdivision and agricultural land densification (2013).
- An existing second dwelling is not the primary motivation for subdivision.

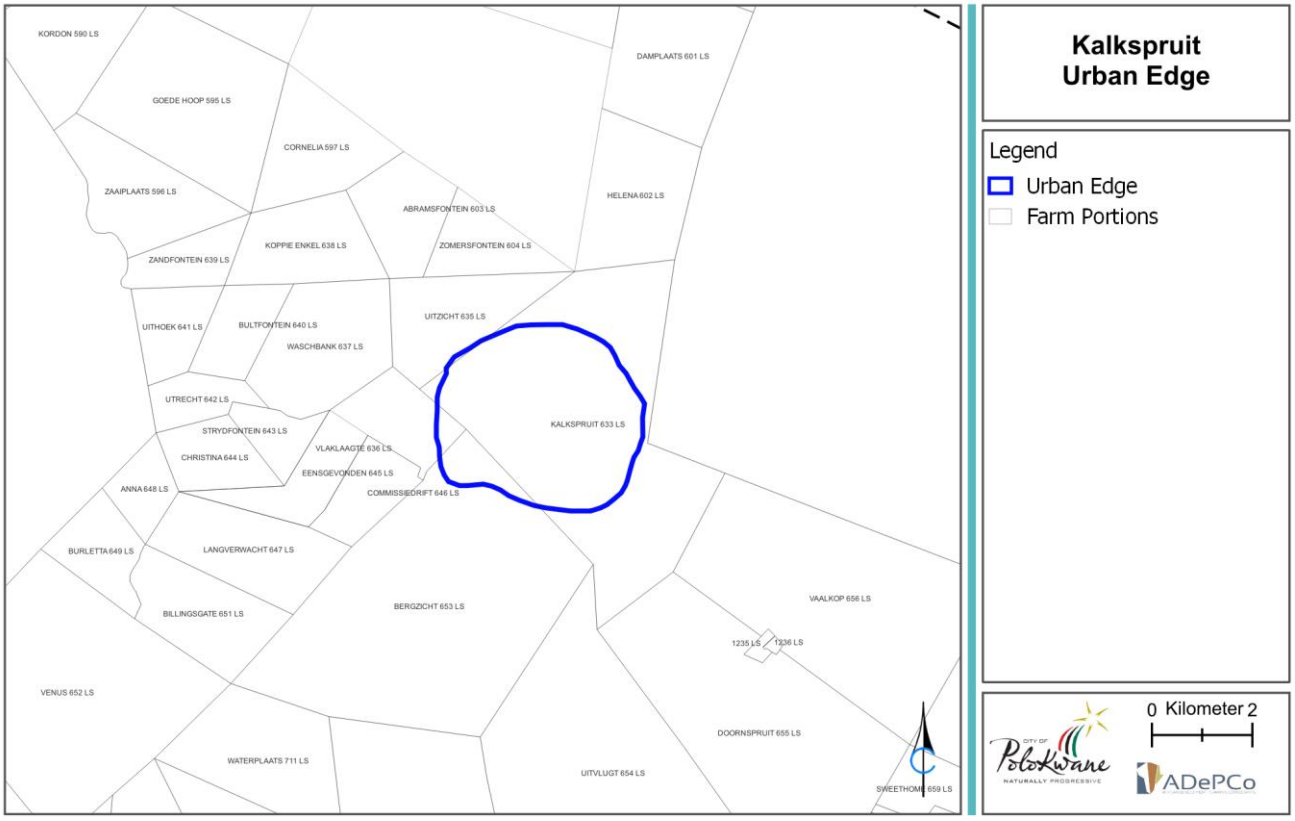
- The subdivision of productive agricultural land with agricultural potential is only allowed in special circumstances and with written consent from the National Department of Agriculture.
- Where a subdivision is motivated based on a road, river, or servitude severing the land, the provision of services and registration of servitudes should be to the satisfaction of the local authority.
- The Council will not be obligated to render services in any form whatsoever.



Map 42: Polokwane/Seshego Urban Edge and Urban Fringe



Map 43: Mankweng and Sebayeng Urban Edge and Urban Fringe



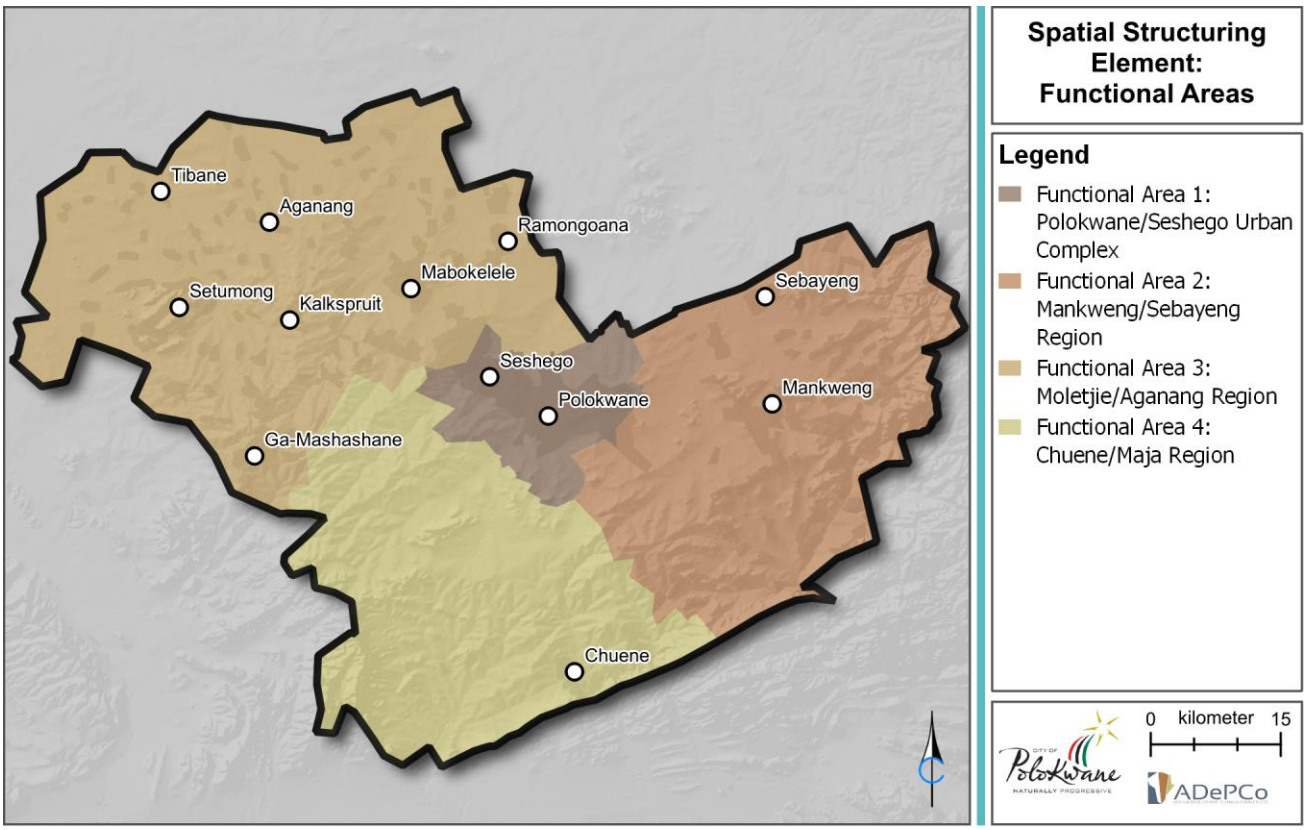
Map 44: Kalkspruit Urban Edge

Functional areas

This SDF divides the municipal area into four functional areas (based on current spatial planning strategies and policies within the Polokwane Local Municipality). These functional areas are depicted in **Map 45** and relate to the following regions:

- Functional Area 1: Polokwane/Seshego Urban Complex
- Functional Area 2: Mankweng/Sebayeng Region
- Functional Area 3: Moletjie/Aganang Region
- Functional Area 4: Chuene/Maja Region

Note that minor shifts have been made to the functional areas' boundaries to better coincide with the updated urban edge and fringe proposals.



Map 45: Spatial Structuring Element: Functional Areas

Functional Area 1: Polokwane/Seshego urban complex

Within the confines of the urban edge, Functional Area 1 is closely synonymous with the Polokwane/Seshego Urban Complex. This functional area predominantly assumes an urban character encompassing the Polokwane and Seshego urban areas. These two urban centres, their distinct neighbourhoods, and township extensions collectively constitute the pivotal components of this growth point.

Aligned with the concept of a Provincial Growth Point, this functional area is distinctly urban in its land use composition. Residential, business, institutional, social, and community facility components harmoniously co-exist within formally proclaimed townships. The Polokwane Central Business District forms the nucleus of business and office uses, while secondary activity nodes spread across suburban zones contribute to a decentralised business landscape. Industrial activities find their foothold in diverse industrial zones north and northwest of the Polokwane CBD and the eastern precincts of Seshego.

The identified activity spines that serve as pivotal urban thoroughfares are integral to the functional areas of the urban fabric. These routes are the primary distribution network, fostering mixed land uses and supporting nodes along their trajectories. The following roads constitute these activity spines:

- Nelson Mandela Drive (between the CBD and Seshego)
- New Era Drive to Gilead
- P94/1 to Dendron, and
- Polokwane Drive.

Vision

The vision for the Polokwane/Seshego Urban Complex is to create a thriving and sustainable urban landscape that fosters economic growth, cultural vitality, and connectivity. The vision emphasises the development of critical nodes and corridors while integrating various land uses to cater to the needs of the urban population.

Strategy

The strategy revolves around the development of crucial nodes and corridors within the Polokwane/Seshego Urban Complex, which includes:

Nodal development:

- Enhance the Polokwane CBD as the region's economic, administrative, and cultural core.
- Develop the Seshego Urban Hub into a diverse urban centre with mixed functions.
- Promote commercial activity through nodes like Savannah Mall and Mall of the North.

Corridor connectivity:

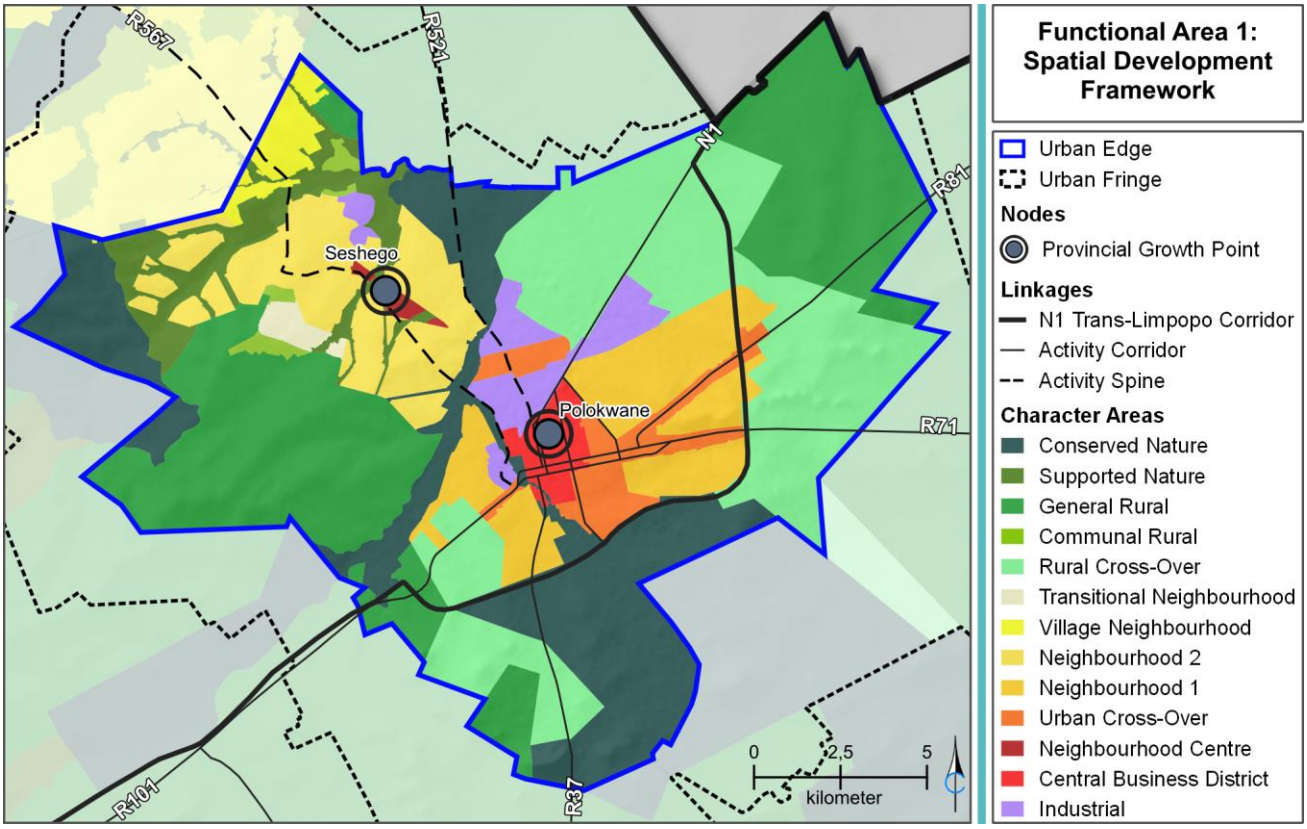
- Establish activity spines to connect different parts of the urban complex and support mixed land uses.
- Create development corridors to facilitate growth, housing, and limited commercial activities.

Densification and mixed-uses:

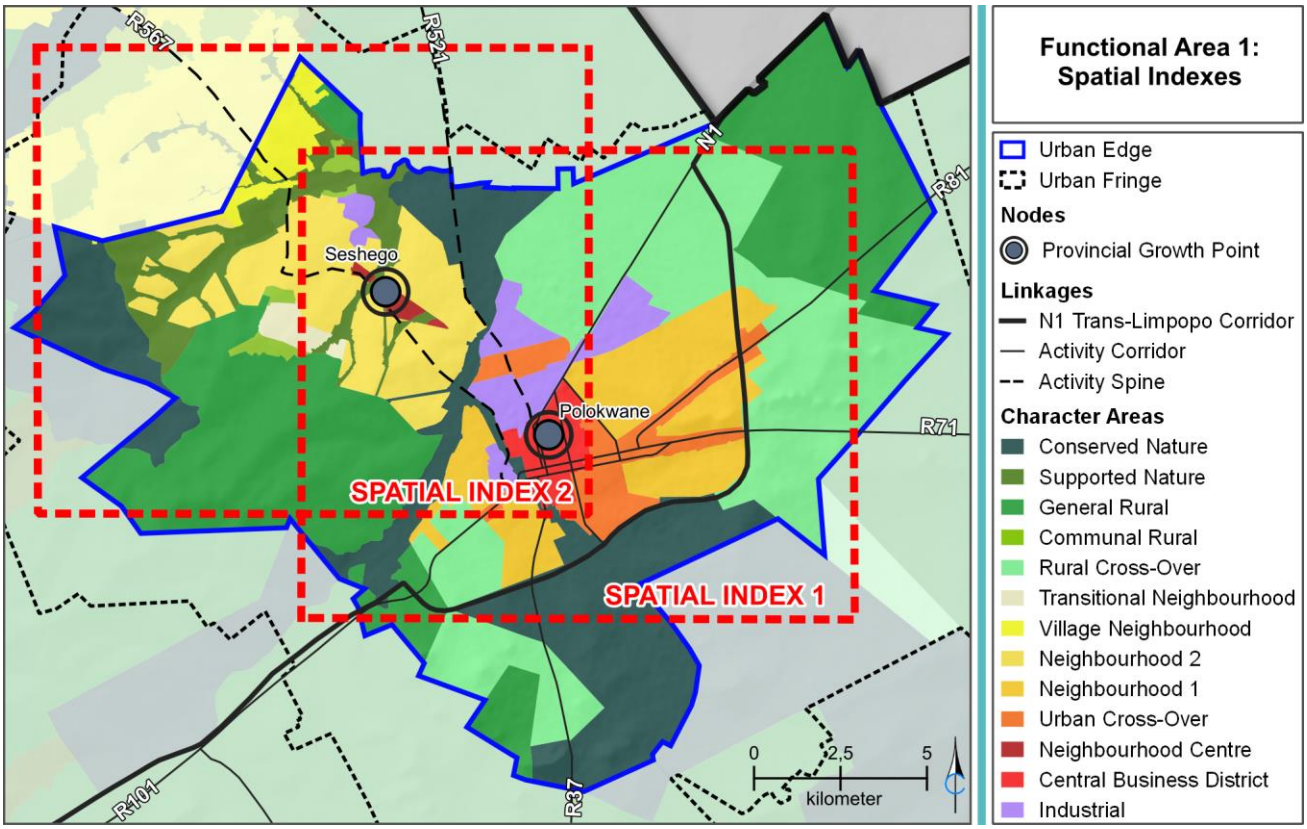
Prioritise densification and mixed uses within growth points and along designated development corridors, as identified by the municipality. Ensuring sufficient bulk infrastructure to support these developments is a crucial responsibility.

Proposals

Map 46 depicts the proposed spatial development framework for this functional area. This framework aims to harmonise land uses, infrastructure development and economic activities, ensuring a balanced and sustainable growth trajectory while addressing the community's unique needs within the region. **Map 47** highlights areas (spatial indexes) within the functional area with more detailed spatial proposals. The spatial proposals and actions for each area are listed accordingly.



Map 46: Functional Area 1 – Spatial Development Framework



Map 47: Functional Area 1 – Spatial Indexes

Nodes

Below is a description of the identified nodes within the functional area. Refer to **Map 50** and **Map 51** for further details on the location of these nodes.

Table 9: Nodes

NODAL HIERARCHY	LOCALITY	DESCRIPTION
Primary node	Polokwane CBD	This node is the focal point for high economic, social, infrastructure and human settlement development – especially in the demarcated settlement restructuring zone. The Polokwane CBD is the central economic hub and a focal point for employment opportunities. Densification should be the primary focus within the CBD.
Secondary node	1. Seshego Circle Hub 2. Nelson Mandela and Thembi Hani Drive 3. Witklip and Market Street 4. Platinum and Cycad shopping centres 5. Savannah Mall	These nodes provide emerging economic development opportunities and accessibility to some amenities. Attract private/public sector investment opportunities through economic and social restructuring. Requires more infrastructure investment to support development.
Gateway node	1. N1 Southern Gateway 2. Church Street South Gateway 3. N1/R71 Gateway 4. N1/R81 Gateway 5. N1 Northern Gateway	Gateway nodes are along important roads leading into town. These nodes provide development opportunities, concentrated on urban design, landscaping, refurbishment of existing buildings, construction of new buildings and presenting a sense of character to the area.

Linkages

- The R101 from Meropa Casino towards the Polokwane CBD – is earmarked for special land uses such as a convention centre and commercial-related and mixed-use land uses with diverse residential typologies.
- Nelson Mandela Drive, northwest of the Sand River towards the Seshego Hub – is earmarked for various housing typologies and limited service industries.
- Church Street extension and the P33-1 – are earmarked for various housing typologies with limited commercial, tourism, and service industrial land uses.
- Thabo Mbeki Street, Grobler Street, and Munnik Avenue- are earmarked for various housing typologies and densities with limited commercial and residential compatible land uses.
- Market Street, extending into Witklip Road – connects the Ladine and Laboria Industrial Areas.
- Percy Fyfe Ga-Mashashane Road – is earmarked to unlock development towards the southern gateway and the tourism corridor to the southwest.

Development on Public vs. Private land:

Through recognising the distinct roles in township development between public and private land ownership, several considerations come into play:

- Development on public land requires the allocation of public finances for bulk infrastructure, and internal engineering services should prioritise marginalised areas, mainly where public-sector land ownership facilitates housing for lower-income groups.
- For development on private land, public finances should focus solely on providing bulk infrastructure, while internal engineering services are to be funded by the developer.
- Commercial and industrial development should primarily focus on the CBD as the core activity node in the municipality. Subsequent attention extends to secondary activity nodes situated along Activity Corridors and Spines in areas of comparative advantage or potential to stimulate development.

Urban Densification

This section indicates the applicable densities for the areas contained within the urban edge. In this regard, it is essential to consider two separate factors:

- Indicative maximum residential densities in higher-density developments and
- Minimum erf size restrictions (relevant to single residential erven).

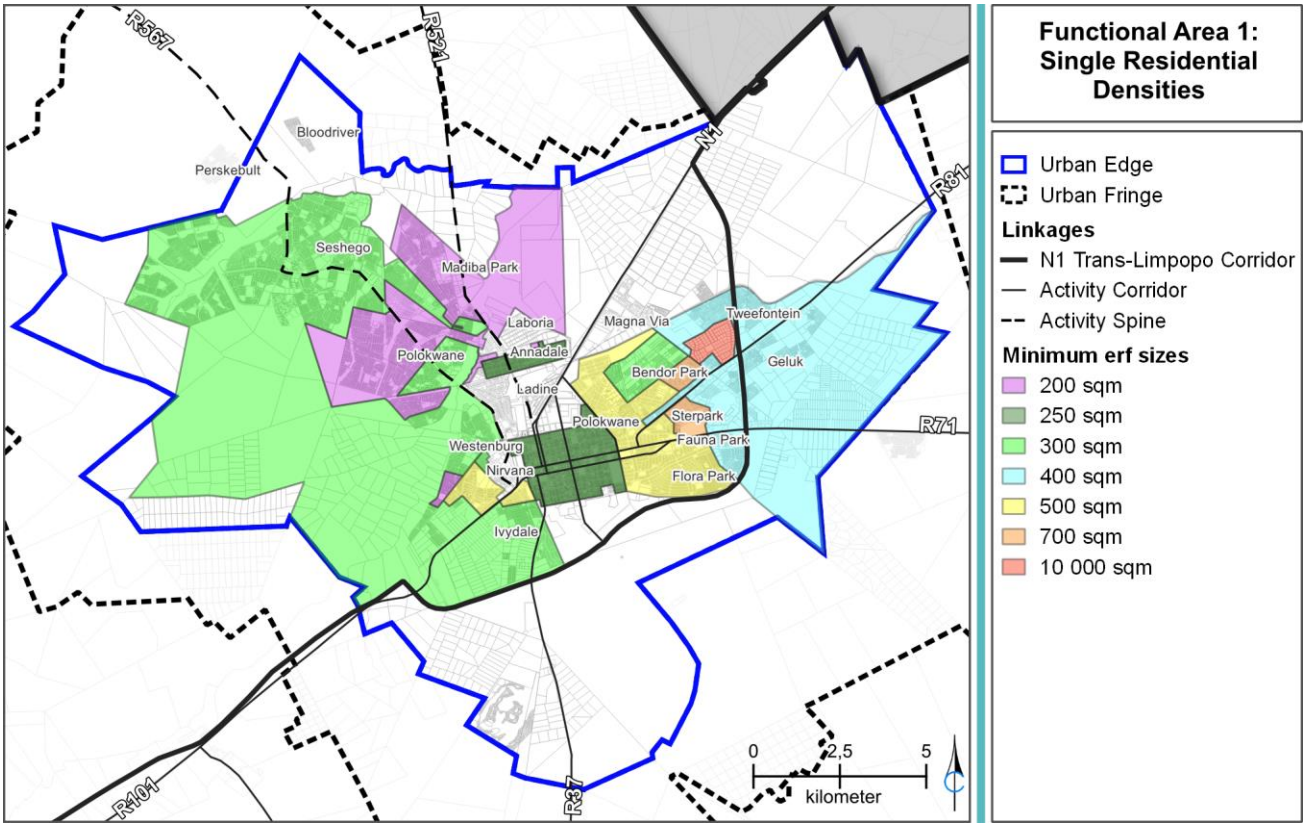
The guidelines for residential density and minimum single residential erven are in Map 48 and Map 49 below.

Where density equals the number of dwelling units per hectare of land, the same shall apply to the gross land area before any part becomes earmarked for access, engineering infrastructure or on-site open space requirements.

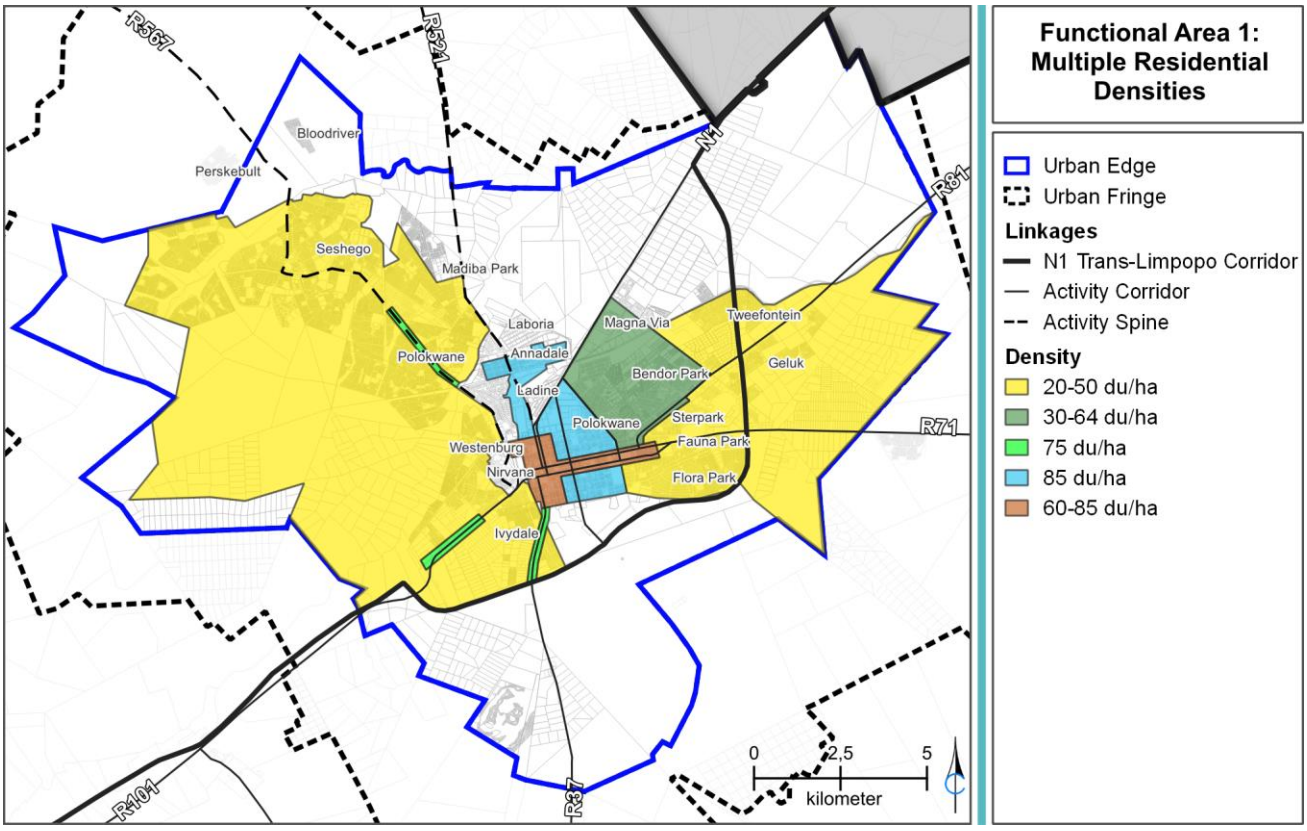
Only existing and proposed expansion areas receive density directives. With the review of the SDF, further regions can be considered for expansion and densification once the existing areas have undergone adequate infill and densification, and municipal bulk infrastructure can support expansion into such areas.

Table 10: Residential densities applicable to the Polokwane/Seshego urban complex

LOCALITY	DESIRED DWELLING UNITS PER HECTARE
Pietersburg 1 – South of Excelsior Street up until Suid Street, between Biccards Street and Dahl Street 2 – South of Excelsior Street up until Devenish Street, between Buite Street and Dahl Street 3 – All properties between and directly adjacent to Grobler Street and Thabo Mbeki Street, between Biccard Street and Oost Street	60-85 du/ha
Pietersburg 1 – South of the properties facing Thabo Mbeki Street up until Suit Street, between Biccard Street and Webster Street 2 – north of the properties facing Grobler Street up until Landdros Mare Street, between Dorp Street and Biccard Street 3 – west of Biccard Street up to the railway line, between Excelsior Street and Landdros Mare Street Annadale Properties between and directly adjacent to Grobler Street and Thabo Mbeki Street from Oost Street up until Savannah Centre	Up to 85 du/ha
Within defined nodes (N1 Bypass, Activity Corridors and Activity Spines) Properties adjacent to Nelson Mandela Drive, from Zebediela Street up to Madiba Park Street Properties adjacent to the R101 from Lawton Road up until the Southern Gateway Properties adjacent to Kerk Street from Suid Street up until the N1	Up to 75 du/ha
Bendor and Welgelegen extensions, as well as future township extensions Properties adjacent to Munnik Avenue up until De Wet Drive	30-64 du/ha
Ivypark X9, X17, X32, X19, X20, X21, X5, X18, X6, X12, X13, X7, X38, and all remaining approved and future townships Nirvana, Nirvana X1, X2 and X3, as well as future township extensions Peninapark and Peninapark X1 and X2, as well as future township extensions Pietersburg X4, X6, X7 and X11 Polokwane X28, X138, X124 Polokwane Extensions towards Seshego Seshego townships	20-50 du/ha



Map 48: Functional Area 1 – Single residential densities



Map 49: Functional Area 1 – Multiple residential densities

Densification through multi-unit development

Densification of all medium to higher-density residential-zoned areas in appropriate localities is encouraged, subject to the following guidelines (further conditions are detailed in ANNEXURE A):

- Medium to higher-density residential developments are encouraged in all existing and future neighbourhoods, including multi-family, multi-unit developments whose density generally exceeds that of the surrounding single residential properties.
- Preferred locations for medium to higher-density developments are surrounding shopping areas, commercial districts, designated open spaces adjacent to multi-family, multi-unit developments, and abutting major arterials, primary collectors, and secondary collector roads.

The development of residential buildings providing tenement-type accommodation or permanent lodging facilities may be supported, subject to the following guidelines:

- The maximum number of rooms to be permitted shall be based on the maximum water demand of the development and available bulk supplies.
- A site development plan that addresses aspects such as entrances/exits, coverage, floor area ratio, height, position of buildings, building restriction areas, parking, play parks, and architectural finishes should be submitted to the municipality for approval before the submission of building plans.
- Parking should be provided to the satisfaction of the municipality in terms of parking requirements to be addressed in the land use scheme. In cases of low vehicle ownership, relaxation of parking requirements may be considered on merit. Rational parking studies by experienced traffic engineers may be required for this purpose.
- Open space/play parks should be provided as part of a higher-density development to the satisfaction of the municipality. As a guide, 10% (but not less than 250sqm) of the area of the site should be reserved for dedicated on-site open space, which may include a children's play area.
- The required procedures shall be set out in the applicable land use scheme.

Densification through subdivision of single residential erven

The principle of densification of all single residential zoned areas in all urban areas shall be supported, subject to the following guidelines (further conditions are detailed in ANNEXURE A):

- Subdivision of existing properties shall be per the minimum allowable erf sizes permitted in terms of the density guidelines in **Table 10**.
- If applicable, the necessary zoning rights must be acquired in terms of the land use scheme before the approval of the subdivision.
- Second dwelling units on all single residential zoned properties will be supported subject to the municipality's consent being granted in terms of the land use scheme and conditions that the municipality may deem necessary (including the payment of available bulk service contributions).
- Subdivision of single residential properties within the CBD, the areas surrounding the CBD and areas along the identified corridors will not be supported. This ensures adequate property sizes to accommodate infill development and densification at reasonable densities.
- Additional residential accommodation through rooming or lodging could be supported on all single-title residential stands but subject to the following guidelines:
    - The main dwelling house should be permanently occupied by a single family plus a maximum of four additional persons.
    - The provision of rooms/lodging/boarding facilities is subject to written/special consent of the municipality and the required procedures as set out in the land use scheme.

Student housing establishments

In terms of the Student Accommodation Policy (2020), student housing developments (particularly near educational facilities) may deviate from the standard residential density guidelines. The Policy will apply to all proposed and existing student accommodation facilities throughout the jurisdiction of the Polokwane Municipality. The Policy also applies to all owners, operators and students who stay in approved and accredited student accommodation establishments.

The maximum permitted number of student rooms (habitable rooms) stipulated in the policy is as follows:

i. Density for single Student Accommodation Rooms (SAR)	ii. Density for double rooms or twin bedrooms Student Accommodation Rooms (SAR)
a. 500 student Accommodation Rooms/ha in urban and 0-5km from Tertiary institution i.e. 500SAR/ha; b. 300 student Accommodation Rooms/ha in urban and 6-10km from Tertiary institution i.e. 300SAR/ha; c. 400 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 0-5km from Tertiary institution i.e. 400SAR/ha; d. 300 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 6-10km from Tertiary institution i.e. 300SAR/ha; e. 150 student Accommodation Rooms/ha in rural area and 10-20km from Tertiary institution i.e. 150SAR/ha;	a. 750 student Accommodation Rooms/ha in urban and 0-5km from Tertiary institution i.e. 750SAR/ha; b. 450 student Accommodation Rooms/ha in urban and 6-10km from Tertiary institution i.e. 450SAR/ha; c. 600 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 0-5km from Tertiary institution i.e. 600SAR/ha d. 300 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 6-10km from Tertiary institution i.e. 300SAR/ha; e. 150 student Accommodation Rooms/ha in rural area and 10-20km from Tertiary institution i.e. 150SAR/ha;

Spatial Index 1: Polokwane Provincial Growth Point

The Polokwane CBD is the highest-order activity node in Limpopo Province, both in geographical prominence and economic impact. The CBD, as the epicentre of the Limpopo Province, functions as the capital core, housing the Limpopo Provincial Legislature and an array of provincial and national government departments. It also accommodates the Capricorn District's administrative centres and Polokwane Local Municipality.

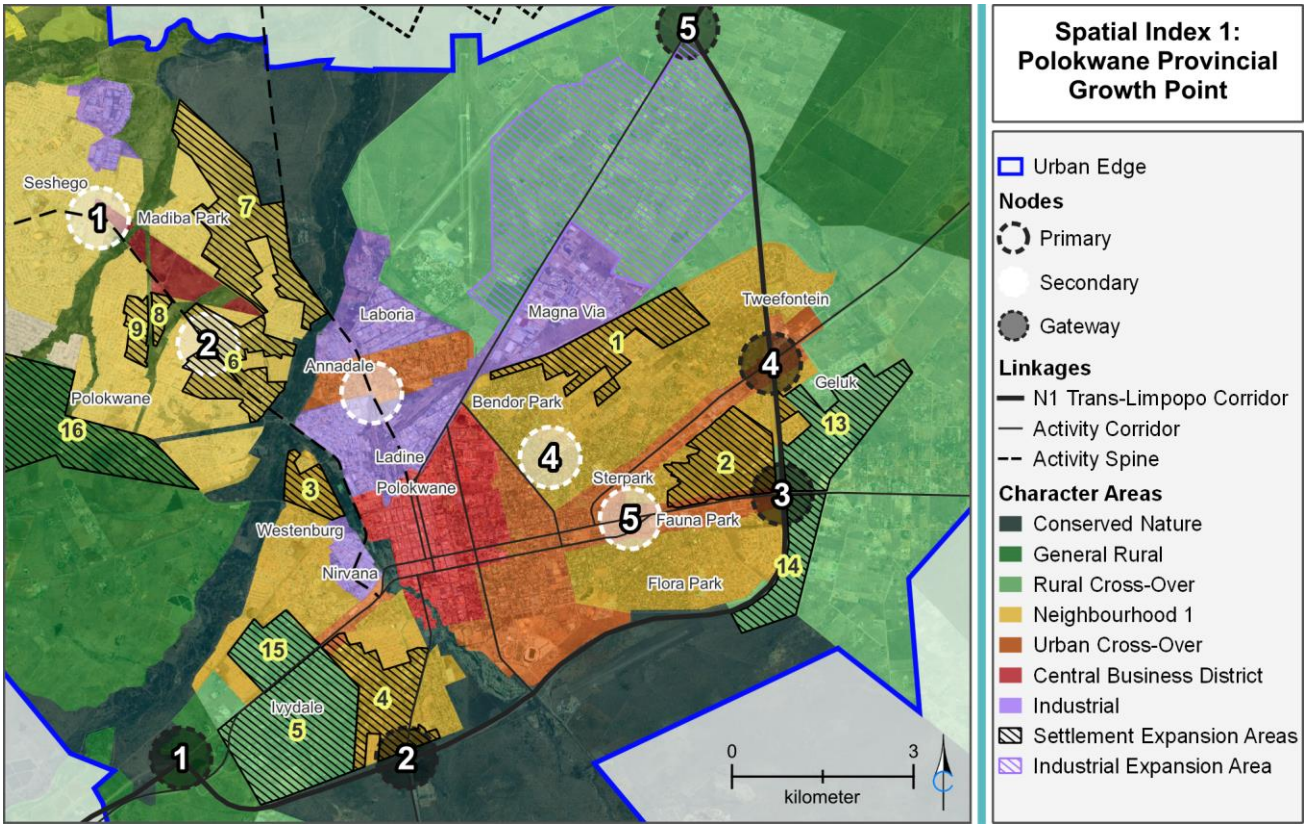
The Polokwane CBD is a focal point of convergence for major regional roads, accompanied by extensive public and private transport infrastructure within the province. This dynamic hub provides a comprehensive spectrum of economic and social facilities, catering to the needs of the local and surrounding rural communities.

Encompassing a diverse array of speciality areas and nodes that complement the CBD's offerings, this vibrant landscape includes industrial and commercial zones, various residential sites, a government services precinct hosting multiple tertiary education institutions, a regional sports and recreation precinct, a regional medical precinct, and a provincial intermodal transport hub.

Marking the most sustainable cluster of mixed land use typologies and employment opportunities within the municipality, the CBD has benefitted from formulating the CBD Plan and Urban Renewal Strategy. This comprehensive strategy envisions the revitalisation and sustainable development of the CBD. The current SDF adopts all areas illustrated within the 2016 Polokwane CBD Plan; however, the SDF reclassified them into appropriate character areas. This reclassification does not expand the CBD boundaries, which will only occur by reviewing the existing CBD precinct plan.

Given the expansive urban edge and fringe demarcation, residential development within the growth point has been sprawling and disjointed. This sprawl inevitably puts extra strain on the municipality to expand bulk services beyond what current budgets can afford. As such, the decision to prioritise densification and infill development within the designated Neighbourhood 1 and 2, Urban Cross-Over and CBD areas is critical.

Map 50 provides more detail on the implications of the Functional Area 1 Spatial Development Framework for this provincial growth point. See **Table 6, Table 7 and Table 8** for more information on the applicable land uses and development parameters for each of the identified nodes, linkages and character areas.



Map 50: Functional Area 1 – Polokwane Provincial Growth Point

Actions:

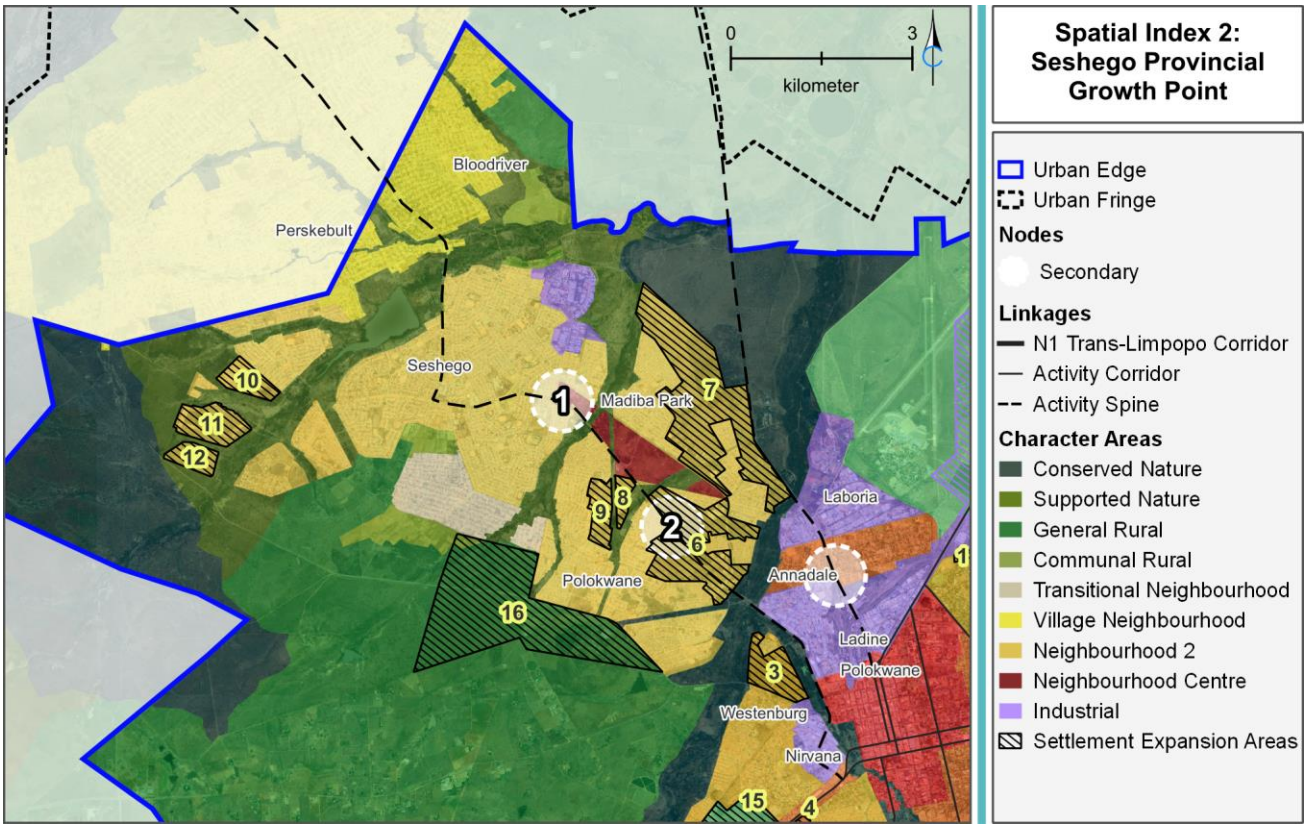
- Review the boundaries of the Neighbourhood 1 and Rural Cross-Over areas only once the area has built up the identified Settlement Expansion Areas.
- Allocate additional Urban Cross-Over Areas along critical linkages when the development of the identified secondary nodes is complete and presents a level of intensity appropriate to be characterised as an Urban Cross-Over area.
- Change the boundaries of the CBD area with the review of the 2016 CBD Plan and Urban Renewal Strategy.
- Conduct sub-precinct plans within all gateway nodes to determine how these strategically located nodes can develop into character-defining areas for the municipality.

Spatial Index 2: Seshego Provincial Growth Point

The larger Seshego Area constitutes an emerging business node ranking second in significance only to the primary Polokwane CBD. This alignment signifies its growing role and impact within the urban landscape. The approved precinct plan 2019 for the Seshego Urban Hub marks a significant stride in this direction. The hub encapsulates the Seshego Circle Mall area alongside the older Seshego CBD region to its west. Various serviced yet underdeveloped erven within the CBD area hold promise for future expansion and urban development.

The precinct plan aims to change the existing Seshego Circle Mall area into an urban hub that exudes vibrancy, prioritises pedestrians, and functions conveniently as a TOD environment. The suggested interventions are contingent upon significant factors such as (1) the availability of bulk infrastructure capacity, (2) robust precinct management, and (3) the implementation of the Integrated Rapid Public Transport System.

Map 51 provides more detail on the implications of the Functional Area 1 Spatial Development Framework for this provincial growth point. See **Table 6, Table 7 and Table 8** for further information on the applicable land uses and development parameters for each of the identified nodes, linkages and character areas.



Map 51: Functional Area 1 – Seshego Provincial Growth Point

Actions:

- Formal delineate settlement boundaries for the Village Neighbourhood Area and confirm them in consultation with the Traditional Authority.
- Expand residential units only within the identified Neighbourhood 2 Area and Residential Expansion Areas.
- Prioritise densification and infill over greenfield development, given the functioning of the area as a provincial growth point.
- Implement the Seshego Urban Hub Sub-Precinct Plan (2022) to catalyse the Neighbourhood Centre Area and start the spatial integration of the Polokwane/Seshego Urban Complex.
- Argue for the potential expansion of the Industrial Area based on market demand.

Formalisation of informal areas

A Transitional Neighbourhood Area on the eastern extent of Seshego A is deemed an informal settlement by the municipality and will undergo formalisation.

Significant portions to the northwest of the Seshego Urban Complex also remain informal. This area encompasses much of the Village Neighbourhood Areas extending to the wetland northeast of Bloodriver, Darling, Perskebult, Makgofe, and Kgotlhwane. These regions will undergo formalisation, requiring the establishment of a Local Spatial Development Framework for this territory.

Functional Area 2: Mankweng/Sebayeng Region

The Mankweng/Sebayeng Functional Area includes the Mankweng District Growth Point and Sebayeng Municipal Growth Point. It also consists of the eastern and southern parts of the Urban Fringe associated with the Polokwane/Seshego Urban Complex. To the south lies the areas related to the Polokwane Game Reserve and the proposed tourism corridor associated with the extension of Dorp Street, linking the Peter Mokaba Stadium with Lavarge Quarry and the Smelters.

This functional area is urban and rural, with approximately 31 formally proclaimed townships and an estimated 134 rural settlements/villages. The Mankweng Townships (including different neighbourhoods and township extensions) represent the urban areas, while the Sebayeng areas towards Badimong are mainly rural. The land use typologies mainly include residential uses. Business, social, and other community facilities are present, especially in the case of Mankweng, with the University of the North and the Academic Hospital located there.

The functional area includes the Mankweng District Growth Point and Sebayyeng Municipal Growth Point. The Mankweng area is along the R71 Activity Corridor. It has a meaningful economic sector with higher-order social facilities, while the Sebayeng area is adjacent to the R81 Activity Corridor.

Vision

The vision for the Mankweng/Sebayeng Functional Area is to create a sustainable and integrated urban-rural region that promotes economic growth, connectivity, and diverse land uses. This vision encompasses the transformation of crucial roadways into development corridors, fostering connectivity and growth across the region. It also highlights the significance of institutional hubs, economic diversity, and the preservation of the rural essence within the area.

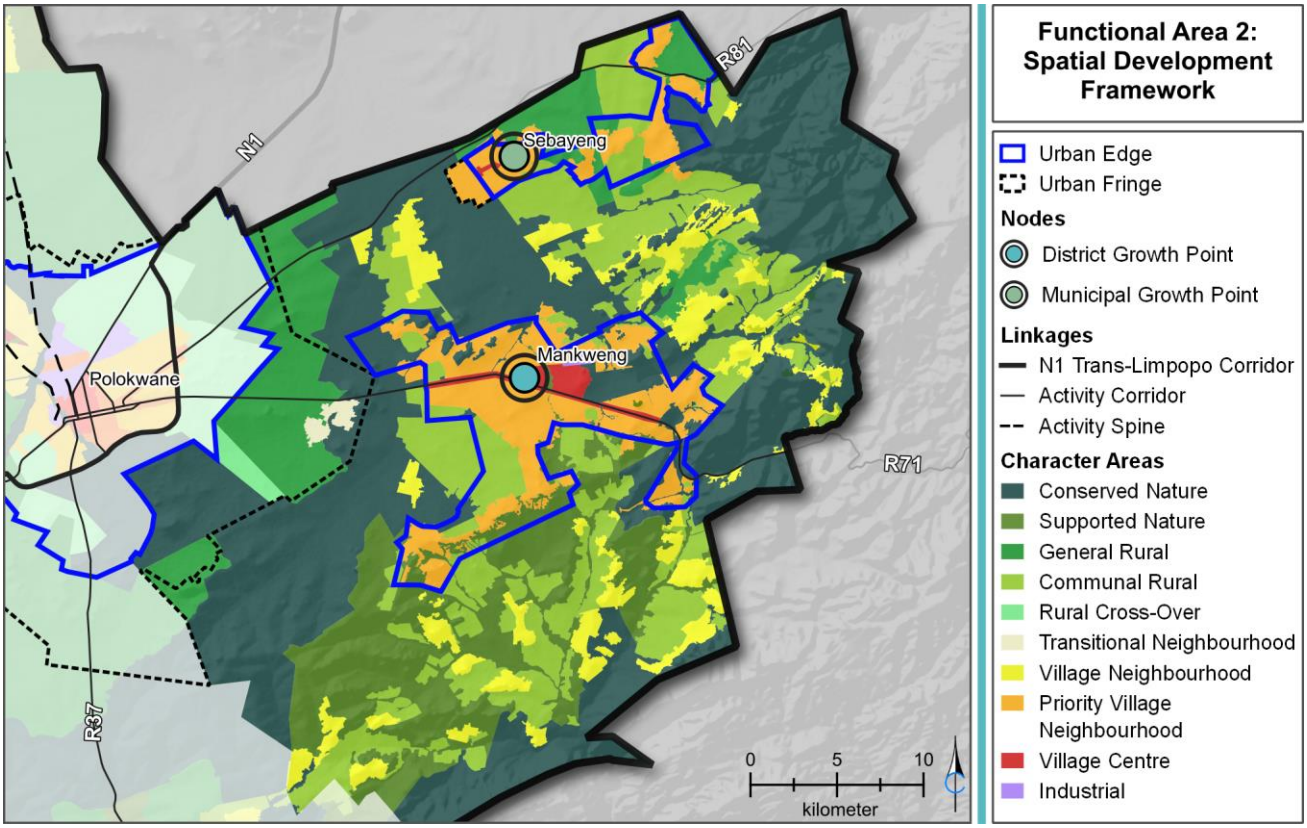
Strategy

The strategy for the Mankweng/Sebayeng Functional Area revolves around a corridor-based approach that facilitates the sustainable growth and integration of urban and rural elements. Key strategies include transforming the R71 Provincial Road into a development corridor and promoting connectivity from Diep Spruit to the Zion City Development Area. Additionally, the strategy focuses on developing core village centres fostering economic activities around institutions like the University of the North and the Regional Hospital. Identifying emerging zones and agro-processing areas, which aim to generate employment opportunities and support economic growth, further complements the corridor strategy.

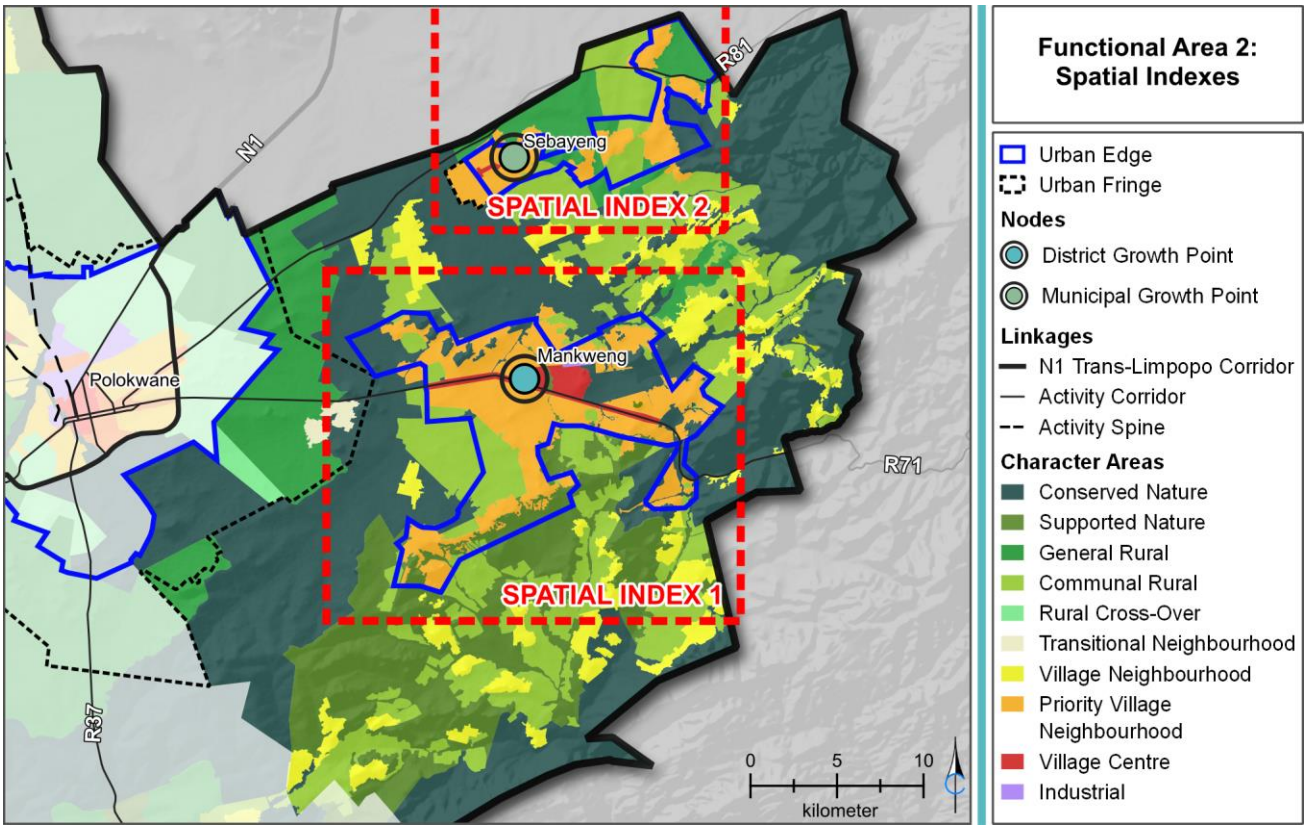
Proposals

Map 52 depicts the proposed spatial development framework with **Table 6, Table 7 and Table 8** providing more details on the spatial structuring elements. This framework aims to harmonise land uses, infrastructure development and economic activities, ensuring a balanced and sustainable growth trajectory while addressing the community's unique needs within the region.

Map 53 highlights areas (spatial indexes) within the functional area with more detailed spatial proposals. The spatial proposals and actions for each area are listed accordingly. The spatial indexes for this functional area relate to the (1) Mankweng District Growth Point and (2) Sebayeng Municipal Growth Point.



Map 52: Functional Area 2 – Spatial Development Framework



Map 53: Functional Area 2 – Spatial Indexes

Densification within villages

The existing settlement pattern within villages in the Traditional Authority Areas allocates erven between 1200 and 2500 sqm. This pattern is inefficient – especially when considering engineering services' cost and efficient use. Therefore, SDF urges traditional authorities to use smaller ervens to promote infill and densification, making efficient engineering service provision possible.

Densification involves considering the subdivision of existing properties and promoting additional properties between 600 and 1000 sqm in size with a density of 20-64 units per hectare.

Larger stands within the identified Village Centre Areas should accommodate higher-density residential typologies of flats or multi-unit, multi-family buildings. There will be no limit on these areas' maximum density, but the capacity and availability of engineering services will inform appropriate densities.

Subdivision of agricultural land

The subdivision of agricultural land will follow the governing legislation and guidelines in the Polokwane Subdivision of Agricultural Land Policy (2013).

Student housing establishments

Student housing developments (particularly near educational facilities) may deviate from the standard residential density guidelines regarding the Student Accommodation Policy (2020). The Policy will apply to all proposed and existing student accommodation facilities throughout the jurisdiction of the Polokwane Municipality. The Policy also applies to all owners, operators and students who stay in approved and accredited student accommodation establishments.

The maximum permitted number of student rooms (habitable rooms) stipulated in the policy is as follows:

i. Density for single Student Accommodation Rooms (SAR)	ii. Density for double rooms or twin bedrooms Student Accommodation Rooms (SAR)
a. 500 student Accommodation Rooms/ha in urban and 0-5km from Tertiary institution i.e. 500SAR/ha; b. 300 student Accommodation Rooms/ha in urban and 6-10km from Tertiary institution i.e. 300SAR/ha; c. 400 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 0-5km from Tertiary institution i.e. 400SAR/ha; d. 300 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 6-10km from Tertiary institution i.e. 300SAR/ha; e. 150 student Accommodation Rooms/ha in rural area and 10-20km from Tertiary institution i.e. 150SAR/ha;	a. 750 student Accommodation Rooms/ha in urban and 0-5km from Tertiary institution i.e. 750SAR/ha; b. 450 student Accommodation Rooms/ha in urban and 6-10km from Tertiary institution i.e. 450SAR/ha; c. 600 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 0-5km from Tertiary institution i.e. 600SAR/ha d. 300 student Accommodation Rooms/ha in semi - urban (District Nodes/Regional Nodes) and 6-10km from Tertiary institution i.e. 300SAR/ha; e. 150 student Accommodation Rooms/ha in rural area and 10-20km from Tertiary institution i.e. 150SAR/ha;

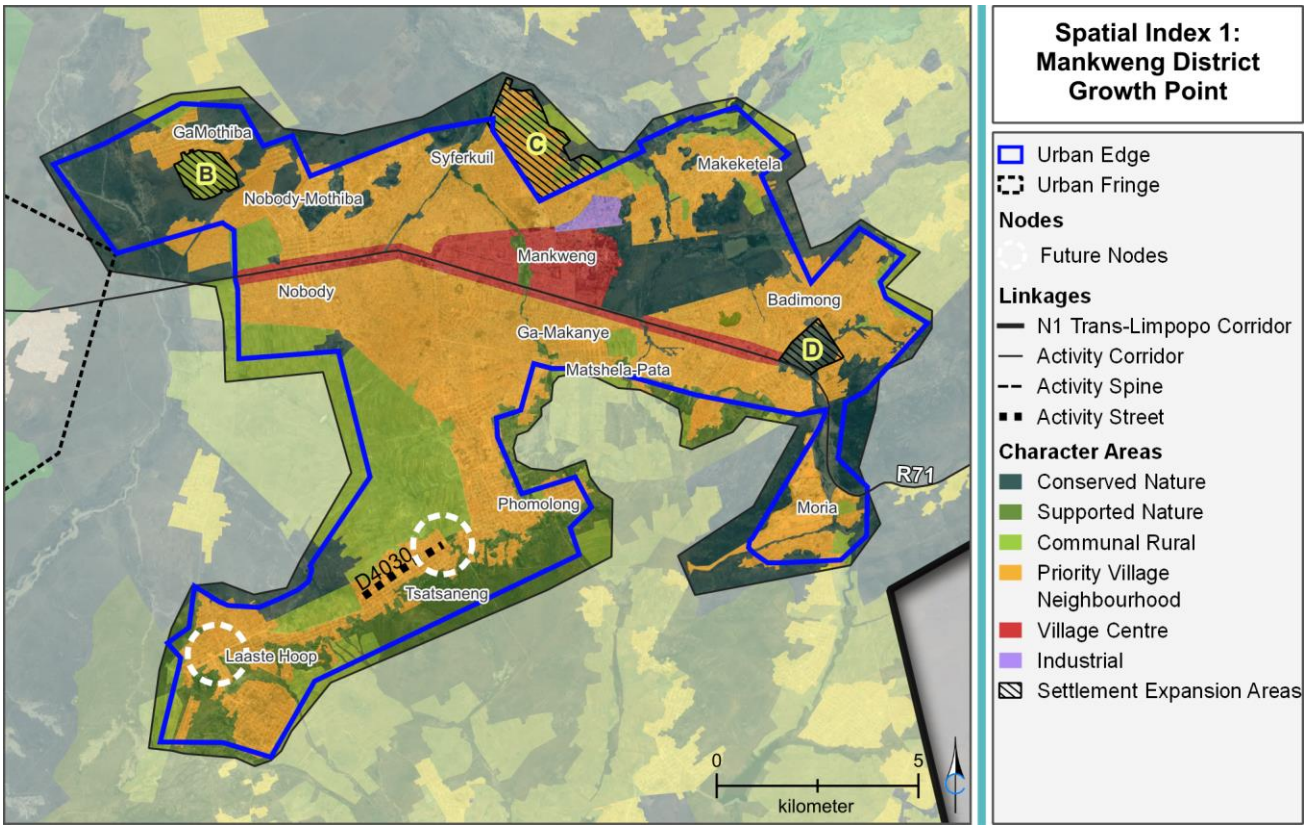
Spatial Index 1: Mankweng District Growth Point

Initially, the 2013 Mankweng Framework Plan identified seven nodal development areas. However, in the updated Development Plan, the areas along the R71 Activity Corridor have transformed into a connected linear development rather than distinct areas. The spatial implication is the allocation of the Village Centre Area within a 200m buffer on either side of the road and the extension of the Village Centre onto University Road, encapsulating the in-between residential area until the University of the North.

The introduction of agricultural industry/agro-processing zones on the outskirts of the settlement (within the Communal Rural Area) could provide employment and improved food security for the inhabitants of the various formal and informal settlements.

Future nodes in the southern extents of the growth point highlight the potential for growth and development and opportunities for various land uses and economic activities.

Map 54 provides more details on the implications of the Functional Area 3 Spatial Development Framework for this district's growth point. See **Table 6, Table 7 and Table 8** for further information on the applicable land uses and development parameters for each identified node, linkage and character area.



Map 54: Functional Area 2 – Mankweng District Growth Point

Actions:

- Confirm formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units within the identified Priority Village Neighbourhood Area and Settlement Expansion Areas.
- Prioritise densification over greenfield development, given the functioning of the area as a district growth point.
- Make the Village Centre area the concentration point for various land uses, including business activities, high-density student accommodation, a medical node, a government cluster and the University of the North.
- Strengthen Zion City, which attracts many people, by integrating public spaces, conserving agricultural land, consolidating business activities, promoting densification, and formalising informal settlements.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential expansion of the industrial area based on market assessments.
- As far as possible, protect Communal Rural Areas against encroachment.

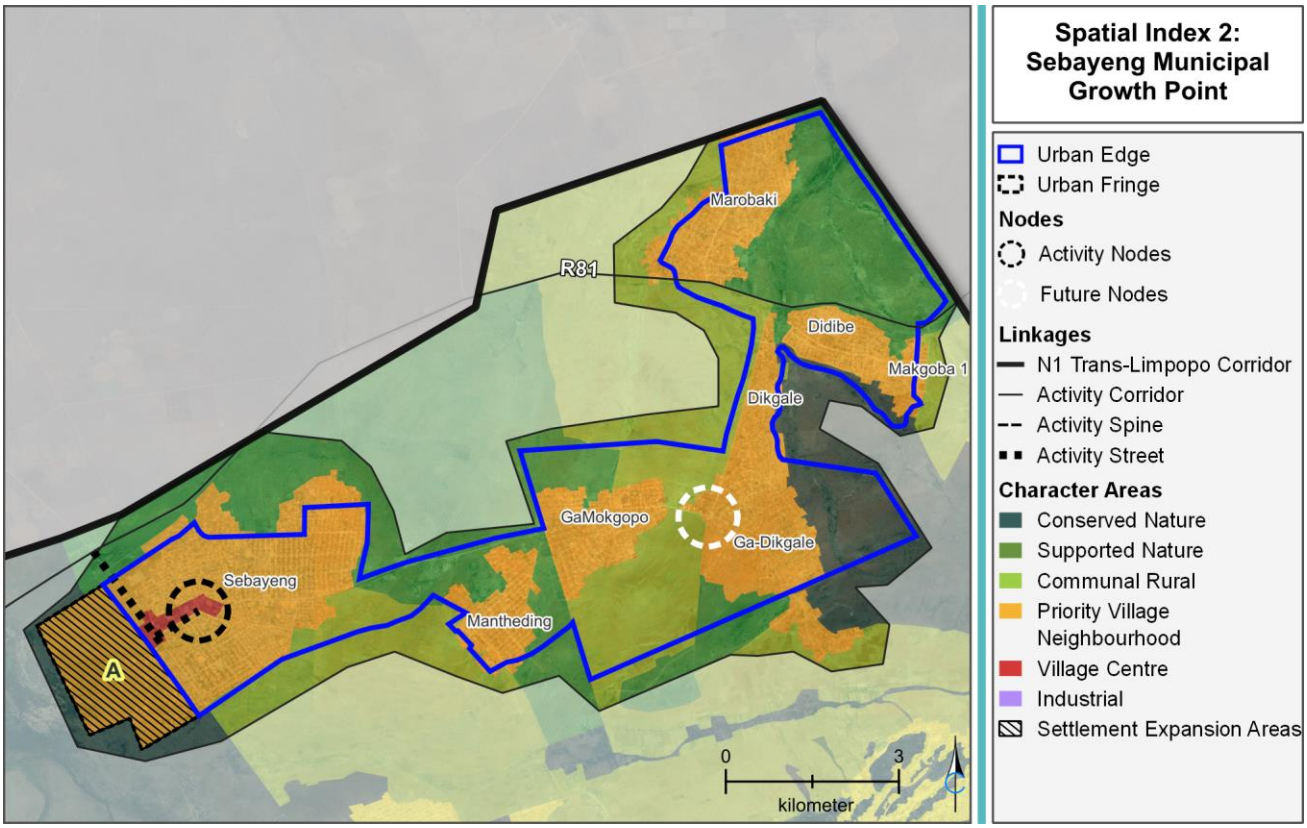
Spatial Index 2: Sebayeng Municipal Growth Point

The Sebayeng Development Cluster, designated as a “Municipal Growth Point”, predominantly retains a rural character. This cluster has formal sections: Sebayeng Proper, Extension 1, and Sebayeng Units A-D. The remainder is primarily rural villages and encompasses Ga-Mokgopo, Ga-Dikgale, Titibe, Vierhoek, and Marobala.

Formal townships in Sebayeng, with their mix of business and educational uses, serve as the development node (Village Centre) for this larger cluster. The road leading east from Sebayeng to Ga-Mokgopo and Ga-Dokgale will eventually become a future node.

Like Mankweng, the agricultural land around existing settlements is earmarked for agricultural industries and agro-processing. This development aims to generate employment for inhabitants in nearby settlements.

Map 55 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this municipal growth point. See **Table 6, Table 7 and Table 8** for more information on the applicable land uses and development parameters for each of the identified nodes, linkages and character areas



Map 55: Functional Area 2 – Sebayeng Municipal Growth Point

Actions:

- Confirm formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units within the identified Priority Village Neighbourhood Area and Settlement Expansion Areas.
- Prioritise densification over greenfield development, given the functioning of the area as a municipal growth point,
- Do not allow single residential sites to encroach on the identified Village Centre; only high-density residential units at the appropriate density should be permitted.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- As far as possible, protect Communal Rural Areas against encroachment.

Functional Area 3: Moletjie/Aganang Region

The Moletjie/Aganang region encompasses two significant zones: (1) the Aganang area to the north – recently incorporated into the municipal area, and (2) the Mashashane area. Predominantly residential with limited business and community facilities, the settlements in functional area 3 lack extensive services and infrastructure due to their rural character. This functional area contains about 131 settlements and 16 formal townships.

In functional area 3, a comprehensive spatial development framework guides urban and rural development initiatives. This framework aims to strategically distribute development activities and resources to optimise economic growth, enhance infrastructure and address poverty. The development priorities consider the existing settlements, potential growth nodes, activity corridors and the need for equitable socio-economic progress.

Vision

The vision for functional area 3 is to establish a well-organised and vibrant region within the Moletjie/Aganang region. This vision centres on strategically distributing development activities and resources to promote optimal economic growth, enhance infrastructure, and uplift the socio-economic conditions of the community. The region fosters dynamism, social interaction, and sustainable urban and rural development by creating key nodes and corridors.

Strategy

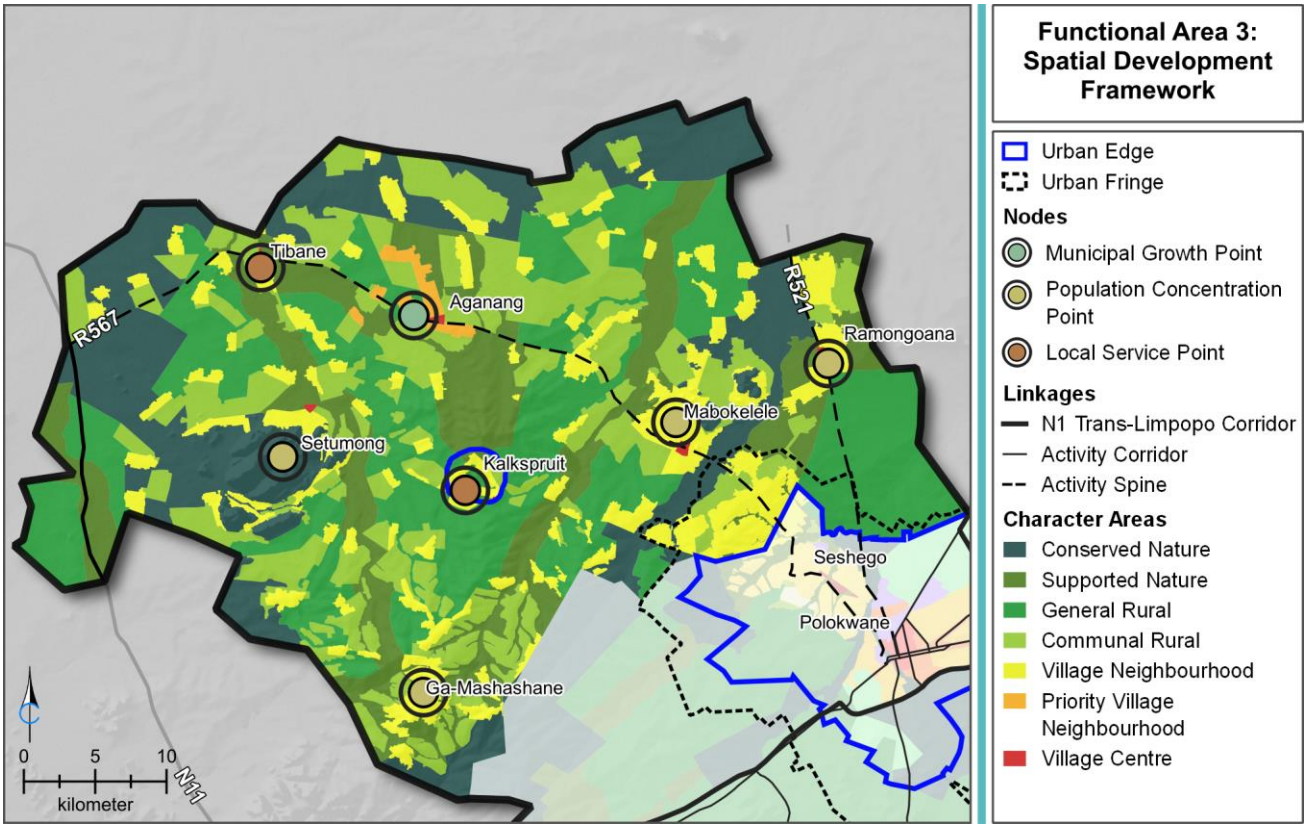
Node-based growth: establishing key nodes as economic and social activity service centres, driving growth, innovation and community engagement.
Corridor connectivity: creating interconnected corridors that link these nodes, facilitating movement and interaction across different parts of the functional area. These corridors shape transportation patterns, accessibility, and regional connectivity.
Diversified land uses: allocating character areas ensures a balanced and sustainable urban form, accommodating various economic and community needs while protecting community assets and conserving vulnerable environmental regions.

Proposals

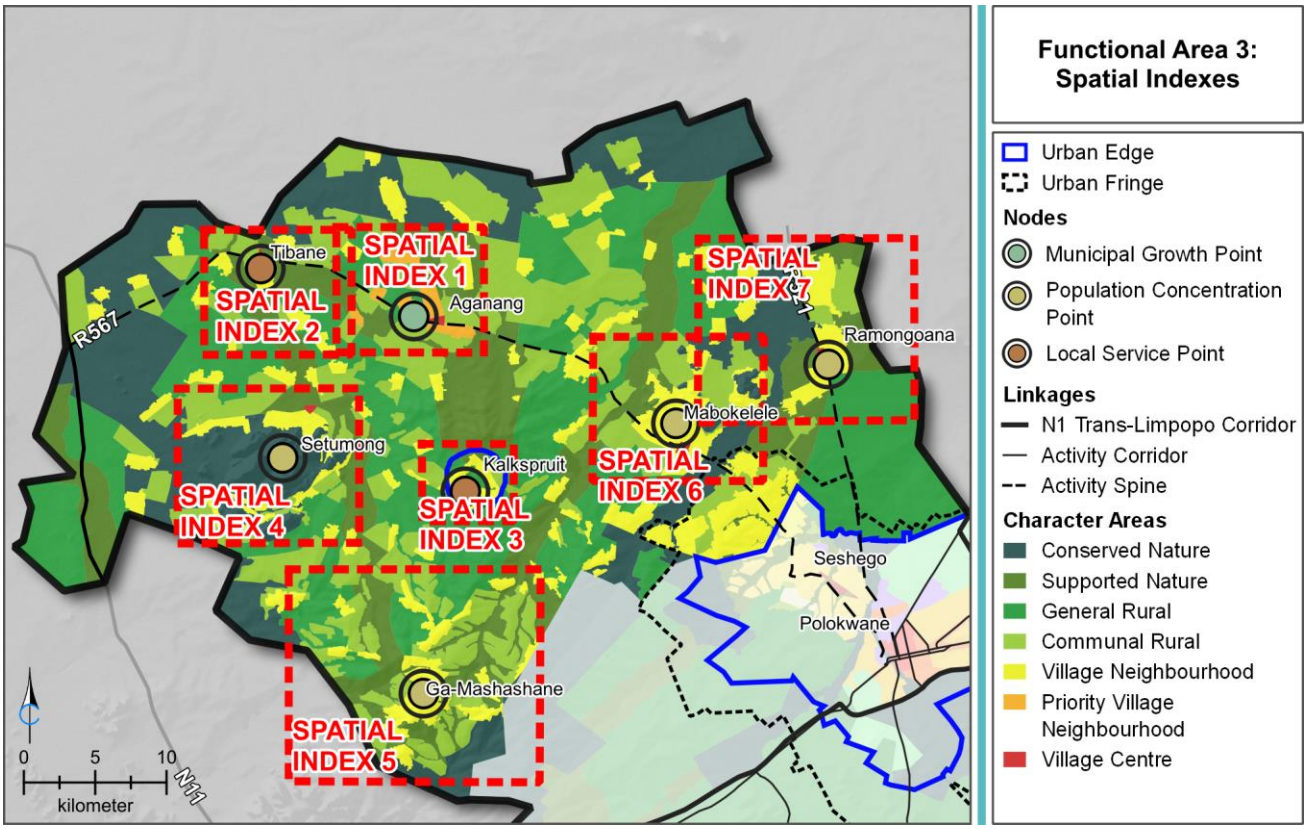
Map 56 depicts the proposed spatial development framework, with **Table 6, Table 7, and Table 8** providing more details on the spatial structuring elements. This framework aims to harmonise land uses, infrastructure development and economic activities, ensuring a balanced and sustainable growth trajectory while addressing the community's unique needs within the region.

Map 57 highlights areas (spatial indexes) within the functional area with more detailed spatial proposals. The spatial proposals and actions for each area are listed accordingly. The spatial indexes are as follows:

- Aganang Municipal Growth Point
- Tibane Local Service Centre
- Kalkspruit Local Service Centre
- Setumong Population Concentration Point
- Ga-Mashashane Population Concentration Point
- Mabokelele Population Concentration Point
- Ramongoana Population Concentration Point



Map 56: Functional Area 3 – Spatial Development Framework



Map 57: Functional Area 3 - Spatial Indexes

Densification within villages

The existing settlement pattern within villages in the Traditional Authority Areas allocates erven between 1200 and 2500 sqm. This pattern is inefficient – especially when considering the engineering services' cost and efficient use. Therefore, the SDF urges traditional authorities to use smaller ervens to promote infill and densification, making efficient engineering service provision possible.

Densification involves considering the subdivision of existing properties and promoting additional properties between 600 and 1000 sqm in size with a density of 20-64 units per hectare.

Larger stands within the identified Village Centre Areas should accommodate higher-density residential typologies of flats or multi-unit, multi-family buildings. There will be no limit on the maximum density for these areas, but the capacity and availability of engineering services can inform appropriate densities.

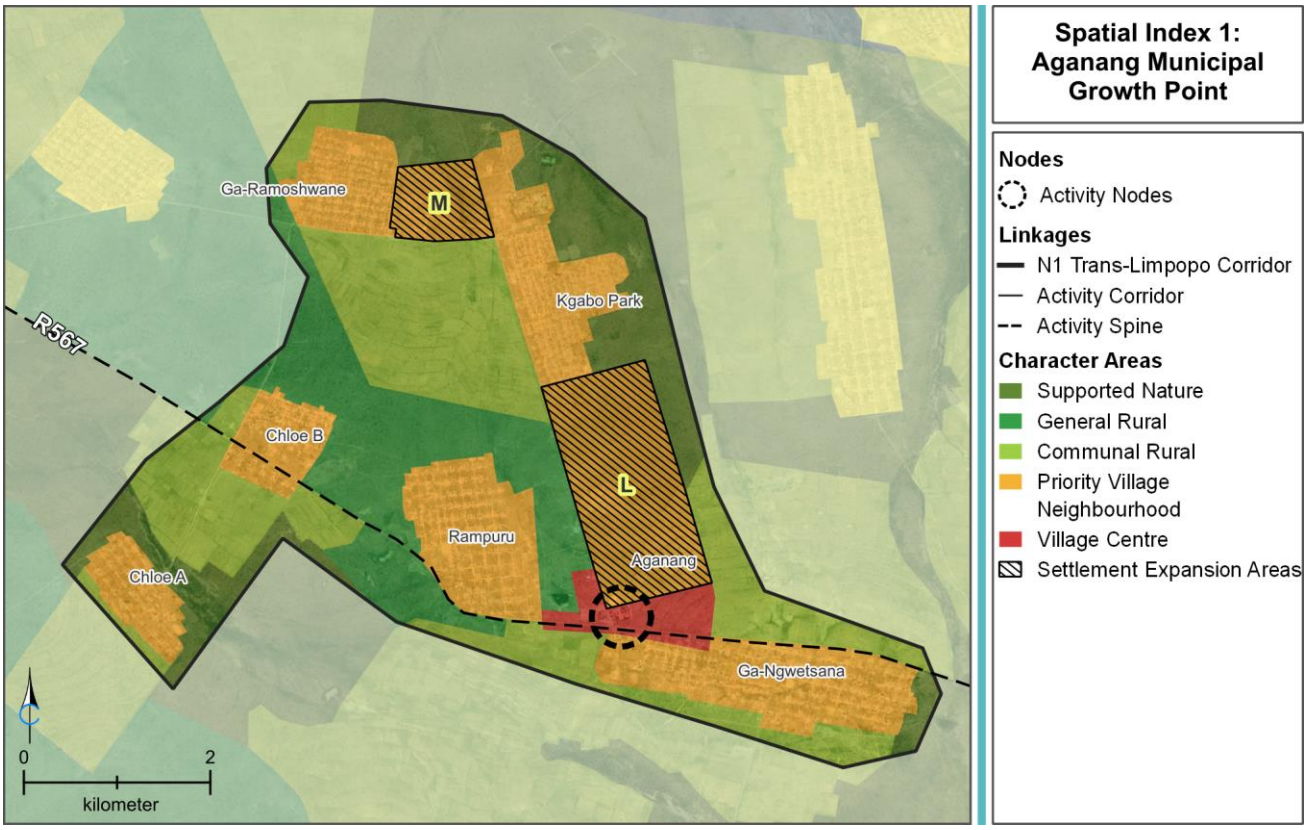
Subdivision of agricultural land

The subdivision of agricultural land will follow the governing legislation and guidelines in the Polokwane Subdivision of Agricultural Land Policy (2013).

Spatial Index 1: Aganang Municipal Growth Point

Aganang is in the northern part of the functional area; this growth point is a crucial development centre housing residential, commercial, and potential business activities. It serves as a core hub for growth and innovation. The municipal growth point contains four villages: Ga-Ramoshwane, Chloe A and B, Rampuru, and Ga-Ngwetsana, and the formal townships of Kgabo Park and Aganang.

Map 58 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this municipal growth point. See **Table 6, Table 7 and Table 8** for further information on the applicable land uses and development parameters for each of the identified nodes, linkages and character areas.



Map 58: Functional Area 3 – Aganang Municipal Growth Point

Actions:

- Confirm formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units within the identified Priority Village Neighbourhood Area and Settlement Expansion Areas.
- Prioritise densification over greenfield development, given the functioning of the area as a municipal growth point,.
- Ensure that no residential property has direct access to the R567 or District Road D3398.
- Ensure the Village Centre Area is at the Ceres intersection, where the R567 and D3398 roads intersect.
- Ensure that single residential sites do not encroach on the identified Village Centre; only high-density residential units at the appropriate density should be permitted.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- As far as possible, protect Communal Rural Areas against encroachment.

Spatial Index 2: Tibane Local Service Point

The Tibane Local Service Point is positioned along the northwestern boundary of the municipal area and lies at the intersection of district roads D19 and D3390. Many businesses, offices, and other land uses are located at this intersection, creating a potential activity node featuring a network of commercial establishments contributing to local economic vitality. It contains four villages: Tibana, Juno, Taung, and Ga-Ramokadi-Kadi, and no formal townships have been established.

Map 59 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this local service point. See **Table 6, Table 7, and Table 8** for further information on the applicable land uses and development parameters for each of the identified nodes, linkages, and character areas.

Map 59: Functional Area 3 – Tibane Local Service Point

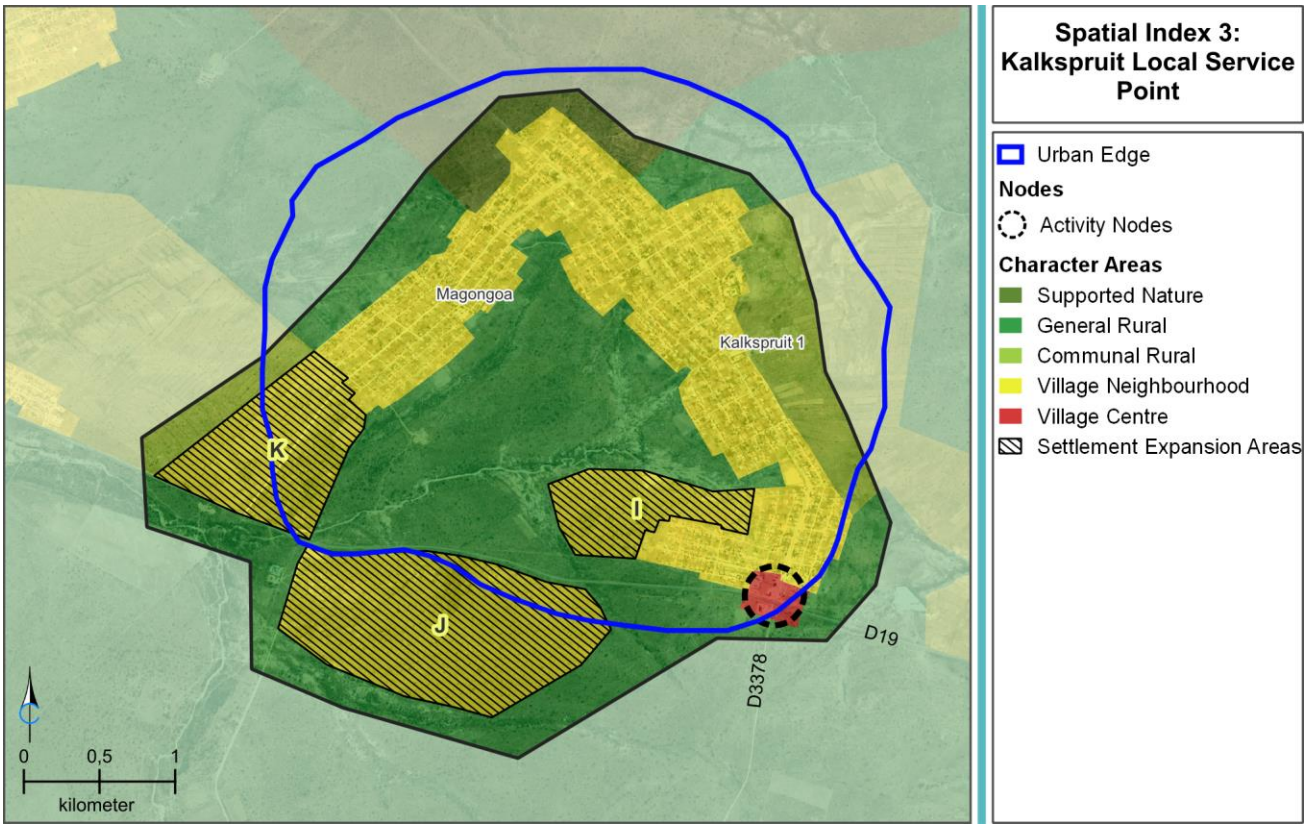
Actions:

- Confirm formal delineation of settlement boundaries with the Traditional Authority.
- Expand residential units only within the identified Village Neighbourhood Area and Settlement Expansion Areas.
- Ensure that no residential property has direct access to the D19 or D3390.
- Ensure the Village Centre Area is at the intersection of District Roads D19 and D3390.
- Ensure that single residential sites do not encroach on the identified Village Centre.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- Complete formal layout planning in the Village Centre to ensure optimal land use and integration with existing land uses.
- Allow new small businesses that address community needs within the Village Neighbourhood, and ensure major business developments are in the Village Centre.
- As far as possible, protect Communal Rural Areas against encroachment.

Spatial Index 3: Kalkspruit Local Service Point

The Kalkspruit Local Service Point is at the heart of the former Aganang Local Municipal Area. The service point encompasses Kalkspruit and Magongoa settlements and the undeveloped areas between them. Residents from other Aganang areas may relocate to the service point for serviced plots, housing, and property ownership. However, planned or surveyed residential plots have yet to be made available. At the crossroads of District Road D19 and D3378, a limited cluster of businesses has the potential to evolve into an activity node within Aganang.

Map 60 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this local service point. See **Table 6, Table 7 and Table 8** for details on the applicable land uses and development parameters for each of the identified nodes, linkages, and character areas.



Map 60: Functional Area 3 – Kalkspruit Local Service Point

Actions:

- Realign the urban edge to ensure it reflects the realities of the area and informs the spatial development of the local service point.
- Confirm formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units only within the identified Village Neighbourhood Area and Settlement Expansion Areas.
- Ensure that the Village Centre Area is at the intersection of District Roads D19 and D3378.
- Ensure that single residential sites do not encroach on the identified Village Centre.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- Complete formal layout planning in the Village Centre to ensure optimal land use and integration with existing land uses.
- Allow small businesses that address community needs within the Village Neighbourhood, and ensure major business developments are in the Village Centre.
- As far as possible, protect Communal Rural Areas against encroachment.

Spatial Index 4: Setumong Population Concentration Point

The Setumong Population Concentration Point is situated to the west and comprises a cluster of municipal facilities, educational institutions, and commercial establishments. The Bakone intersection holds the potential to develop into an activity node supporting satellite municipal offices, clinics, and educational facilities. The population concentration point contains seven villages, namely Semaneng, Ga-Selolo, Setumong, Manamela, Phomolong, Madietane and Phetole

Map 61 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this population concentration point. See **Table 6, Table 7, and Table 8** for more information on the applicable land uses and development parameters for each of the identified nodes, linkages, and character areas.

Map 61: Functional Area 3 – Setumong Population Concentration Point

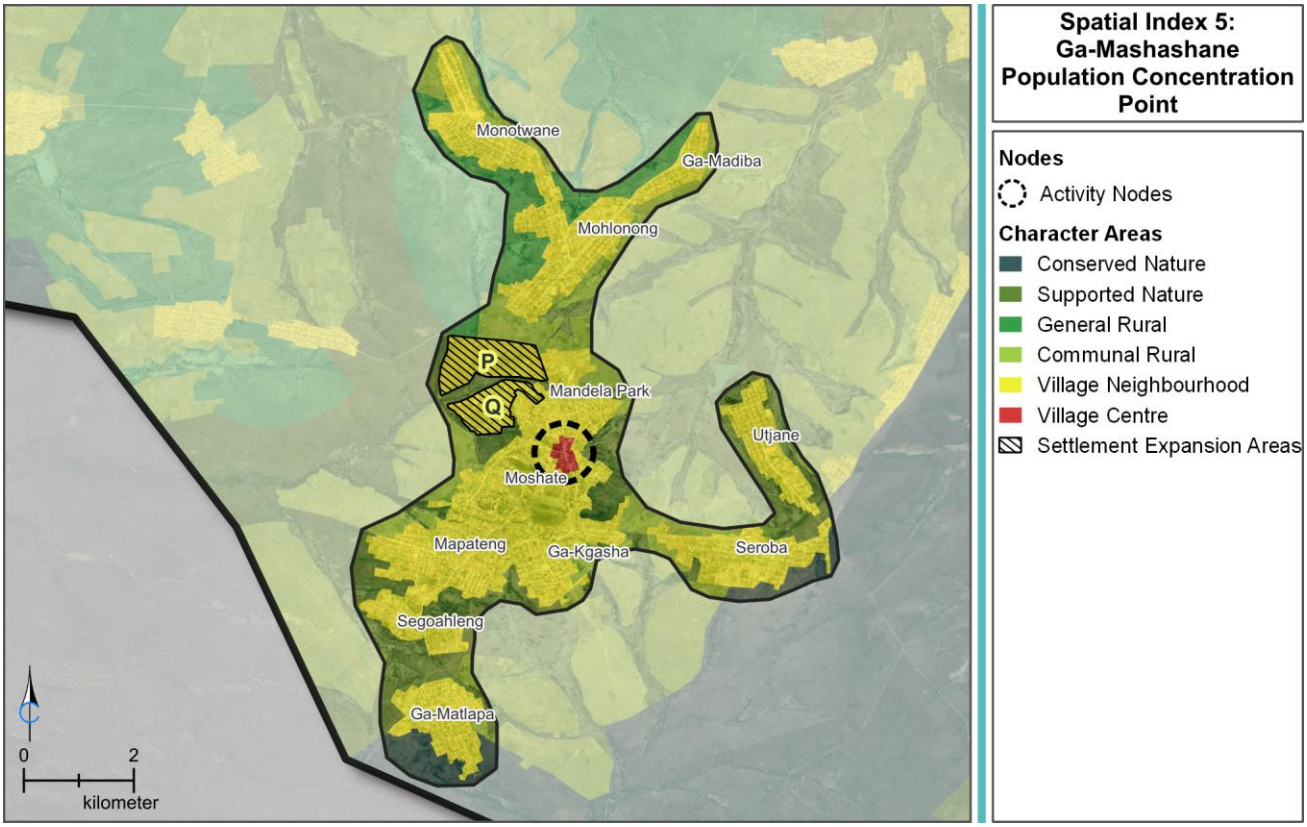
Actions:

- Confirm the formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units only within the identified Village Neighbourhood Area and Settlement Expansion Areas, given the area's environmental sensitivity and prevent expansion towards the middle of the cluster.
- Ensure that no residential property has direct access to the D3377 or D3382.
- Ensure that the Village Centre Area is at the intersection of District Roads D19 and D3378, the Bakone intersection.
- Ensure that single residential sites do not encroach on the identified Village Centre.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- Complete formal layout planning in the Village Centre to ensure optimal land use and integration with existing land uses.
- Allow new small businesses that address community needs within the Village Neighbourhood, and ensure major business developments are in the Village Centre.
- As far as possible, protect Communal Rural Areas against encroachment.

Spatial Index 5: Ga-Mashashane Population Concentration Point

Ga-Mashashane Population Concentration Point is located along the municipality's southern boundary and hosts economic and social activities, including shopping centres, clinics, and educational facilities. The area comprises various villages, including Monotwane, Mapeding, Mohlonong, Ga-Madiba, Ga-Matlapa, Sebora, Mashashane and Utjane. Mandela Park, Madinyane View, Maune, Matlaleng, Ga-Kgasha, Boetse, Mapateng, Moshate and Segoahleng form a continuous residential settlement cluster. At the intersection of district roads D3370 and D3349 within the Ga-Mashashane cluster, a concentration of businesses, offices, and service industries exists, creating the potential for an activity node in the area.

Map 62 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this population concentration point. See **Table 6, Table 7, and Table 8** for more information on the applicable land uses and development parameters for each of the identified nodes, linkages, and character areas.



Map 62: Functional Area 3 – Ga-Mashashane Population Concentration Point

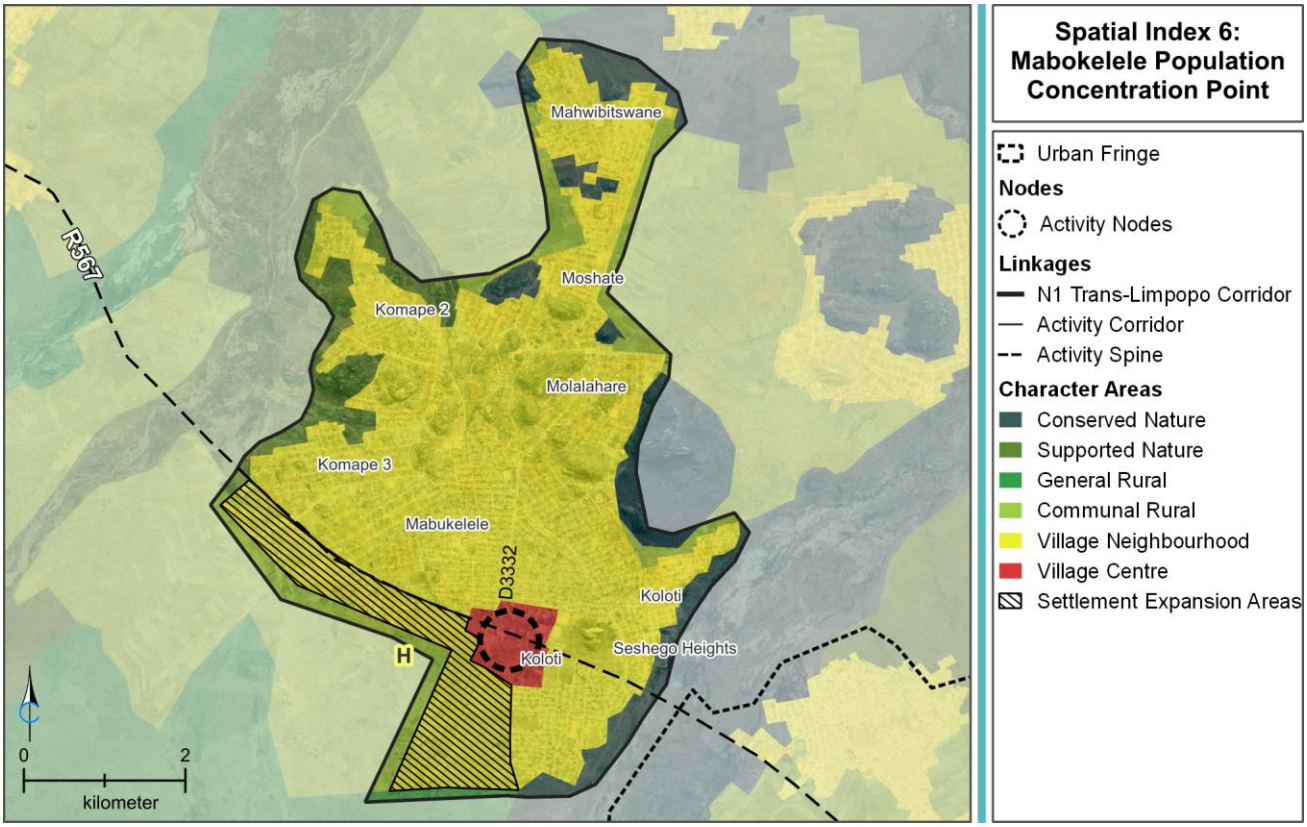
Actions:

- Confirm the formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units only within the identified Village Neighbourhood Area and Settlement Expansion Areas.
- Ensure that the Village Centre Area is at the intersection of District Roads D3370 and D3349 within the Ga-Mashashane region.
- Ensure that single residential sites do not encroach on the identified Village Centre.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- Complete formal layout planning in the Village Centre to ensure optimal land use and integration with existing land uses.
- Allow new small businesses that address community needs within the Village Neighbourhood, and ensure major business developments are in the Village Centre.
- As far as possible, protect Communal Rural Areas against encroachment.

Spatial Index 6: Mabokelele Population Concentration Point

The Mabokelele Population Concentration Point represents a residential aggregation made up of several villages, including Mahwibitswane, Moshate, Komape, Madikote, Koloti, Seshego Heights, and Mabukelele as well as the surveyed township of Leokama Dichaba Village. Various District Roads intersect the population concentration point. Still, the most prominent mixed land use concentration is at the intersection of the District Road D3332 and the R567 Activity Spine. This area, therefore, presents itself as a potential activity node for the region, concentrating a range of economic, community and institutional needs along a major municipal distributor.

Map 63 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this population concentration point. See **Table 6, Table 7, and Table 8** for more information on the applicable land uses and development parameters for each of the identified nodes, linkages, and character areas.



Map 63: Functional Area 3 – Mabokelele Population Concentration Point

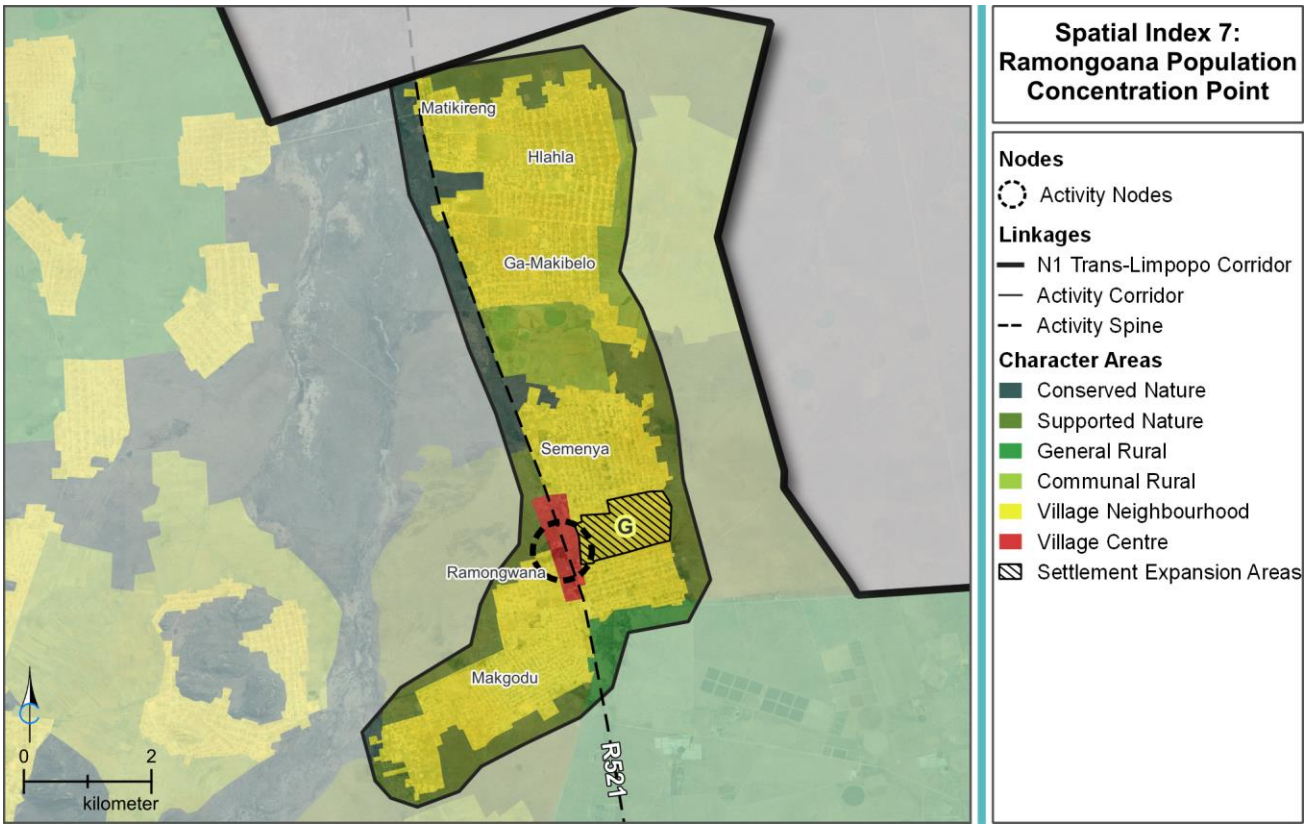
Actions:

- Confirm formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units only within the identified Village Neighbourhood Area and Settlement Expansion Areas, given the area's environmental sensitivity and prevent expansion towards the middle of the cluster.
- Ensure that no residential property has direct access to the R567.
- Ensure the Village Centre Area is at the Moletjie intersection where the R567 Activity Spine intersects with District Road R3332.
- Ensure that single residential sites do not encroach on the identified Village Centre.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- Complete formal layout planning in the Village Centre to ensure optimal land use and integration with existing land uses.
- Allow new small businesses that address community needs within the Village Neighbourhood, and ensure major business developments are in the Village Centre.
- As far as possible, protect Communal Rural Areas against encroachment.

Spatial Index 7: Ramongoana Population Concentration Point

The Ramongoana Population Concentration Point constitutes a linear development along the R521 Activity Spine and D3423 District Road with two residential clusters, the first containing the villages of Ramongwane, Makgodu and Semenya, and the second comprising Ga-Makibelo, Hlahla and Matikireng.

Map 64 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this population concentration point. See **Table 6, Table 7, and Table 8** for further information on the applicable land uses and development parameters for each of the identified nodes, linkages, and character areas.



Map 64: Functional Area 3 – Ramongoana Population Concentration Point

Actions:

- Confirm formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units only within the identified Village Neighbourhood Area and Settlement Expansion Areas, given the area's environmental sensitivity and prevent expansion towards the middle of the cluster.
- Ensure that no residential property has direct access to the R521 Activity Spine.
- Ensure the Village Centre Area is along the R521 Activity Spine within the Ramongwane residential cluster.
- Ensure that single residential sites do not encroach on the identified Village Centre.
- Use the sub-precinct plan to determine the extent and functionality of the identified Village Centre and potential industrial area based on market assessments.
- Complete formal layout planning in the Village Centre to ensure optimal land use and integration with existing land uses.
- Allow new small businesses that address community needs within the Village Neighbourhood, and ensure major business developments are in the Village Centre.
- As far as possible, protect Communal Rural Areas against encroachment.

Functional Area 4: Chuene/Maja region

The Chuene/Maja Functional Area is characterised by its rural nature, hosting a cluster of rural settlements in the southeastern municipal area. Within this functional area, around 15 rural settlements exist on state land under the governance of traditional leadership. The remaining region comprises agricultural land and conservation areas. One surveyed township – Ga-Thaba is on the boundary shared by the Chuene/Maja and Mankweng/Sebayeng Functional Areas and remains pending transfer to the municipality.

The predominant land use is rural residential, subsistence agriculture, and conservation efforts. The scope for business, social, and other community amenities is limited due to the inherently rural nature of these settlements. There is a general lack in formally proclaimed townships, highlighting the emphasis on enhancing service accessibility. Consequently, initiatives related to water and sanitation primarily aim to bolster service access through new reticulation systems and upgrades. Electricity provisions in this region fall under the jurisdiction of ESKOM.

The functional area includes two major arterial corridors: (1) the N1/R101 Provincial Road and (2) the R37 Provincial Road. The N1/R101 stretch of road between Ivypark and The Ranch Resort showcases a range of tourism-related ventures, with solid backing for tourism-focused extensions. The northern portion of the R37 extends into the Polokwane/Seshego Urban Complex. Towards the south, the R37 extends beyond the Anglo Platinum Polokwane smelting facility.

Vision

The vision for the Chuene/Maja Functional Area is to create a balanced and sustainable development landscape. The vision aims to enhance connectivity, support economic growth, and improve the quality of life for communities within the region. It envisions a harmonious blend of strategic nodes, activity corridors, and various character areas that contribute to the overall well-being of its residents while simultaneously conserving critical environmental features.

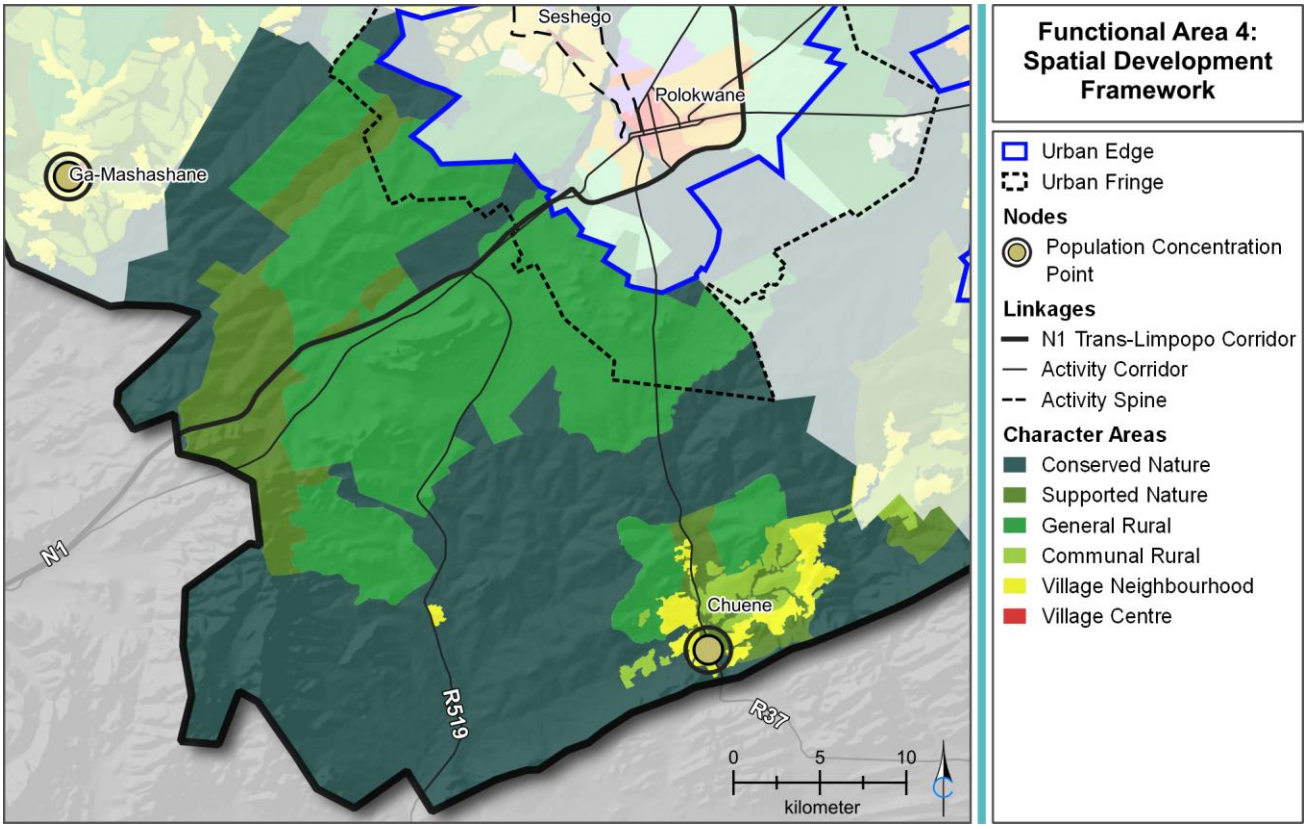
Strategy

The strategy involves identifying and using key nodes, activity corridors and character areas. The strategy harnesses its significance by pinpointing important nodes to guide the region's development. The delineation of activity corridors - mainly the N1, R101 and R37 – underscores the emphasis on transportation and connectivity. The allocation of character areas further supports the strategy of balanced growth and development.

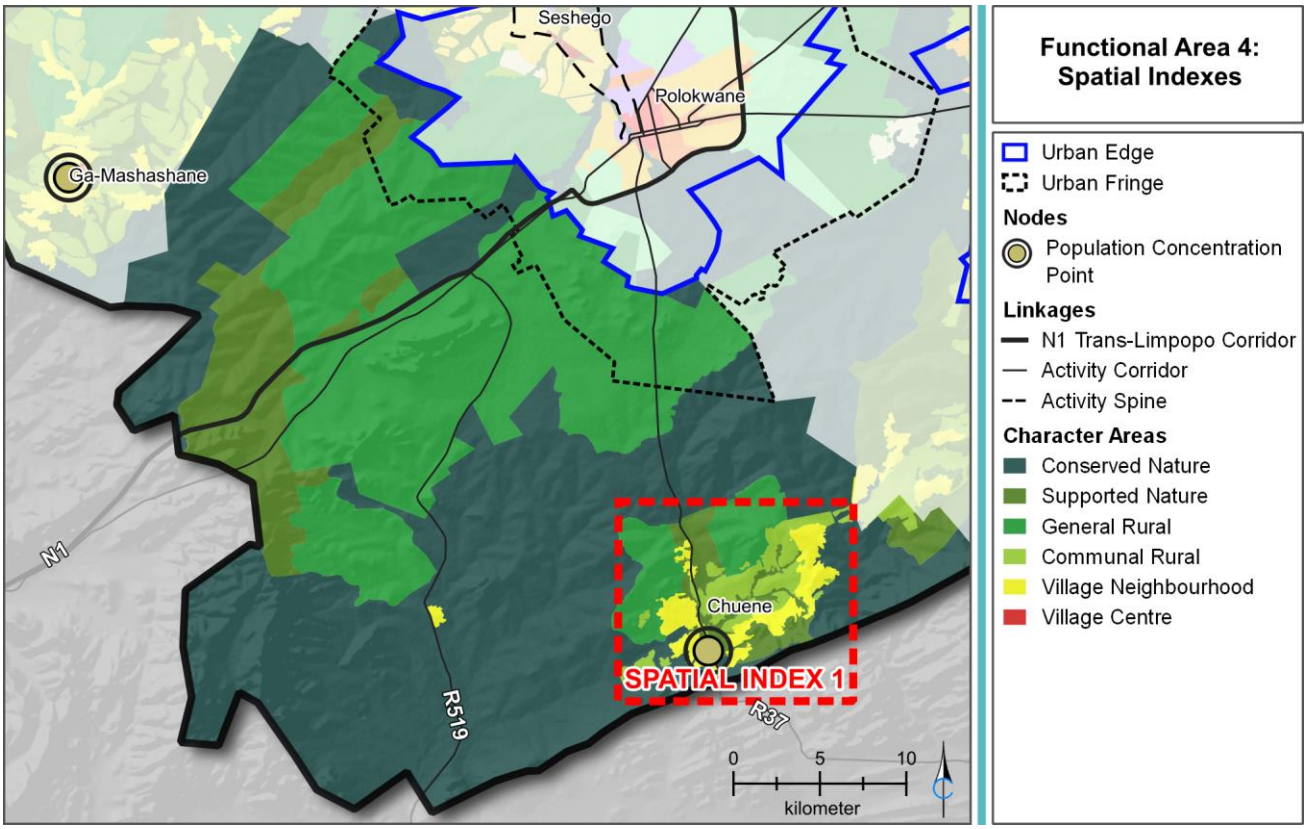
Proposals

Map 65 depicts the proposed spatial development framework, and **Table 6, Table 7, and Table 8** provide more details on the spatial structuring elements. This framework aims to harmonise land uses, infrastructure development and economic activities, ensuring a balanced and sustainable growth trajectory while addressing the community's unique needs within the region.

Map 66 highlights areas (spatial indexes) within the functional area with more detailed spatial proposals. The spatial proposals and actions for each area are listed accordingly. The only spatial index for this functional area relates to the Chuene Population Concentration Point.



Map 65: Functional Area 4 – Spatial Development Framework



Map 66: Functional Area 4 – Spatial Indexes

Densification within villages

The existing settlement pattern within villages in the Traditional Authority Areas allocates erven between 1200 and 2500 sqm. This pattern is inefficient – especially when considering engineering services' cost and efficient use. Therefore, the SDF urges traditional authorities to use smaller ervens to promote infill and densification, making efficient engineering service provision possible.

Densification must consider the subdivision of existing properties and promote additional properties between 600 and 1000 sqm in size with a density of 20-64 units per hectare.

Larger stands within the identified Village Centre Areas should accommodate higher-density residential typologies of flats or multi-unit, multi-family buildings. There will be no limit on these areas' maximum density, but the capacity and availability of engineering services will inform appropriate densities.

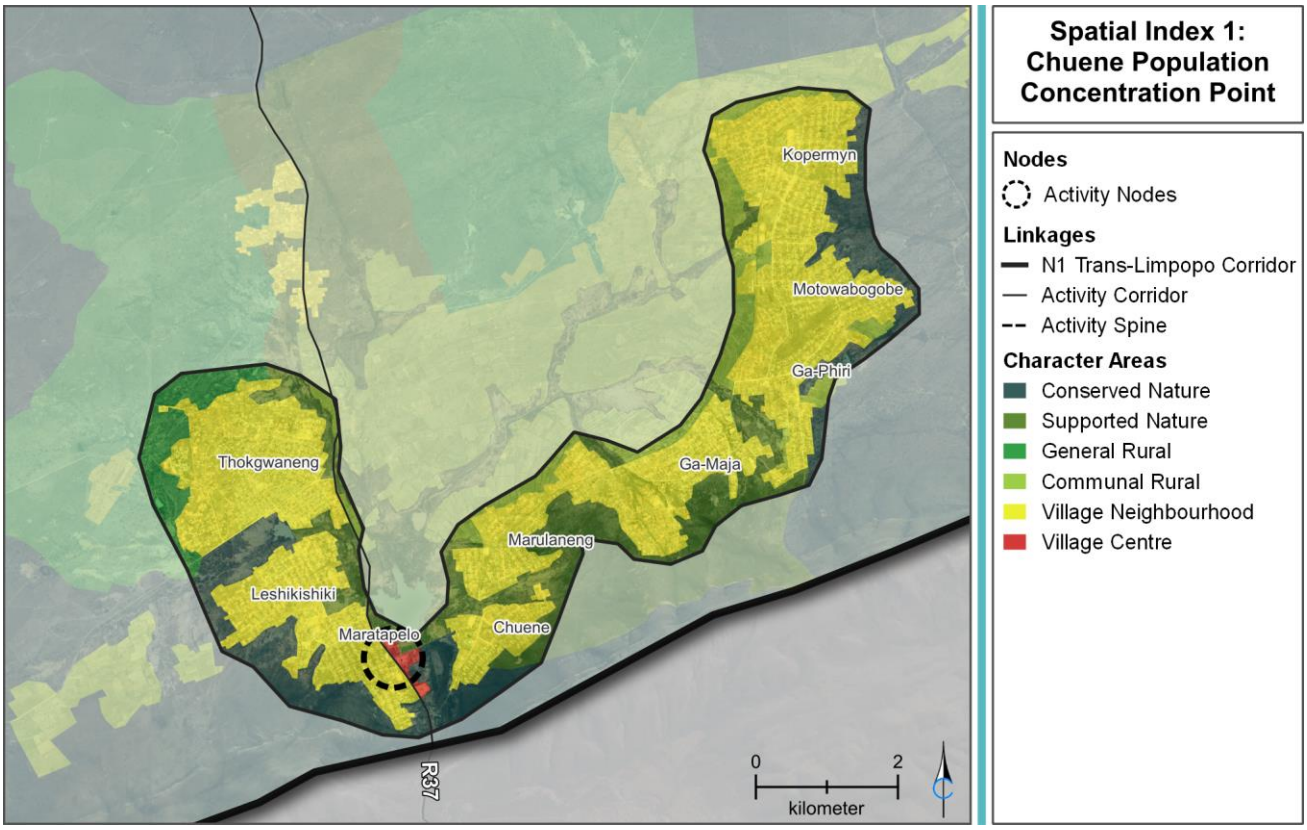
Subdivision of agricultural land

The subdivision of agricultural land will follow the governing legislation and guidelines in the Polokwane Subdivision of Agricultural Land Policy (2013).

Spatial Index 1: Chuene Population Concentration Point

The population concentration point contains the villages of Thokgwaneng, Leshikishiki, Maratapelo, Chuene, Marulaneng, Dichueneng, Ga-Maja, Ga-Phiri, Motowabagobe and Kopermyn. The designated Activity Corridor on the R37 regional road runs through the node. A mix of business uses on either side of the R37 just below the Chuenespoort dam creates the opportunity to establish an activity node.

Map 67 provides more detail on the implications of the Functional Area 3 Spatial Development Framework for this municipal growth point. See **Table 6, Table 7, and Table 8** for further information on the applicable land uses and development parameters for each of the identified nodes, linkages and character areas.



Map 67: Functional Area 4 – Chuene Population Concentration Point

Actions:

- Confirm formal delineation of settlement boundaries in consultation with the Traditional Authority.
- Expand residential units only within the identified Village Neighbourhood Area.
- Expand the Village Neighbourhood area through an LSDF and prioritise the delineation and functioning of the Village Centre, given the environmentally sensitive area of this concentration point.
- Ensure that single residential sites do not encroach on the identified Village Centre and that only high-density residential units at the appropriate density are permitted.
- As far as possible, protect Communal Rural Areas against encroachment.

Implementation Framework

Polokwane Local Municipality is currently (2023) in the process of compiling a comprehensive Capital Expenditure Framework. The Spatial Development Framework identified functional and targeted areas for interventions that will inform this process. This chapter is not a comprehensive CEF, but rather informants to this process.

The Polokwane SDF has identified several rural and urban nodes as focal points for the municipality's priority development and investment efforts. These nodes, at the municipal level, are crucial for directing new infrastructure projects and upgrading existing ones to enhance the vibrancy and economic activity within the municipality. As a result, radical mechanisms supporting intensification and mixed land-use development should be established at these nodes to achieve spatial justice and efficiency goals as part of a broader spatial transformation initiative,

The SDF's implementation guides the prioritisation of budgets, fostering collaboration among various levels of government and the private sector to drive Polokwane's spatial economic transformation. In alignment with SPLUMA guidelines, the Municipality has adhered to the development of credible Spatial Development Frameworks. This process necessitates creating an implementation framework encompassing policies, guidelines, institutional arrangements, and a capital investment framework to execute the SDF effectively.

Investment Framework

The analyses conducted throughout the compilation of the SDF brought to light the several precinct plans required for the village centres across the municipality. The growth points are deemed too expansive and lack variety for the broader precinct plan that covers the entire region. Moreover, the growing population necessitates housing access. Annexure B contains the projected extent of the housing demand, the specifics and the designated land parcels for development.

A summary of the anticipated financial expense for each year is as follows:

Table 11: Summary of Investment Framework

Year	Cost
2023/24	R2 245 260
2024/25	R10 444 592
2025/26	R245 795 854
2026/27	R53 003 272
2028/29	R57 249 432
2029/30	R339 596 928

The following table depicts the shortlist of projects identified that will serve as catalysts for development across the municipality. **Please note that column A refers to Map 68. Therefore, the table aligns with the context of this map.**

Table 12: Detailed costing for the Investment Framework

Location (Map 68)	Func-tional Area	Project Category	Proposed project	Dwelling typolo-gy	Town Planning Require-ment	Required Funding					
						2023/24	2024/25	2025/26	2026/27	2028/29	2029/30
SE1	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Gap	Settlement expansion	R2 245 260					
SE1	FA 1	Human Settlements	Approval by Surveyor General	Gap	Settlement expansion		R2 492 312				
SE1	FA 1	Human Settlements	Township proclaimed (township establishment completed)	Gap	Settlement expansion		R2 035 260				
SE9	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Subsi-dised	In-situ upgrading		R617 020				
Mankweng Village Centre	FA 2	Precinct Plan	Mankweng Village Centre Precinct Plan	N/A	N/A		R600 000				
Sebayeng Village Centre	FA 2	Precinct Plan	Sebayeng Village Centre Precinct Plan	N/A	N/A		R600 000				
Aganang Municipal Growth Point	FA 3	Precinct Plan	Aganang Municipal Growth Point Precinct Plan	N/A	N/A		R500 000				
Tibane Local Service Point	FA 3	Precinct Plan	Tibane Local Service Point Precinct Plan	N/A	N/A		R500 000				
Kalkspruit Local Service Point	FA 3	Precinct Plan	Kalkspruit Local Service Point Precinct Plan	N/A	N/A		R500 000				

Setumong Population Concentration Point	FA 3	Precinct Plan	Setumong Population Concentration Point Precinct Plan	N/A	N/A		R500 000				
Ga-Mashashane Population Concentra-tion Point	FA 3	Precinct Plan	Ga-Mashashane Population Concentration Point Precinct Plan	N/A	N/A		R500 000				
Mabokelele Population Concentra-tion Point	FA 3	Precinct Plan	Mabokelele Population Concentration Point Precinct Plan	N/A	N/A		R500 000				
Ramongo-ana Population Concentra-tion Point	FA 3	Precinct Plan	Ramongoana Population Concentration Point Precinct Plan	N/A	N/A		R500 000				
Chuene Population Concentra-tion Point	FA 4	Precinct Plan	Chuene Population Concentration Point Precinct Plan	N/A	N/A		R600 000				
SE1	FA 1	Engineering Services	Engineering services (no top structure)	Gap	Settlement expansion			R244 231 200			
SE9	FA 1	Human Settlements	Approval by Surveyor General	Subsi-dised	In-situ upgrading			R538 424			
SE9	FA 1	Human Settlements	Township proclaimed (township establishment completed)	Subsi-dised	In-situ upgrading			R407 020			
SE10	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Subsi-dised	In-situ upgrading			R619 210			

SE2	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Bonded	Settlement expansion				R2 333 910		
SE9	FA 1	Engineering Services	Engineering services (no top structure)	Subsi-dised	In-situ upgrading				R48 842 400		
SE10	FA 1	Human Settlements	Approval by Surveyor General	Subsi-dised	In-situ upgrading				R541 052		
SE10	FA 1	Human Settlements	Township proclaimed (township establishment completed)	Subsi-dised	In-situ upgrading				R409 210		
SE11	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Subsi-dised	In-situ upgrading				R876 700		
SE2	FA 1	Human Settlements	Approval by Surveyor General	Bonded	Settlement expansion					R2 598 692	
SE2	FA 1	Human Settlements	Township proclaimed (township establishment completed)	Bonded	Settlement expansion					R2 123 910	
SE7A	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Subsi-dised	In-situ upgrading					R1 904 890	
SE10	FA 1	Engineering Services	Engineering services (no top structure)	Subsi-dised	In-situ upgrading					R49 105 200	
SE11	FA 1	Human Settlements	Approval by Surveyor General	Subsi-dised	In-situ upgrading					R850 040	
SE11	FA 1	Human Settlements	Township proclaimed (township	Subsi-dised	In-situ upgrading					R666 700	

			establishment completed)								
SE2	FA 1	Engineering Services	Engineering services (no top structure)	Bonded	Settlement expansion						R254 869 200
SE7A	FA 1	Human Settlements	Approval by Surveyor General	Subsi-dised	In-situ upgrading						R2 083 868
SE7A	FA 1	Human Settlements	Township proclaimed (township establishment completed)	Subsi-dised	In-situ upgrading						R1 694 890
SE8	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Subsi-dised	In-situ upgrading						R397 520
SE11	FA 1	Engineering Services	Engineering services (no top structure)	Subsi-dised	In-situ upgrading						R80 004 000
SE12	FA 1	Human Settlements	Submission into the SPLUMA application process (not yet surveyed)	Subsi-dised	In-situ upgrading						R547 450
TOTAL REQUIRED FUNDING PER ANNUM						**R2 245 260**	**R10 444 592**	**R245 795 854**	**R53 003 272**	**R57 249 432**	**R339 596 928**

Institutional Arrangements

Public and Private Sector Role

The success of implementing this SDF necessitates the establishment of appropriate institutional arrangements to guide the execution of identified programs. While most government departments and agencies formulate sound plans, their execution poses challenges without proper institutional structures. It is crucial to note that the triumph of this spatial development framework hinges on the support and involvement of the public sector, the private sector, and civil society (municipal citizens).

In the public sector role, Polokwane LM will rely on its interactions with the Capricorn DM, the Limpopo Provincial Government, and the National Government. While local implementation occurs, the National Government offers a regulatory and policy framework for spatial planning, ensuring alignment with municipal land program implementation.

Polokwane LM will leverage the Department of Agriculture, Land Reform and Rural Development support for specific projects where the national government is the implementing agent. Coordination with departments such as Public Works (national) is essential to align infrastructure projects with the SDF.

The Limpopo Provincial Government significantly contributes to SDF implementation, acting as an integrating force between the national and local government spheres. It serves as an implementing agent for diverse infrastructure projects and programs, including schools, health facilities, roads, housing, and economic infrastructure.

At the District level, the role of the Capricorn DM in supporting constituent municipalities is noteworthy. Coordinating the district planning forum streamlines and aligns development, with the Planning Tribunal jointly coordinated at the district level playing a pivotal role in aligning all development plans.

The Role of Traditional Leaders

In alignment with the spatial analysis, traditional leaders, custodians of most land parcels, play a vital role in planning, implementing, monitoring, and reviewing the SDF. Their active involvement fosters buy-in and support, particularly in areas where priority programs and projects unfold. Collaborative efforts between the municipality and traditional authorities facilitate streamlined land development applications.

Possible Partnerships

Polokwane LM should seek partnerships with academic institutions for staff and community capacity building, engaging in topics such as governance excellence and entrepreneurship for SMMEs. Collaborations with SETAs for training and development and partnerships with investors and agencies such as Road Agency Limpopo are crucial for infrastructure and economic growth.

Implementation Requirements

Time Frames Moving Forward

The SDF requires continuous monitoring and evaluation, ensuring alignment with the plan. Monthly reports to the portfolio committee and management, quarterly reports to the council, and mid-year and annual reports on SDF compliance and implementation are essential.

Inputs into the IDP

The SDF is a dynamic plan integral to the Integrated Development Plan (IDP). The SDF must inform decision-makers, communities, funders, and implementing agents during the revision of the municipal IDP. Any program prioritised for inclusion must align with the spatial vision of the municipality, promoting congruence between projects and the SDF.

Inputs Into Sector Plans

The SDF is a foundation for developing and reviewing various sector plans, including the Integrated Waste Management Plan, Local Integrated Transport Plan, District Integrated Transport Plan, Water Services Development Plan, Energy Master Plan, and Local Area Plans.

ANNEXURE A

Criteria for densification on erven zoned Residential 1

The maximum densification possible on Residential 1 zoned erven (through special consent in terms of clause 36) is 30 units/ha as per the Polokwane Integrated Land Use Scheme (2022).

The maximum density permitted should be consistent with **Table 10** and the densification **Map 48.** This statement implies that while the land use scheme provides a maximum density of 30 units/ha, it should not be permitted if such density exceeds that indicated in this document (i.e., **Table 10** and **Map 48**).

In terms of the criteria, the land use scheme stipulates that the proposed use (densification) should be considered alongside the following if a consent use application is lodged:

- The amenities of the area.
- The health and safety of the area.
- The character of other uses in the area.
- The need and desirability of the use.
- IDP, SDF and any other policy guidelines.
- The applicable character area delineated in the spatial proposals.

Criteria for densification on erven zoned Residential 2, 3 and 4

In terms of the new Polokwane Integrated Land Use Scheme (2022) the following densification is possible under higher density uses, namely:

- Residential 2 zoned erven have the existing (primary) right of 31 units/ha and by means of special consent (in terms of clause 36) a maximum density of 44 units/ha. However, it is obvious that the maximum density permitted should be consistent with **Table 10** and the densification **Map 49.**
- Residential 3 zoned erven have the existing (primary) right of 45 units/ha and by means of special consent (in terms of clause 36), a maximum density of 74 units/ha. However, it is obvious that the maximum density permitted should be consistent with **Table 10** and the densification **Map 49.**
- Residential 4 zoned erven have the existing (primary) right of 64 units/ha and by means of special consent (in terms of clause 36), a maximum density of 200 units/ha. However, it is obvious that the maximum density permitted should be consistent with **Table 10** and the densification **Map 49.**

In terms of the criteria, the land use scheme stipulates that the proposed use (densification) should be considered alongside the following if a consent use application is lodged:

- The amenities of the area.
- The health and safety of the area.
- The character of other uses in the area.
- The need and desirability of the use.
- IDP, SDF and any other policy guidelines.
- The applicable character area delineated in the spatial proposals.

Additionally, the following criteria should be considered with regard to the desirability and amenities of the area.

- Proximity of the proposed use in relation to open spaces (parks) and recreational facilities.
- Proximity of the proposed use in relation to shopping facilities or convenience goods.
- Proximity of the proposed use in relation to schools.
- Proximity of the proposed use in relation to other community facilities and services such as medical facilities, community libraries, places of worship, etc.
- Proximity of the proposed use in relation to high-order routes/bus routes and public transport facilities.
- The property's suitability regarding access to individual units as well as access to and from the adjoining public street system. Panhandle erven/entrances are not desirable with any density exceeding 44 units/ha.

- The suitability of the property in terms of the shape of the property while considering the site layout of individual units as well as possible negative impacts on adjacent properties, with specific reference to the following:
  - Orientation, privacy and convenience.
  - The suitability of the property regarding the size and street frontage.
  - Densification of 30 units/ha up to 44 units/ha will not be permitted on properties with an area smaller than 700 sqm and a street front of less than 12 meters.
  - Densification from 45 units/ha to 73 units/ha will not be permitted on properties with an area smaller than 1400sqm and a street front of less than 18 meters.
  - Densification of 74 units/ha and higher will not be permitted on erven smaller than 2855 sqm.
- All developments are subject to the existing Land Use Scheme control parameters.

Densification for Municipal housing projects will follow the Council Resolution on the Restructuring Zones.

Densification for the Seshego area will follow the Seshego Precinct Plan.

ANNEXURE B

Residential modelling exercise

The demand analysis estimates the current demand for housing development in general and determines the expected demand over the next 10 to 30 years. The following factors inform the calculations:

- Income distribution for various housing typologies.
- Number of households for the bonded and tenure market.
- Number of households per income bracket.
- Current and projected numbers of households within and outside the urban edge, respectively.

Number of households inside and outside the urban edge

The projected annual number of households for each area was determined using the municipal household growth rate recorded for each year between 2011 and 2022. This growth rate is applied to the household figures recorded for each sub-place to project the household figures in a smaller, more specific area (as opposed to the municipality as a whole).

A ‘subplace’ refers to a smaller geographical area or locality that is part of a larger administrative unit, like a city or municipality. By making use of subplaces, it is possible to project household figures within and outside the urban edge.

Table 13: Number of households inside and outside the urban edge

	2022	2023	2025	2030	2040	2050
Inside Urban Edge	84 549	85 943	101 554	108 970	127 536	149 429
Outside Urban Edge	147 137	148 803	152 211	163 326	191 153	223 967
Total	**231 686**	**234 746**	**253 764**	**272 296**	**318 689**	**373 396**

The split between households within and outside the urban edge is 36:64.

Annual household income distribution

Households vary in their views on housing typologies and the corresponding tenure arrangements. When contemplating preferences for typology and tenure, it's essential to factor in the associated costs of renting or owning a particular type of dwelling. Due to the cost discrepancies among various dwelling typologies, different affordability categories are classified based on annual household income. The household's annual income influences buying or renting a home. Consequently, housing typologies are categorised as either bonded or rental housing. In addition, the income distribution of the study area is in the following table:

Table 14: Household income distribution (2022)

	Inside Urban Edge	Outside Urban Edge
No income	11,1%	15,3%
R1 - R8 806	3,8%	5,5%
R8 807 - R17 613	5,4%	11,1%
R17 614 - R35 226	14,7%	22,5%
R35 227 - R70 451	16,0%	22,5%
R70 452 - R140 903	11,8%	12,2%

R140 904 - R281 805	11,1%	5,9%
R281 806 - R563 610	12,1%	3,2%
R563 611 - R1 127 221	9,0%	1,3%
R1 127 222 - R2 254 442	3,4%	0,3%
R2 254 443 - R4 508 883	0,9%	0,1%
R4 508 884 -	0,5%	0,1%

A visual representation of the table is depicted in the graph below. It is evident that the households inside the urban edge earn higher incomes than the households outside the urban edge.

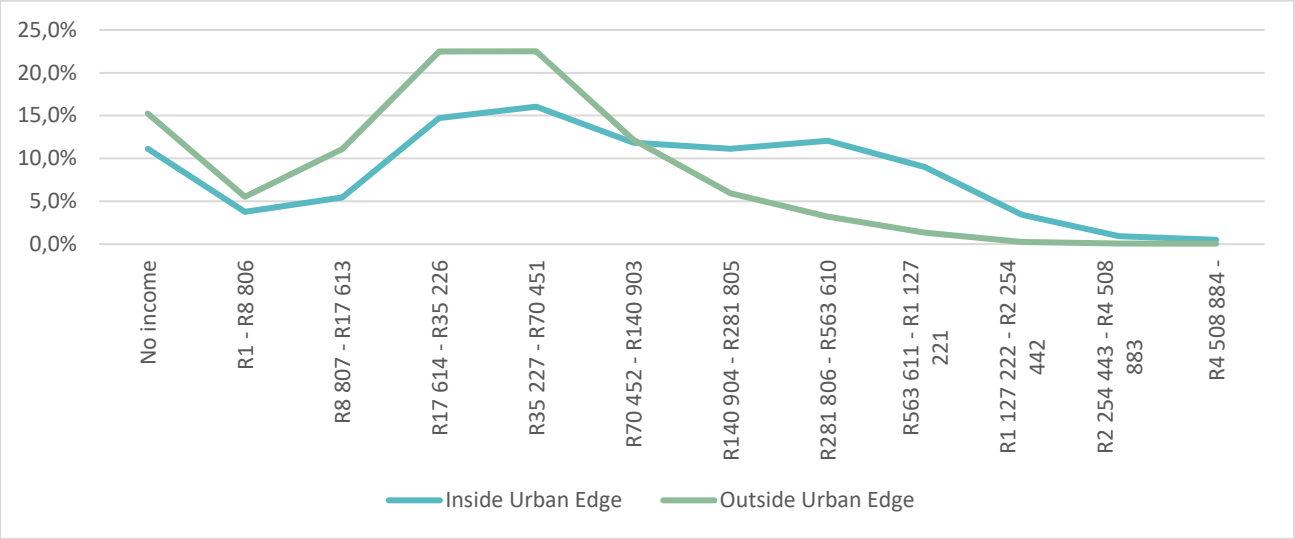


Figure 21: Household income distribution (2022)
Source: Census 2011, adjusted annually for inflation

Eligibility criteria per dwelling typology

The table below outlines the housing typologies within each tenure category and the corresponding annual household income requirements for each tenure and typology choice. The housing qualification profile delineates the income brackets for rental and bond eligibility across different housing typologies, with or without financial assistance. The overall income criteria for bond or rental qualification results from a range of national policy documents, including the Social Housing Policy of South Africa and are supplemented by information from reputable sources such as the National Housing Finance Corporation (NHFC) and the Centre for Affordable Housing in Africa (CAHF).

Table 15: Qualifying income brackets for various dwelling typologies

		Monthly qualifying income brackets		Annual qualifying income brackets	
Typology	**Financed**	**Low**	**High**	**Low**	**High**
Subsidised/RDP	Bonded	R0	R3 500	R0	R42 000
Social housing	Rental	R1 850	R15 000	R22 200	R180 000
FLISP/GAP	Bonded	R3 500	R22 000	R42 000	R264 000
Affordable	Bonded/Rental	R22 000	R30 000	R264 000	R360 000
Middle income	Bonded/Rental	R30 000	R60 000	R360 000	R720 000
Upmarket	Bonded/Rental	R60 000	+	R720 000	+

The demand per income category is calculated by superimposing the annual income brackets over the qualifying income brackets. This calculation provides insight into the number of households qualifying for each dwelling typology.

Addressing the current demand

The approach to determining the housing demand in the study area has its roots in the Equilibrium Model. This model is concerned with the affordability of different types of housing development and assumes absolute supply and demand for housing are equal. For this study, the point of equilibrium is the year 2022. At this point, the housing supply meets the housing demand in the study area. As the population grows past the point of equilibrium, and new housing developments do not meet the growing population, demand for housing increases. This demand will keep growing over time if not met by adequate supply.

However, the latest Census data for each municipality was released in October 2023 and became incorporated into the model. The Census data reported 8613 informal dwelling units in Polokwane LM. As such, the number of informal units reported by the Census results represents the demand for subsidised housing for 2022. There was also anticipation that the households residing in informal units would only qualify for subsidised housing (RDP). Therefore, these figures also contributed to the demand calculations for this housing typology.

The model attempted to split this municipal-wide demand (the 8613 informal units) between the focus area inside and outside the urban edge. The approach to solving this requirement was to use the 2011 Census data on the distribution of dwelling typologies on the subplace level (this level of detail has yet to be released by StatsSA for the 2022 Census). The data allowed for calculating the percentage distribution of informal dwelling units inside and outside the urban edge. It was found that 61% of all the informal dwelling units counted in Polokwane LM were inside the urban edge, and 39% were outside the urban edge. This distribution was applied to the 8,613 informal units to estimate the demand for subsidised housing inside and outside the urban edge.

The various housing typologies were grouped into three categories, as illustrated in the table below.

Table 16: Grouped housing typologies

Subsidised	Subsidy
Social Housing	GAP and affordable
FLISP/GAP Housing	
Affordable Bonded	
Affordable rental	
Middle Income Bonded	Bonded
Middle Income Rental	
Upmarket Bonded	
Upmarket Rental	

Table 17 indicates the annual Projected Gross Demand (PGD) for housing inside and outside the urban edge. The current demand (2022) is 6 046 dwelling units inside the urban edge and 4 045 units outside the urban edge. The IDP (2021) currently refers to a demand of 57,000 dwelling units. However, the IDP does not explain how this figure was calculated. Furthermore, no other references in other documents support this claim.

It is worth noting that the demand displayed below is not cumulative; instead, it represents the demand for each year.

Table 17: Projected total gross housing demand (2022 – 2050)

	Inside the urban edge				Outside the urban edge			
	Subsidy	GAP and affordable	Bonded	**Total per annum**	Subsidy	GAP and affordable	Bonded	**Total per annum**
2022	5 239	512	295	**6 046**	3 374	605	66	**4 045**
2023	497	512	295	**1 304**	955	605	66	**1 626**
2025	507	522	301	**1 330**	1 221	774	85	**2 080**
2030	544	560	323	**1 427**	1 310	830	91	**2 231**
2040	626	645	372	**1 643**	1 509	956	105	**2 569**

2050	721	743	428	**1 891**	1 737	1 100	121	**2 958**

Given the large number of households outside the urban edge, it is unsurprising that the anticipated demand for housing is larger outside the urban edge.

Converting the demand to land requirements

This exercise aims to determine how much land should be allocated to supply the anticipated demand.

Land requirements inside the urban edge
The demand figures have been accumulated into 5-year periods. The five-year period (i.e., the columns) is not cumulative but represents the demand for each period.

Table 18: Projected housing demand for 30 years (2022 to 2052)

	2022	2023-27	2028-32	2033-37	2038-42	2043-47	2048-52
Subsidy	5239	7099	2720	2919	3132	3361	3606
GAP and affordable	512	7311	2801	3006	3225	3461	3714
Bonded	295	4212	1614	1732	1858	1994	2140

The gross housing densities, depicted in Table 19 (column two), were applied to the demand figures to determine how many hectares are required to develop the three dwelling typologies.

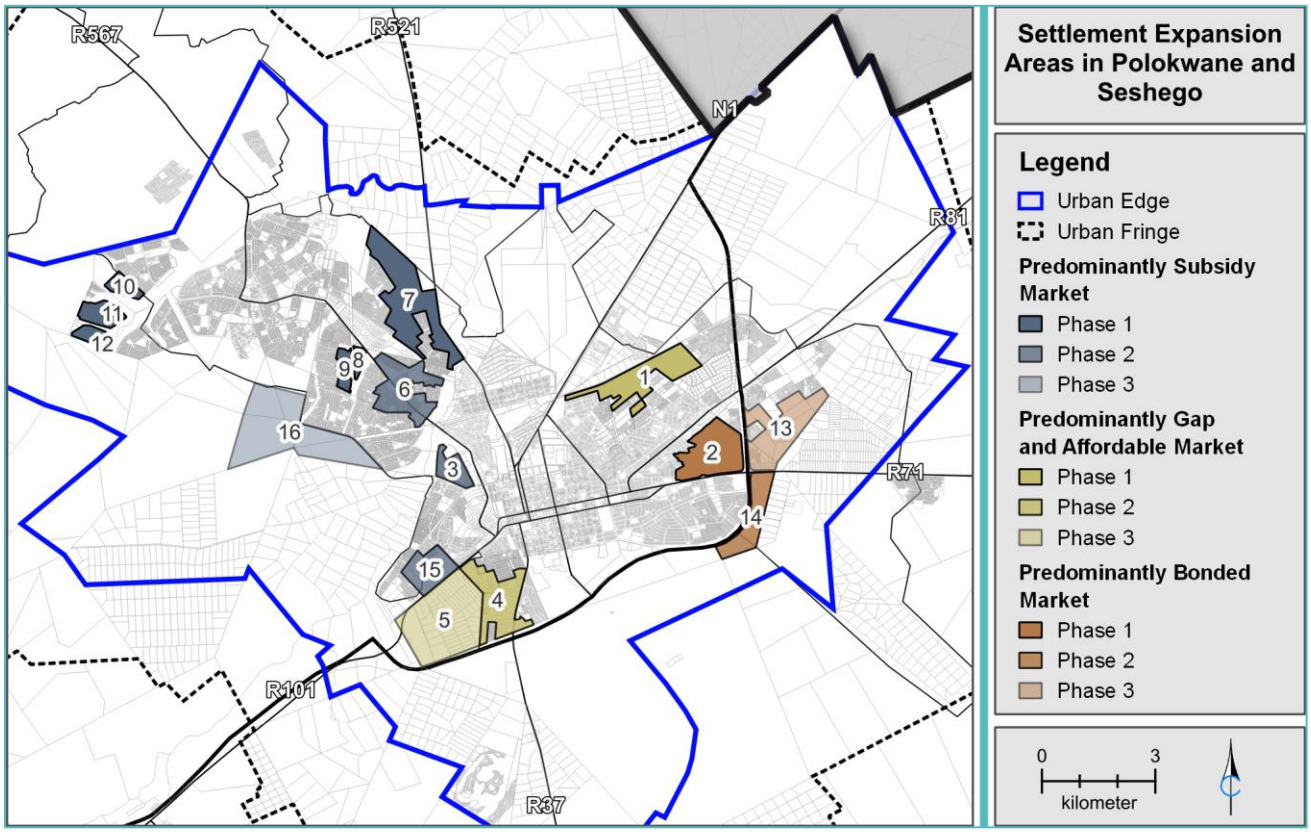
Table 19: Land requirements (ha)

Land requirement	Gross dwelling units/ha	Current Demand	2023-2027	2028-2032	2033-2037	2038-2042	2043-2047	2048-2052	Total hectares required
Subsidy	20	262	110	136	146	157	168	180	1 179
GAP and affordable	30	10	75	93	100	108	115	124	656
Bonded	20	9	65	81	87	93	100	107	561
Total area required (ha)		**294**	**281**	**250**	**310**	**333**	**357**	**383**	**411**

The existing demand inside the urban edge is for roughly 300 hectares, and Polokwane LM will need to prioritise a further 280 hectares for the next five years (2023 – 2027).

Several land parcels are within the urban edge. The location of the parcels is in Map 68, along with the proposed phasing approach.

The land ideally located to house predominantly subsidised/RDP housing is reflected in grey-blue polygons. Parcels 7, 8, and 9 are phase one. The remaining 6, 3, and 15 parcels are phase two, with parcel 16 saved for the third phase as it is on the city's outskirts.



Map 68: Settlement expansion areas in Polokwane and Seshego

The three land parcels well positioned predominantly for the GAP and affordable market are depicted in green. Parcel 1 is the optimal parcel to develop during phase one, with parcels 4 and 5 earmarked for phases two and three, respectively.

The land parcels identified for predominantly bonded markets are on the eastern boundaries of the city. The development of Parcel 2 will occur during phase 1, parcel 14 during phase 2, and parcel 13 during the third phase.

Land requirements outside the urban edge

The demand figures have accumulated into 5-year periods. The five-year period (i.e., the columns) is not cumulative but represents the demand for each period, respectively.

Table 20: Projected housing demand for 30 years (2022 to 2052)

	2022	2023-27	2028-32	2033-37	2038-42	2043-47	2048-52
Subsidy	3 374	5403	6553	7032	7545	8097	8688
GAP and affordable	605	3422	4151	4454	4779	5128	5503
Bonded	66	375	455	488	524	562	603

The gross housing densities, depicted in the following table (column two), were applied to the demand figures to determine how many hectares are required to develop the three dwelling typologies.

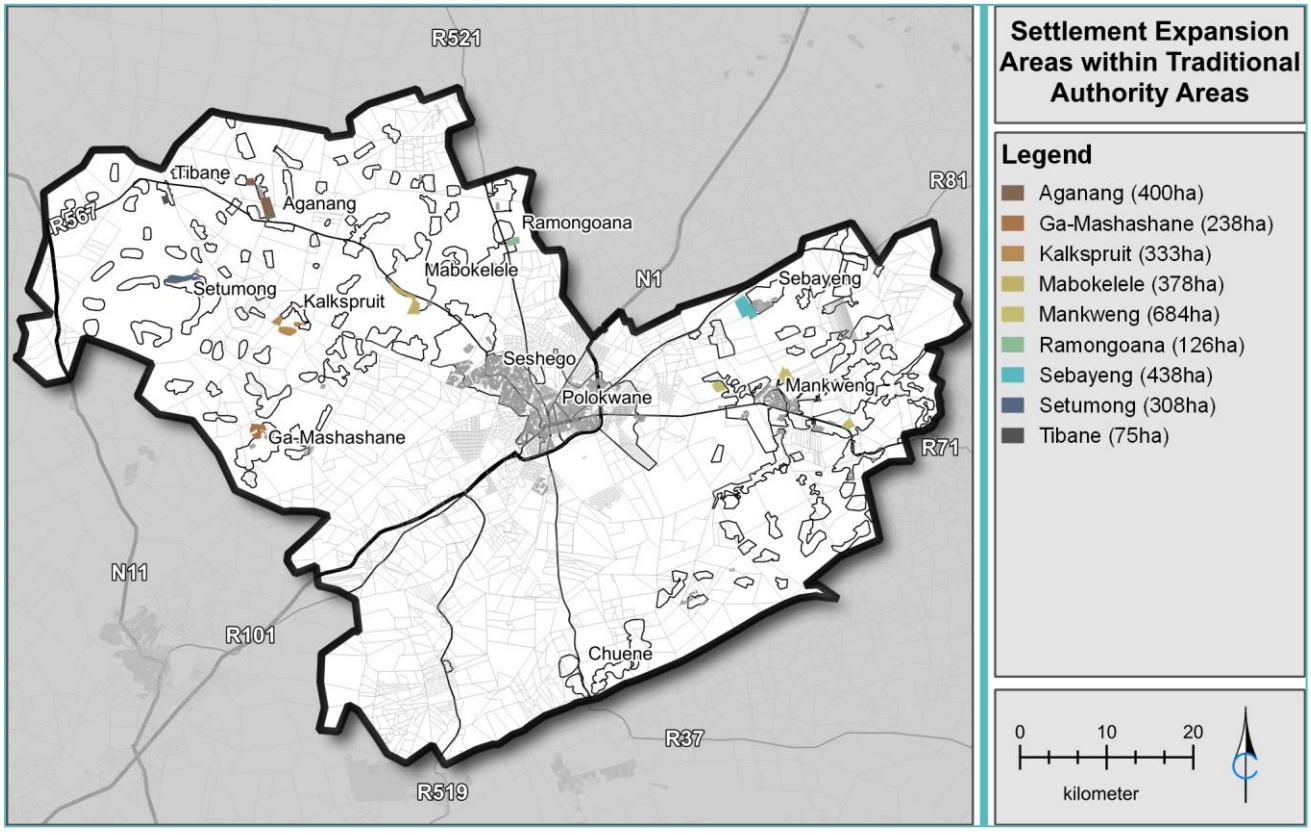
Table 21: Land requirements (ha)

Land requirement	Gross dwelling units/ha	Current Demand	2023-2027	2028-2032	2033-2037	2038-2042	2043-2047	2048-2052	Total hectares required
Subsidy	20	169	270	328	352	377	405	434	2 166
GAP and affordable	30	112	114	138	148	159	171	183	915
Bonded	20	169	19	23	24	26	28	30	150
Total area required (ha)		**450**	**403**	**489**	**524**	**563**	**604**	**648**	**3 231**

The existing demand caters for roughly 450 hectares, and Polokwane LM will need to prioritise a further 400 hectares for the next five years (2023 – 2027).

Phasing land release

Vacant land parcels available for development outside the urban edge are in Map 69. The largest segment is located in Mankweng, followed by Sebayeng and Aganang. The area with the least amount of land is Tibane, which has only 75 hectares.



Map 69: Settlement expansion areas within Traditional Authority areas

A phasing approach could not be recommended as consultation with the Traditional Authorities will be required. Similarly, confirmation of the availability of the proposed land parcels (i.e., the willingness of the TA to allocate these land parcels for residential developments) is required.