

Merafong Municipal Spatial Development Framework

2016 - 2021

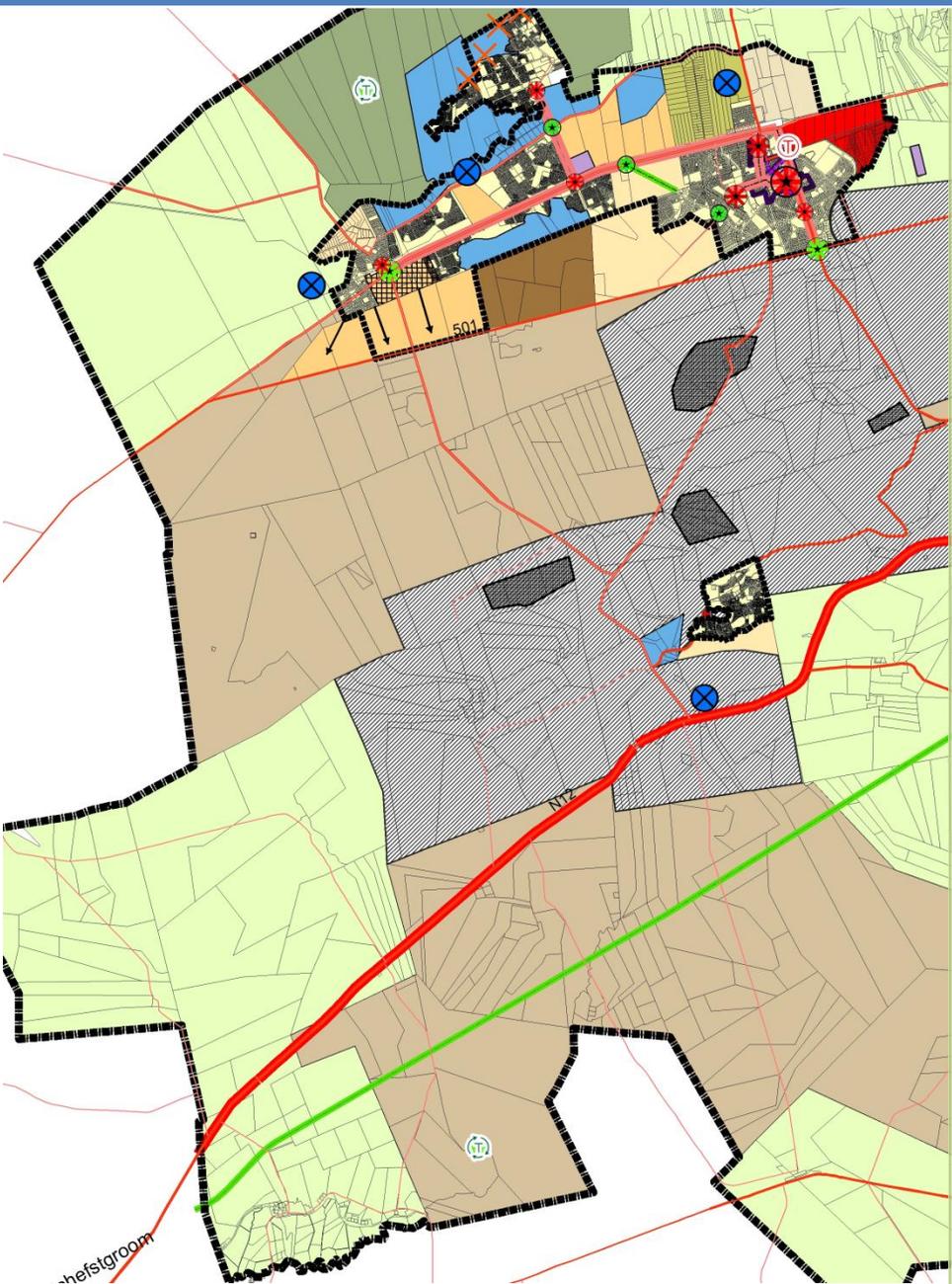
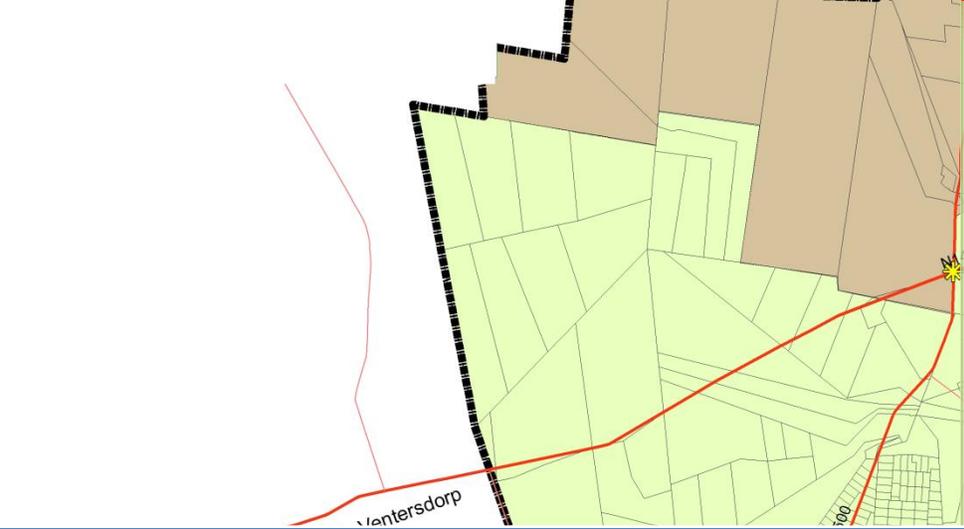


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1. INTRODUCTION AND BACKGROUND

In terms of chapter 5 of the Municipal Systems Act, 2000 (Act 32 of 2000), the municipality's Integrated Development Plan "...must reflect a Spatial Development Framework which must include the provision for basic guidelines for a Land Use Management System for the municipality". The Merafong Municipal Spatial Development Framework (MSDF), forms part of a hierarchy of plans feeding into the Integrated Development Plan (IDP). The Spatial Development Framework serves as an input into the IDP and concentrates on the spatial aspects of development planning, whereas the IDP focuses on broader developmental issues. Following the SDF in the hierarchy are Sector Plans.

The approach followed to compile this document was to emphasise on strategic planning, taking into consideration the broader development strategies of the municipality. During 2013 the Spatial Planning & Land Use Management Act (Act 16 of 2013) (SPLUMA) was promulgated and comes into effect on 1 July 2014. This legislation puts forward principles to influence spatial planning, land use management and land development. It also provides for national and regional spatial frameworks as well as provincial and municipal frameworks, meaning that a package of plans will be undertaken from national to municipal level to direct spatial planning as well as land use management, while providing for uniform regulation of land use management. The general principles endorsed by this Act is that spatial planning, land use management and land development must promote and enhance five main Development Principles: Spatial Justice, Spatial Sustainability; Spatial Efficiency; Spatial Resilience, and Good Administration.

Chapter 2 sect. 7 of SPLUMA. The following principles apply to spatial planning, land development and land use management:

(a) The principle of spatial justice, whereby—

- (i) past spatial and other development imbalances must be redressed through improved access to and use of land;
- (ii) spatial development frameworks and policies at all spheres of government must address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former homeland areas and areas characterised by widespread poverty and deprivation;
- (iii) spatial planning mechanisms, including land use schemes, must incorporate provisions that enable redress in access to land by disadvantaged communities and persons;
- (iv) land use management systems must include all areas of a municipality and specifically include provisions that are flexible and appropriate for the management of disadvantaged areas, informal settlements and former homeland areas;

- (v) land development procedures must include provisions that accommodate access to secure tenure and the incremental upgrading of informal areas; and
- (vi) a Municipal Planning Tribunal considering an application before it, may not be impeded or restricted in the exercise of its discretion solely on the ground that the value of land or property is affected by the outcome of the application;

(b) the principle of spatial sustainability, whereby spatial planning and land use management systems must—

- (i) promote land development that is within the fiscal, institutional and administrative means of the Republic;
- (ii) ensure that special consideration is given to the protection of prime and unique agricultural land;
- (iii) uphold consistency of land use measures in accordance with environmental management instruments;
- (iv) promote and stimulate the effective and equitable functioning of land markets;
- (v) consider all current and future costs to all parties for the provision of infrastructure and social services in land developments;
- (vi) promote land development in locations that are sustainable and limit urban sprawl; and
- (vii) result in communities that are viable;

(c) the principle of efficiency, whereby—

- (i) land development optimises the use of existing resources and infrastructure;
- (ii) decision-making procedures are designed to minimise negative financial, social, economic or environmental impacts; and
- (iii) development application procedures are efficient and streamlined and timeframes are adhered to by all parties;
- (d) the principle of spatial resilience, whereby flexibility in spatial plans, policies and land use management systems are accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and environmental shocks; and

(d) the principle of good administration, whereby—

- (i) all spheres of government ensure an integrated approach to land use and land development that is guided by the spatial planning and land use management systems as embodied in this Act;
- (ii) all government departments must provide their sector inputs and comply with any other prescribed requirements during the preparation or amendment of spatial development frameworks;
- (iii) the requirements of any law relating to land development and land use are met timeously;
- (iv) the preparation and amendment of spatial plans, policies, land use schemes as well as procedures for development applications, include transparent processes of public participation that afford all parties the opportunity to provide inputs on matters affecting them; and
- (v) policies, legislation and procedures must be clearly set in order to inform and empower members of the public.

The Department of Rural Development & Land Reform (DRDLR) is drafting a Spatial Planning Outcomes Framework which will give much more details on the practical execution of these principles and will be included once available.

SPLUMA REFERENCE GUIDE	
This table gives a reference to where in the document the contents mentioned in Section 21 of the Spatial Planning & Land Use Management Act (Act 16 of 2013) can be found. It should be noted that references and small aspects may occur throughout the document and this table is only to be used as a quick reference on major aspects.	
(a)	Mentioned on page 2. Principles followed throughout
(b)	Section 6
(c)	Section 5, especially 5.1.1
(d)	Section 5, especially 5.1.2
(e)	Section 4
(f)	Section 5 - 5.1.3 and 5.2.2
(g)	Section 4
(h)	Section 5 - 5.3.4 as well as the Implementation Plan
(i)	Section 5- 5.2.2
(j)	Section 5 – 5.4
(k)	Section 5 – 5.3.7 as well as Local Spatial Directives
(l)	Local Spatial Directives and Implementation Plan
(m)	Implementation Plan (Annexure A) and Section 4
(n)	Implementation Plan (Annexure A)
(o)	Annexure A, C and Section 5 – to be expanded upon with planned research associated with development of a new scheme
(p)	Annexure C, Annexure A

MERAFONG MSDF 2016-2021 AT A GLANCE
<p>MERAFONG VISION</p> <p>“A prosperous, Sustainable and Community-Oriented City”</p>
<p>SPATIAL PRINCIPLES</p> <p>a) The principle of spatial justice b) The principle of spatial sustainability c) The principle of efficiency d) The principle of good administration</p>

SPATIAL PLANNING VISION

Develop the fragmented towns of Merafong into a unified city that is liveable, sustainable, and efficient and provides opportunities for economic growth and social development.

SPATIAL STRATEGIES

1. IMPROVE URBAN EFFICIENCY AND RECTIFY APARTHEIT SPATIAL DISPARITIES

POLICY	Integrate segregated urban areas and restructure the urban form to meet current and future challenges with greater efficiency.
OUTCOMES/ DESIRED STATE	<ul style="list-style-type: none"> ▪ An efficient system of towns functioning as an integrated network. ▪ Reduced costs of infrastructure provision. ▪ An urban system that offers convenience and choice to its inhabitants and users. ▪ An urban system that provides universal access to all users. ▪ An urban system that encourages business development by providing in the needs of all kinds of enterprises.
IMPLEMENTATION STRATEGIES	<ul style="list-style-type: none"> ▪ Re-align the urban structure of Merafong settlements into 3 distinct urban areas namely the northern, central and southern urban areas. Connect all 3 urban areas through a primary development corridor that will restructure settlements into the desired state. ▪ Develop infrastructure in accordance with the restructuring strategies. ▪ Establish a hierarchy of nodes and corridors to facilitate restructuring. ▪ Implement 3 growth management boundaries in order to manage growth in a sustainable manner: <ul style="list-style-type: none"> ✓ A land use intensification boundary, within which appropriate mixed land uses and densification are encouraged. ✓ An urban development boundary, which contains urban development and indicates where future urban expansion may take place. ✓ An Urban–Rural Interface boundary, within which appropriate mixed land uses are allowed. ▪ Determine settlement viability of mine settlements and develop accordingly ▪ Integrated transport and mobility should form part of decision making processes.
POLICY ALIGNMENT	From the national and provincial primary policy synthesis: Grouping 2 and 5

2. IMPROVE URBAN AND RURAL LIVEABILITY	
POLICY	Create a liveable environment for the community where basic needs are met, the cost of living is bearable, amenities and employment is accessible and urban space is aesthetically pleasing and healthy.
OUTCOMES/ DESIRED STATE	<ul style="list-style-type: none"> ▪ Public facilities are adequately provided for in the right localities with the necessary amenities. ▪ All social facilities contribute to human development, meeting basic needs and act as social development safety 'nets' to protect human rights and human dignity. ▪ Urban design provides quality of place and the maximum utilisation of spaces for their most appropriate uses. ▪ The urban environment is aesthetically pleasing and unique ▪ Green infrastructure provides ecosystem services to the benefit of the human and natural environment. ▪ All residents have adequate housing with different options of tenure.
IMPLEMENTATION STRATEGIES	<ul style="list-style-type: none"> ▪ Social infrastructure development ▪ Sustainable human settlements ▪ Improve urban design and green infrastructure in order to promote universal access and create a unique identity. Develop an Urban Design Framework. ▪ Rural development ▪ Promote or enforce principles of design and land use patterns that reduce crime, the fear of crime and also promote safety.
POLICY ALIGNMENT	From the national and provincial primary policy synthesis: Grouping 3, 4 and 5
3. FACILITATE SUSTAINABLE ECONOMIC GROWTH AND DIVERSIFICATION	
POLICY	Facilitate the development of new economic drivers and the diversification of the economy and to revitalize stagnant economic activity nodes.
OUTCOMES/ DESIRED STATE	<ul style="list-style-type: none"> ▪ A broader economic base consisting of a mix of mining, agriculture and manufacturing. ▪ A more diverse non-basic sector that absorbs local purchasing power. ▪ Accelerated economic growth in leading sectors that stimulates job creation. ▪ Provide for the needs of the informal economy and to facilitate harmonious co-existence with the formal sector. ▪ A more developed economy will enlarge the tax base, which will in turn provide more capital for municipal investment.

IMPLEMENTATION STRATEGIES	<ul style="list-style-type: none"> ▪ Enable industrial development through the provision of industrial land and infrastructure according to demand coupled with well researched incentives for investment. Develop an Industrial Development Strategy for Merafong to guide municipal actions in this regard. ▪ Enable faster development and growth of the agricultural sector and its associated value chains. ▪ Target decaying areas within development nodes for urban renewal initiatives. ▪ Develop new strategic nodes with base economic potential in order to utilise their latent potential. ▪ Continuously identify spatial threats and constraints to economic development and mitigate. ▪ Create an enabling environment for informal enterprises to thrive without adversely affecting the formal sector.
GUIDING PRINCIPLES	<ul style="list-style-type: none"> ▪ Enable non-basic economic expansion through land provision and Land Use Management. Designate more land for business and services expansion. ▪ Economic development and job creation is of great importance and as such administrative processes related to Land Use Management, building plan assessment and property disposal should prioritise economic development activities.
POLICY ALIGNMENT	From the national and provincial primary policy synthesis: Grouping 1, 3, 4 and 5

4. PROTECT NATURAL AND AGRICULTURAL RESOURCES

POLICY	<ul style="list-style-type: none"> ▪ Protect and actively manage the natural environmental resources in Merafong in order to ensure a sustainable coexistence between urban, mining, agricultural and ecological land uses. ▪ Protect valuable agricultural land from development.
OUTCOMES/ DESIRED STATE	<ul style="list-style-type: none"> ▪ Sustainable development that will keep resources intact for future generations. ▪ Urban and rural land uses and systems that will be resilient in the face of climate change.

GUIDING PRINCIPLES	<ul style="list-style-type: none"> ▪ Protect and enable ecosystem services in urban and rural areas. ▪ Actively expand green infrastructure for ecological, economic and social purposes. ▪ Minimise environmental impacts of developments. ▪ Mitigate impacts of local activities on neighbouring areas. ▪ Mitigate and manage impacts caused by climate change ▪ Urban pollution, especially storm water pollution, should be minimised. ▪ Mining pollution should be addressed. ▪ Improve on unsustainable farming practices near previously disadvantaged areas.
POLICY ALIGNMENT	From the national and provincial primary policy synthesis: Grouping 2, 3 and 5

2. NATIONAL, PROVINCIAL AND DISTRICT SCALE POLICY GUIDELINES

Relevant policy guidelines will be discussed from national down to district level and the most important policies have been synthesized and grouped into categories applicable to the MSDF. Although many policy directives do not make direct spatial statements they have spatial implications and spatial planning can make a significant impact on an indirect level.

National level

National Development Plan, 2030 (NDP) and the national outcomes

- Objective 3: Economy and Employment. Spatially the focus is on reducing the cost of living whilst increasing the standard of living of poor households as well as removing constraints on economic growth and development.
- Objective 4: Economic infrastructure. In terms of spatial planning the emphasis is placed on consolidating and expanding transport and logistics infrastructure as well as improving public transport infrastructure.
- Objective 5: Environmental sustainability and resilience. The focus is on environmental sustainability and resilience in the face of change through an equitable transition to a low-carbon economy, which will also have implications on spatial planning and development in Merafong.
- Objective 6: Inclusive rural economy. A more inclusive rural economy can be established through integrated rural development. Spatially the focus is on research and the development of adaptation strategies for the protection of rural livelihoods and expansion of commercial agriculture.
- Objective 8: Transforming Human Settlements. Discusses the spatial planning system of South Africa and focusses on transforming SDFs into spatial contracts that are binding across national, provincial and local levels; encouraging cross border planning and cooperation between municipalities and provinces and it also promotes having an explicit spatial restructuring strategy identifying priority precincts for spatial restructuring.
- Objective 12: Building Safer Communities. In spatial terms, community participation should be increased and design interventions should be implemented where possible.
- Objective 13: Building a capable and developmental state. Proactive steps are needed to resolve coordination problems between different government entities and government in general needs to be more accessible to the public.

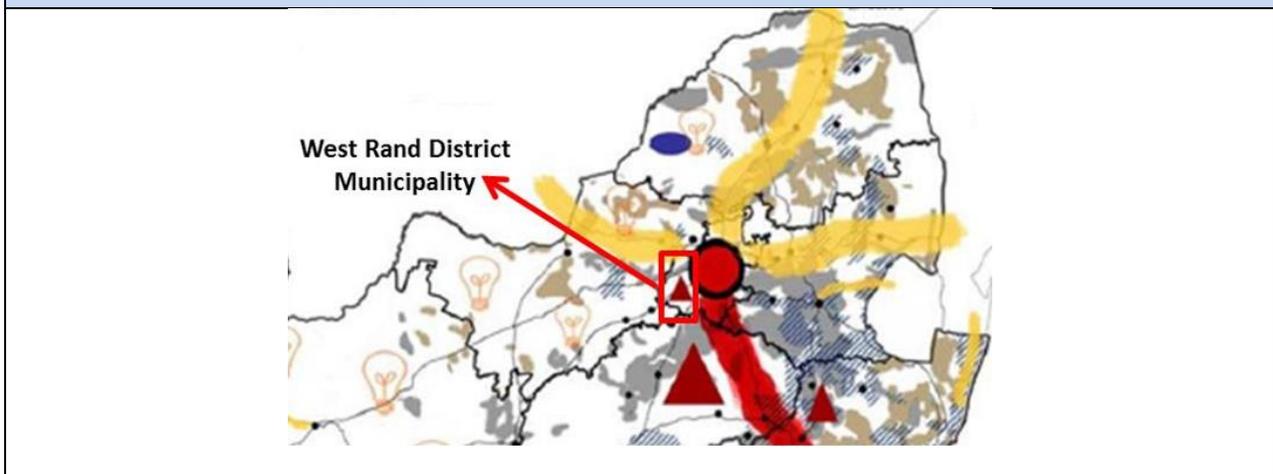
Spatial planning implications:

- The NDP suggest that rural interventions will differentiate less dense marginal areas primarily needing appropriate service provision from more viable and denser areas with transport and market access, including:
 - ✓ Prioritising agricultural and rural development along mobility corridors, to build local economies and contribute to national food security;
 - ✓ Identification of non-agricultural opportunities such as tourism and mining, especially with a “green” focus’;
 - ✓ Small-town development as nodes of rural development;

- ✓ Mechanisms to make land markets work more effectively for the poor, especially women.
- Gauteng is identified as a national node of competitiveness where planning should focus on enabling innovation and the development of leading sectors.
- The NDP reports that in urban areas in-migration, especially by the young and poor, increases pressure on services and transport, complicated by apartheid-fragmented geography. Economic growth has been slower than the demand for employment. In particular, accommodation faces challenges, including financing for lower end housing and its incorporation into the market, and slow progress on rental accommodation (CRU and Social Housing) and upgrading of informal settlements. In urban areas, key NDP recommendations include:
 - ✓ Upgrading all informal settlements on suitable, well-located land by 2030;
 - ✓ Increased urban densities to reduce sprawl and costs;
 - ✓ Investments to shift jobs and investment to the urban townships on the peripheries;
 - ✓ Substantial investments in safe, reliable and affordable public transport and better co-ordination among the various modes;
 - ✓ A comprehensive review of the grant and subsidy regime for housing to ensure diversity in product and finance options and spatial mix;
 - ✓ A focused strategy on the housing gap market, involving banks, subsidies and employer housing schemes;
 - ✓ The development of spatial compacts that are currently being addressed by the Department of Rural Development & Land Reform.

Areas of spatial targeting have been identified. The West Rand is targeted for job intervention (employment creation) due to a significant decline in formal employment as illustrated in Figure 2.1.

FIGURE 2.1. THE PROPOSED NDP SCHEME FOR SPATIAL TARGETING





The National Outcomes approach

Twelve Outcomes for public-service delivery priorities were identified in 2010. Ministers signed Performance Agreements linked to these Outcomes. More detailed Delivery Agreements have since been developed to extend targets and responsibilities to national and provincial departments, agencies and municipalities. Below are the 12 Outcomes and their respective outputs:

<p>Outcome 1: Improve the Quality of Basic Education</p> <ul style="list-style-type: none"> • Output 1: Improve the quality of teaching and learning. • Output 2: Undertake regular assessment to track progress. • Output 3: Improve early childhood development. • Output 4: Ensure a credible outcomes-focused planning and accountability system
<p>Outcome 2: Improve Health and Life Expectancy</p> <ul style="list-style-type: none"> • Output 1: Increasing life expectancy • Output 2: Decreasing maternal and child mortality rates • Output 3: Combating HIV and AIDS and decreasing the burden of disease from Tuberculosis • Output 4: Strengthening health system effectiveness
<p>Outcome 3: All People in South Africa Protected and Feel Safe</p> <ul style="list-style-type: none"> • Output 1: Address overall levels of crime and reduce the levels of contact and trio crimes • Output 2: Improve effectiveness and ensure integration of the Criminal Justice System (CJS) • Output 3: Combat corruption within the Justice, Crime Prevention and Security Cluster to enhance its effectiveness and its ability to serve as deterrent against crime • Output 4: Manage perceptions of crime among the population • Output 5: Ensure security at the border environment • Output 6: Secure the identity and status of citizens • Output 7: Integrate ICT systems and combat cyber crime • Output 8: Corruption
<p>Outcome 4: Decent Employment Through Inclusive Economic Growth</p> <ul style="list-style-type: none"> • Output 1: Faster and sustainable inclusive growth • Output 2: More labour absorbing growth • Output 3: Multi-pronged strategy to reduce youth unemployment • Output 4: Increased competitiveness, to raise net exports, grow trade as a share of world trade and improve its composition • Output 5: Improved cost structure in the economy • Output 6: Improved support to small business and cooperatives • Output 7: Implementation of the expanded public works programme
<p>Outcome 5: A Skilled and Capable Workforce to Support Inclusive Growth</p> <ul style="list-style-type: none"> • Output 1: Establish a credible institutional mechanism for skills planning • Output 2: Increase access to programmes leading to intermediate and high level learning • Output 3: Increase access to occupationally-directed programmes in needed areas and thereby expand the

<p>availability of intermediate level skills (with a special focus on artisan skills)</p> <ul style="list-style-type: none"> • Output 4: Increase access to high level occupationally-directed programmes in needed areas • Output 5: Research, development and innovation in human capital for a growing knowledge economy
Outcome 6: An Efficient, Competitive and Responsive Economic Infrastructure Network
<ul style="list-style-type: none"> • Output 1: Improving Competition and Regulation • Output 2: Ensure reliable generation, distribution and transmission of electricity • Output 3: To ensure the maintenance and strategic expansion of our road and rail network, and the operational efficiency, capacity and competitiveness of our sea ports. • Output 4: Maintenance and supply availability of our bulk water infrastructure • Output 5: Communication and Information technology • Output 6: Develop a set of operational indicators for each segment
Outcome 7: Vibrant, Equitable and Sustainable Rural Communities and Food Security
<ul style="list-style-type: none"> • Output 1: Sustainable agrarian reform • Output 2: Improved access to affordable and diverse food • Output 3: Rural services and sustainable livelihoods • Output 4: Rural job creation linked to skills training and promoting economic livelihoods • Output 5: Enabling institutional environment for sustainable and inclusive growth
Outcome 8: Sustainable Human Settlements and Improved Quality of Household Life
<ul style="list-style-type: none"> • Output 1: Accelerated delivery of housing opportunities • Output 2: Improve access to basic services • Output 4: More efficient land utilisation • Output 4: Improved property market
Outcome 9: A Responsive, Accountable, Effective and Efficient Local Government System
<ul style="list-style-type: none"> • Output 1: Implement a differentiated approach to municipal financing, planning and support • Output 2: Improving access to basic services. • Output 3: Implementation of the Community Work Programme • Output 4: Actions supportive of the human settlement outcome • Output 5: Deepen democracy through a refined Ward Committee model • Output 6: Administrative and financial capability • Output 7: Single window of coordination
Outcome 10: Protection and Enhancement of Environmental Assets and Natural Resources
<ul style="list-style-type: none"> • Output 1: Enhanced quality and quantity of water resources • Output 2: Reduced greenhouse gas emissions, climate change impacts and improved air/atmospheric quality • Output 3: Sustainable environmental management • Output 4: Protected biodiversity
Outcome 11: A Better South Africa, a Better and Safer Africa and World
<ul style="list-style-type: none"> • Output 1: Enhanced African agenda and sustainable development • Output 2: Enhanced regional integration • Output 3: Reformed global governance institutions • Output 4: Enhanced trade and investment
Outcome 12: A Development-Orientated Public Service and Inclusive Citizenship
<ul style="list-style-type: none"> • Output 1: Service delivery quality and access • Output 2: Human resource management and development • Output 3: Business processes, systems, decision rights and accountability management • Output 4: Tackling corruption in the public service

Spatial planning implications:

All spatial planning interventions have to be measured against these national outcomes.

National Spatial Development Perspective (NSDP)

The NSDP is a relatively old policy document, however its principles and perspectives given on the national space-economy is still very relevant. In order to contribute to the broader growth and development policy objectives of government, the Presidency's **National Spatial Development Perspective** puts forward a set of five normative principles:

- Principle 1: **Rapid economic growth that is sustained and inclusive** is a prerequisite for the achievement of other policy objectives, among which poverty alleviation is key
- Principle 2: Government has a constitutional obligation to **provide basic services to all citizens** (e.g. water, energy, health and educational facilities), wherever they reside
- Principle 3: Beyond the constitutional obligation identified in Principle 2 above, **government spending on fixed investment should be focused on localities of economic growth and/or economic potential** in order to gear up private-sector investment, to stimulate economic activities and to create long term employment opportunities
- Principle 4: Efforts to address past and current social inequalities should focus on people, not places. **In localities where there are both high levels of poverty and demonstrated economic potential, this could include fixed capital investment beyond basic services to exploit the potential of those localities.** In localities with low demonstrated economic potential, government should, beyond the provision of basic services, concentrate primarily on human capital development by providing education and training, social transfers such as grants and poverty-relief programmes. It should also reduce migration costs by providing labour-market intelligence to give people better information, opportunities and capabilities, to enable them to gravitate – if they choose to – to localities that are more likely to provide sustainable employment and economic opportunities
- Principle 5: **In order to overcome the spatial distortions of apartheid, future settlement and economic development opportunities should be channeled into activity corridors and nodes that are adjacent to or that link the main growth centres.** Infrastructure investment should primarily support localities that will become major growth nodes in South Africa and the Southern African Development Community (SADC) region to create regional getaways to the global economy.

Spatial planning implications:

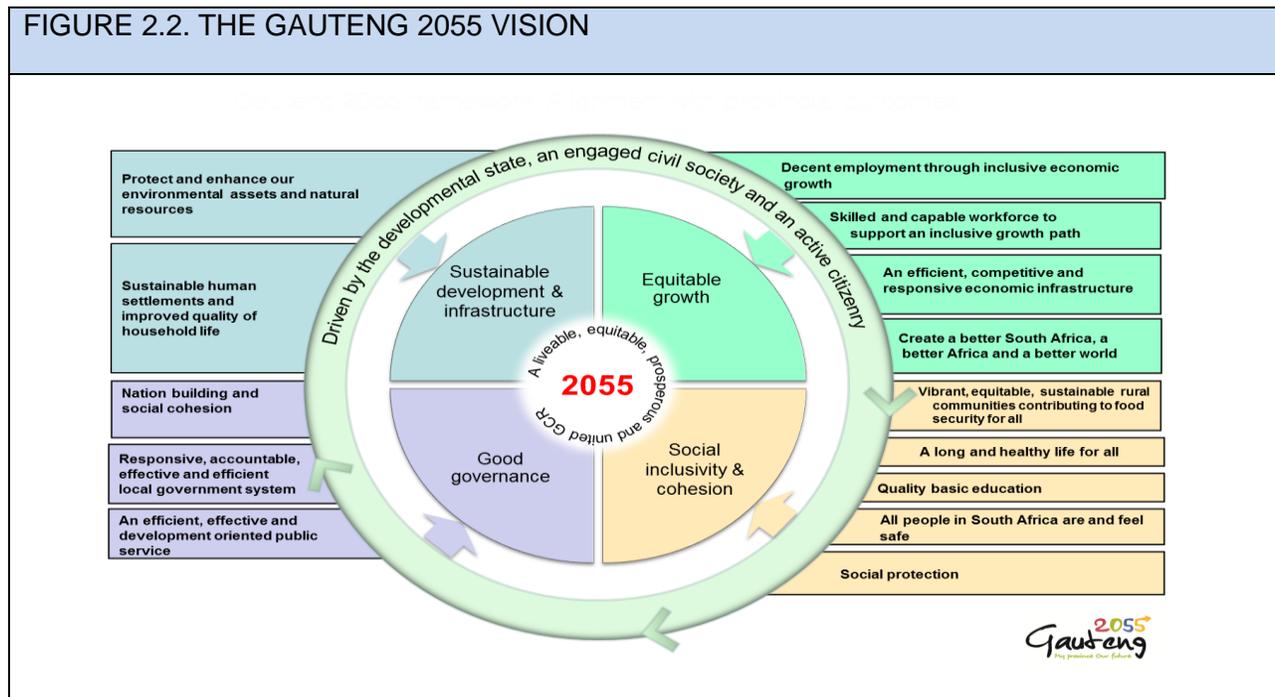
All spatial planning interventions have to adhere to these principles. Municipal actions in contradiction with these principles have to be discouraged.

Provincial level

Gauteng Vision 2055

The Global City Region concept aims to build Gauteng into an integrated and globally competitive region where the economic activities of different parts of the province complement each other in consolidating Gauteng as an economic hub of Africa and an internationally-recognised global city region. The most important objective is to encourage greater co-operation within the Province, for greater competitiveness. The Gauteng Global City Region spans an area larger than Gauteng and also includes cities such as Potchefstroom, Klerksdorp and Vereeniging which are all neighbours of Merafong.

FIGURE 2.2. THE GAUTENG 2055 VISION



It is based on the following pillars

- Economic growth
- Social cohesion
- Good governance and
- Infrastructural development

Government and its private partners seek to achieve the following outcomes

- Decent employment
- Skilled and capable workforce
- Efficient economic infrastructure
- Regional and international trade

Key Challenges

- Insufficient Industrial Regional Growth

- Poverty & Unemployment
- Inadequate levels of foreign trade and investment
- Crucial development in the Knowledge economy
- Skills mismatch between secondary and Tertiary training institutions and labour market

Game changers/Interventions

- Development of powerful economic clusters and new growth sectors
- Improving the GCR infrastructure to attract domestic business to the region and strengthen regional trade
- Build private and public sector partnerships to match education outputs with sector needs

Spatial planning implications:

Refer to the West Rand Economic & Industrial Development Plan

Gauteng Spatial Development Framework

Other than recognizing the existence of Merafong City Local Municipality the GSDF does not say much about this municipality. Despite this there are principles in the document that are of use:

The Case Principles are fundamental guidelines and set the basis for a sustainable future for the GCR and form the basis on how the GCR and forms the basis on how the GCR reacts spatially to the context in which it operates within. The principles are as follows:

- ✓ Provide a long term vision for cities founded on sustainability; intergenerational, social, economic and political equity; and individuality.
- ✓ Achieve long term economic and social security.
- ✓ Recognise the intrinsic value of biodiversity and natural ecosystems, protecting and restoring them.
- ✓ Enable communities to minimize their ecological footprints
- ✓ Build on the characteristics of ecosystems in the development and nurturing of healthy and sustainable cities.
- ✓ Recognise and build on the distinctive characteristics of cities, including their human and cultural values, historical and natural systems.
- ✓ Empower people and promote participation.
- ✓ Expand and enable cooperative networks to work towards a common, sustainable future.
- ✓ Promote sustainable production and consumption through appropriate use of environmentally sound technologies and effective demand management.
- ✓ Enable continual improvement based on accountability, transparency, and good governance.

Spatial planning implications:

- **Resource-based economic development:** three strategic thrusts have been formulated to guide future economic development:

- ✓ The re-alignment of the manufacturing sector towards high value added activities
- ✓ The development of the province as the smart centre of the country
- ✓ The development of the finance and business services sectors with emphasis on financial services and technology, auxiliary business services, corporate head office location and business tourism.
- **Contained urban growth** through the implementation of the urban edge as vehicle that is determined at a provincial level and informed by local government
- **Re-direction of urban growth** that aims to implement the principles of planning legislation and policy where the integration of residential areas with areas of employment opportunities take place.
- **Rural development** beyond the urban edge to achieve a more balanced growth system
- **Mobility and accessibility** that underpin the principles of development. Hence, road and rail development should be geared at implementation to above proposals.

Gauteng Growth Management Perspective, 2014

Municipalities are ultimately responsible for the implementation of growth management in their respective jurisdictions, and will have to take responsibility for formulating and exercising a package of tools and mechanisms. Coordination of the actions of different municipal departments is key in successful growth management. This will require improved administrative procedures and collaboration.

Given the massive gap in information on engineering services, a proper Growth Management Strategy for Merafong would be impossible for now. The development dynamics also differs from the metros and many proposals such as densities are completely impractical for smaller urban areas. Therefore basic principles have been developed for the interim based on proposals from the document.

The purpose of the Gauteng Growth Management Perspective is to provide the provincial government and its constituent with a clear perspective and understanding of the implications of unabated spatial growth and how it should approach and intervene as far as the implementation and coordination of growth management in the province and the City-Region is concerned.

The implementation of tools and mechanisms for growth management must follow a three-pronged approach, namely:

- Preventing development in sensitive environments (i.e. environmental protection);
- Discouraging development in peripheral locations (i.e. curbing urban sprawl); and
- Encouraging development primarily in strategic locations (i.e. ensuring internal spatial restructuring).

Principle perspective themes:

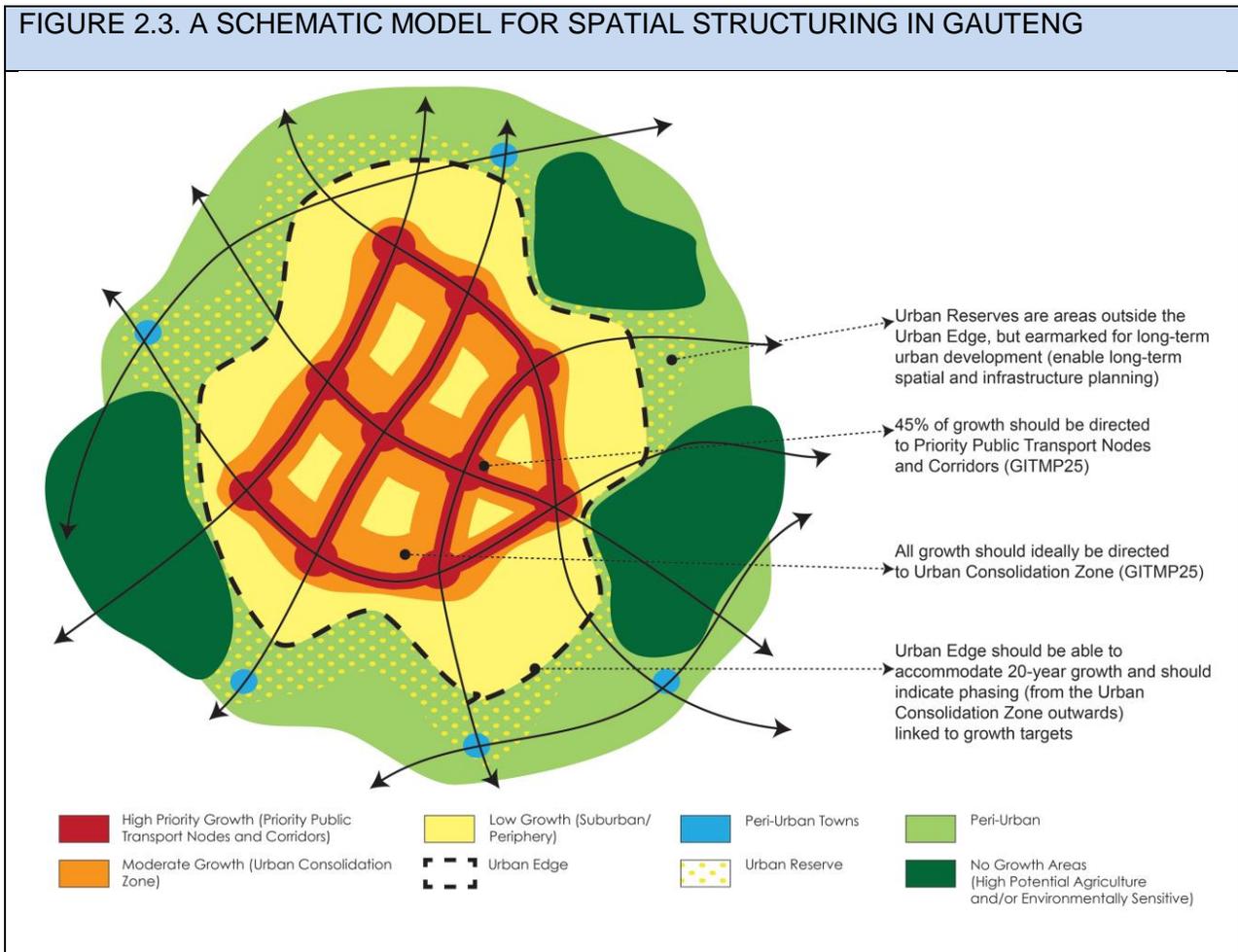
- Change is Necessary
- Sprawl has to be addressed
- Support the creation of a regional polycentric spatial structure
- Movement systems are key restructuring elements

- Capital investment has to align with growth management
- Alignment with and interaction between government entities is important.

Spatial planning implications:

- Land Use Management mechanisms have to be applied to either restrict development in certain areas or facilitate development in others.
- Investment in infrastructure and services should be aligned with the growth management objectives and targets.
- Development should be planned and managed in a manner that enhances revenue generation whilst promoting affordability.
- The affordability of infrastructure and the promotion of an efficient public transport system are important factors in managing development.

FIGURE 2.3. A SCHEMATIC MODEL FOR SPATIAL STRUCTURING IN GAUTENG



Gauteng Multi-Pillar Program of Radical Transformation

The core mandate of the 5th administration of Gauteng is to elaborate and give practical and programmatic effect to the meaning of radical change in all aspects of governance in the province, as we build Gauteng into;

“An integrated city-region, characterised by social cohesion and economic inclusion; the leading economy on the continent, underpinned by sustainable and socio-economic development.”

Transform:

1. **RADICAL ECONOMIC TRANSFORMATION:** Interventions in key sectors of the economy to unlock growth and employment potential and bring in blacks, youth and women and revitalise township economy.
2. **DECISIVE SPATIAL TRANSFORMATION:** Through public transport and new sustainable and integrated human settlements and new cities.
3. **ACCELERATING SOCIAL TRANSFORMATION:** Modernise education and build smart schools; improve quality of care and modernise health institutions and rollout NHI; tackle urban poverty and social development challenges; dramatically improve community safety.
4. **TRANSFORMATION OF THE STATE AND GOVERNANCE:** Build developmental state capabilities through better organisation and professionalisation; promote activist, purpose-driven and results-based government; active citizenry, sectoral engagement and community mobilisation.

Modernise:

1. **MODERNISATION OF THE PUBLIC SERVICE:** Build green and smart public services and infrastructure to deliver services effectively and efficiently: build a connected government; vertically, horizontally, back office, intranet, and government to citizens, citizens to government etc.
2. **MODERNISATION OF THE ECONOMY:** Focus on economic modernisation through deployment of research, innovation science and green technology
3. **PLANNING OF NEW HUMAN SETTLEMENTS:** Modernisation of human settlements through green and high density settlements
4. **MODERNISATION OF PUBLIC TRANSPORT:** Planned urbanisation and urban development: Radically improve on better urban planning , public transport.

Industrialise:

- 1. RE-INDUSTRIALISE GAUTENG AND SOUTH AFRICA:** re-build the manufacturing sector in Gauteng, increasing manufacturing output and increasing employment in manufacturing and related up and downstream sectors.
- 2. TAKE THE LEAD IN AFRICA'S NEW INDUSTRIAL REVOLUTION:** Entrench and expand on Gauteng's status as the Gateway to Africa to realise the economic opportunities offered by the continent.

Spatial planning implications:

- **Transform.** Economic and social transformation starts with the way settlements function. Spatial planning must change the way settlements function, in order to improve efficiencies. This will bring about an improvement in urban liveability and
- **Modernise.** The economy of Merafong is lagging behind and inefficiencies abound. Planning has to focus on new growth sectors and ways for the public sector to perform better and create an enabling environment for leading sector businesses.
- **Reindustrialise.** Gauteng is intent on taking the lead in the industrialisation of Africa and the focus for the West Rand is in the green and blue economy as well as agriculture and its value chains.

Gauteng Environmental Management Framework

The GEMF replaces all other EMFs in Gauteng. The objective of the GEMF is to guide sustainable land use management within Gauteng. It serves the following purposes:

- To provide a strategic and overall framework for environmental management in Gauteng.
- To align sustainable development initiatives with the environmental resources, developmental pressures as well as growth imperatives of Gauteng.
- Determine geographical areas where certain activities can be excluded from an EIA
- Identify appropriate, inappropriate and conditionally compatible activities in various Environmental Management Zones in a manner that promotes proactive decision making.

Spatial Planning implications:

- An extensive analysis and prioritisation of ecological resources and land use conflicts was done, resulting in the development of control zones and Environmental Management Zones. These zones provide good guidance for spatial planning and land use management.

District Level

West Rand Growth & Development Strategy

The vision of the WRDM Regional Growth and Development Strategy is to “*develop and sustain an integrated, socio-economically and economically thriving and green environment with a unified society.*”

In order to achieve the above Vision, the Regional Growth and Development Strategy identified the following critical requirements:

- *Ensure the WRDM is connected* – with more people enjoying the benefits of flourishing activity centres where shops, jobs, services and recreation are within walking and travelling distance of their homes, with fast and reliable travel to and from local centres and regional opportunities, with a comprehensive, efficient and networked public transport system and pedestrian routes and access to rural and tourism areas.
- *Ensure the WRDM is attractive* – with quality urban and rural areas that are well-maintained, new developments which comply with high design standards, clean and safe environments and well-preserved heritage and natural areas.
- *Ensure the WRDM is sustainable* – with resources well managed and planned for, viable and cost-effective service provision; and where the environment is valued as a vital resource and meaningful open space is provided for all.
- *Ensure the WRDM is well managed* – where development decisions are predictable, fair and cost-effective, partnerships are developed, planning takes place on a continuous basis, formal systems for data collections are in place, and data is used to support and improve planning.

Subsequently, the study then identified the following six strategic priorities/key focus areas for the West Rand District Area and these form the basis of the West Rand Regional Growth and Development Strategy:

Strategic Priority 1: Spatial Integration

- Suitable development planning around dolomitic areas
- Optimise opportunities/spin-offs from neighbouring areas' initiatives:
- Nodal densification
- Corridor development and diversification

<ul style="list-style-type: none"> • Mining rehabilitation to increase land availability • Informal Settlement Management • Development Incentive Schemes • Urban Renewal and Inner City Rejuvenation in the four main business areas
Strategic Priority 2: Physical Infrastructure
<ul style="list-style-type: none"> • Promoting Information and Communication Technology (ICT) • Focus on strategic economic infrastructure programmes • Planning for current and future infrastructure • Maintenance of current infrastructure • Securing investment for infrastructure development
Strategic Objective 3: Economic Development
<ul style="list-style-type: none"> • Expanding the Agriculture/Agro-processing industry in the District • Stimulating mining activity and mineral processing and -beneficiation activities in the District • Increasing manufacturing opportunities and activities in the District • Strengthening and promoting the tourism industry in the District
Strategic Objective 4: Environmental Management
<ul style="list-style-type: none"> • Biofuel • Alternative energies (such as photovoltaic) • Hazardous and new waste types • Mine water pollution (e.g. Acid Mine Drainage) • Nanotechnology • Land Degradation • Creating a renewable energy sector • Managing and addressing mining-related environmental impacts • Waste Management and Recycling Programmes • Mitigate and prevent land degradation
Strategic Objective 5: Social Development
<ul style="list-style-type: none"> • Reducing Poverty & Unemployment • Promoting Sustainable Human Settlements • Ensuring adequate education and training facilities • Ensuring efficient Health Care and Facilities • Promoting Safety and Security • Developing Sports, Recreation, Arts and Culture (SRAC) facilities
Strategic Objective 6: Governance
<ul style="list-style-type: none"> • Promote Community Participation • Ensure Clean Audits • Effective implementation of Council policies • Maximise resources from other spheres • Regular Monitoring and evaluation • Promote easy and affordable business

(ADAPTED FROM THE WRDM SDF)

WRDM Green IQ

The WRDM Green IQ was compiled in (2012) and is a commitment to make the West Rand District the greenest district in South Africa and an African example of how sustainable development should be conducted. The Green IQ is a comprehensive strategy, built on 5 pillars, namely:

- **PEOPLE:** To create a place where people come first, a place characterized by equity, dignity and possibility; where everyone has the opportunity to build a better life for themselves, their children.

- **ECONOMY:** To restructure the economy to seize future development opportunities; to foster local resilience; to serve the people of the West Rand and to be an example of participatory prosperity.
- **ENVIRONMENT:** To make the precious natural resources available for future generations; create a low-carbon built environment dedicated to quality of life; and regenerate rural areas with a new sense of purpose.
- **ENERGY:** To facilitate the creation of new independent power producers to generate renewable, affordable and reliable energy to power new industries and create competitive advantages.
- **INNOVATION:** To establish itself as a centre of excellence in green technology and green living; attract the best minds; and encourage and support the industries of the future.

Seven Key Programmes have been identified in the WRDM Green Economy Programme

Sector	Description
Energy Efficiency	<ul style="list-style-type: none"> • Expanding off-grid options in rural and urban areas • Refit optimization for large scale renewable and localization, and • Up-scaling Solar Water Heater rollout
Food security	<ul style="list-style-type: none"> • Integrate sustainable agricultural production
Water and sanitation	<ul style="list-style-type: none"> • Water harvesting • Alternative technology for effluent management • Comprehensive municipal water metering (demand and management) • Reduce water losses in agriculture, municipalities and mining
Waste	<ul style="list-style-type: none"> • Waste beneficiation • Zero waste community programme for 500 000 households
Transportation	<ul style="list-style-type: none"> • Promoting non-motorized transport and • Conversion to solar powered traffic lights
Spatial planning and land use	<ul style="list-style-type: none"> • Investing in sustainable land use which will contribute to the WRDM economic vitality • Investing in the WRDM's green space which creates opportunities to socialize and rest, fundamentally boost quality of life and socio-economic integration, and the associated economic benefits
Green buildings and the built environment	<ul style="list-style-type: none"> • Greening of private and public buildings.

(ADAPTED FROM THE WRDM SDF)

WRDM Spatial Development Framework

The following points are fundamental to the Vision for the future spatial structure of the West Rand District:

- Containment of urban growth;
- Densification of urban areas;
- Eradicate large housing backlog in sustainable manner, integrating communities;
- Incorporate environmental management principles in the management of land;
- Protect high value agricultural land;

- Improve and rehabilitate mining areas for future agricultural use;
- Provide different typologies of housing;
- Establish niche tourism opportunities; and
- Address the large infrastructure backlog in the West Rand.

The key elements of alignment between the WRDM RGDS, Green IQ and IDP and which need to be incorporated into the WRDM SDF are summarised in the following table.

WRDM Regional Growth and Development Strategy		Green IQ	WRDM Integrated Development Plan
Vision Elements	Key Focus Areas	Pillars	Spatial Issues
<ul style="list-style-type: none"> • Connected • Attractive • Sustainable • Well-Managed 	<ul style="list-style-type: none"> • Spatial Integration • Physical Infrastructure • Economic Development • Environmental Management • Social Development • Governance/Management 	<ul style="list-style-type: none"> • Innovation • Energy • Economy • Environment • People 	<ul style="list-style-type: none"> • Contain urban sprawl • Establish nodes and corridors • Improve eastward connectivity • Protect natural environment • Promote tourism • Sustainable utilisation of mining potential • Enhance agricultural production • Diversify industries • Manage rural residential use on small holdings • Consolidate rural infrastructure at nodes • Actively promote urban renewal • Upgrade/expand engineering services

WEST RAND ECONOMIC & INDUSTRIAL DEVELOPMENT PLAN

The Gauteng Provincial Government calls for an inclusive and spatially balanced approach across Gauteng towards addressing the threats of unemployment, poverty and inequality. Developed from the G2055 concept the West Rand Economic & Industrial Development Plan addresses the development disparities between metro and non-metro areas based on actual potential for development within the West Rand.

The plan focusses on 6 key economic sectors or development niches that have good development potential:

- The Westrand Green City;
- The Blue Economy Sector;
- The Westrand Tourism City;
- The Westrand Agro-Processing Cluster;
- The Westrand Logistics Hub; and
- The Mining Equipment and Supply Cluster.

Spatial planning implications:

Within the framework of recommendations made by the plan, investigate the broad feasibility of locating some of these activities in Merafong especially a Mining Equipment and Supply Cluster, Green Economy and the Blue Economy. Find possible localities for development.

GAUTENG INTEGRATED TRANSPORT MASTER PLAN

The core objective is to deliver a world class sustainable transport system that supports Gauteng’s economic, social and cultural, and environmental goals. The Gauteng 25-Year Integrated Transport Master Plan, 2013, sets out the following density guidelines for the efficient intensification of areas related to priority public transport routes:

- High Density: 80 units per hectare and higher within 1 kilometre from the provincial IRPTN network and activity nodes served by this network; **(Not relevant to Merafong)**
- Medium Density: 30 to 79 units per hectare within 1 kilometre from the remaining provincial Strategic Public Transport Network (SPTN) which include bus and taxi routes; and
- Low Density: Densities up to 29 units per hectare should not be promoted in any areas served by public transport. Such low densities should be reserved for the peripheral parts of the province and areas not being prioritised for any form of public transport.

Synthesis of the primary policy documents on a national and provincial level

From the National Development Plan, the National Outcomes and the Gauteng Multi Pillar Program, which are deemed the most important policy directives in Gauteng, 5 broad themes are discernible namely:

1. Economy, Employment And Economic Infrastructure
2. Protection Of The Environment
3. Human settlements, Social Development And Urban Liveability
4. Rural Development
5. Development Oriented Public Service

The synthesis into themes assists with contextualising these policies down to ground level and these themes have been taken up into analysis and strategies that address the analysis. The 5 themes have been summed up very shortly as follows:

1. Economy, Employment And Economic Infrastructure	
National Development Plan	<p>Objective 3: Economy and Employment.</p> <ul style="list-style-type: none"> ▪ Spatially the focus is on reducing the cost of living, increasing the standard of living of the poor and removing constraints on economic growth and development. <p>Objective 4: Economic infrastructure.</p> <ul style="list-style-type: none"> ▪ In terms of spatial planning the emphasis is placed on consolidating and expanding transport and logistics infrastructure and improving public transport.
National	<u>Outcome 4: Decent Employment Through Inclusive Economic Growth</u>

<p>outcomes</p>	<ul style="list-style-type: none"> ▪ Output 1: Faster and sustainable inclusive growth ▪ Output 2: More labour absorbing growth ▪ Output 3: Multi-pronged strategy to reduce youth unemployment ▪ Output 4: Increased competitiveness, to raise net exports, grow trade as a share of world trade and improve its composition ▪ Output 5: Improved cost structure in the economy ▪ Output 6: Improved support to small business and cooperatives ▪ Output 7: Implementation of the expanded public works programme <p><u>Outcome 5: A Skilled and Capable Workforce to Support Inclusive Growth</u></p> <ul style="list-style-type: none"> ▪ Output 1: Establish a credible institutional mechanism for skills planning ▪ Output 2: Increase access to programmes leading to intermediate and high level learning ▪ Output 3: Increase access to occupationally-directed programmes in needed areas and thereby expand the availability of intermediate level skills ▪ Output 4: Increase access to high level occupationally-directed programmes in needed areas ▪ Output 5: Research, development and innovation in human capital for a growing knowledge economy <p><u>Outcome 6: An Efficient, Competitive and Responsive Economic Infrastructure Network</u></p> <ul style="list-style-type: none"> ▪ Output 1: Improving Competition and Regulation ▪ Output 2: Ensure reliable generation, distribution and transmission of electricity ▪ Output 3: To ensure the maintenance and strategic expansion of our road and rail network, and the operational efficiency, capacity and competitiveness of sea ports. ▪ Output 4: Maintenance and supply availability of our bulk water infrastructure ▪ Output 5: Communication and Information technology ▪ Output 6: Develop a set of operational indicators for each segment
<p>Gauteng Multi-Pillar Program</p>	<ul style="list-style-type: none"> ▪ RE-INDUSTRIALISE GAUTENG AND SOUTH AFRICA: re-build the manufacturing sector in Gauteng, increasing manufacturing output and increasing employment in manufacturing and related up and downstream sectors. ▪ TAKE THE LEAD IN AFRICA'S NEW INDUSTRIAL REVOLUTION: Entrench and expand on Gauteng's status as the Gateway to Africa to realise the economic opportunities offered by the continent. ▪ MODERNISATION OF THE ECONOMY: Focus on economic modernisation through deployment of research, innovation science and green technology ▪ RADICAL ECONOMIC TRANSFORMATION: Interventions in key sectors of the economy to unlock growth and employment potential and bring in blacks, youth and women and revitalise township economy.

<p>2. Protection Of The Environment</p>	
<p>National Development Plan</p>	<p><u>Objective 5: Environmental sustainability and resilience</u></p> <ul style="list-style-type: none"> ▪ The focus is on environmental sustainability and resilience in the face of change through an equitable transition to a low-carbon economy, which will also have implications on spatial planning and development in Merafong.
<p>National outcomes</p>	<p><u>Outcome 10: Protection and Enhancement of Environmental Assets and Natural Resources</u></p> <ul style="list-style-type: none"> ▪ Output 1: Enhanced quality and quantity of water resources ▪ Output 2: Reduced greenhouse gas emissions, climate change impacts and improved air/atmospheric quality ▪ Output 3: Sustainable environmental management ▪ Output 4: Protected biodiversity

3. Human settlements, Social Development And Urban Liveability	
National Development Plan	<p>Objective 8: Transforming Human Settlements</p> <ul style="list-style-type: none"> Discusses the spatial planning system of South Africa and focusses on transforming SDFs into spatial contracts that are binding across national, provincial and local levels; encouraging cross boundary planning and cooperation between municipalities and provinces and it also promotes having an explicit spatial restructuring strategy identifying priority precincts for spatial restructuring. <p>Objective 12: Building Safer Communities</p> <ul style="list-style-type: none"> In spatial terms, community participation should be increased and design interventions should be implemented where possible.
National outcomes	<p>Outcome 1: Improve the Quality of Basic Education</p> <ul style="list-style-type: none"> Output 1: Improve the quality of teaching and learning. Output 2: Undertake regular assessment to track progress. Output 3: Improve early childhood development. Output 4: Ensure a credible outcomes-focused planning and accountability system <p>Outcome 2: Improve Health and Life Expectancy</p> <ul style="list-style-type: none"> Output 1: Increasing life expectancy Output 2: Decreasing maternal and child mortality rates Output 3: Combating HIV and AIDS and decreasing the burden of disease from Tuberculosis Output 4: Strengthening health system effectiveness <p>Outcome 3: All People in South Africa Protected and Feel Safe</p> <ul style="list-style-type: none"> Output 1: Address overall levels of crime and reduce the levels of contact and trio crimes Output 2: Improve effectiveness and ensure integration of the Criminal Justice System (CJS) Output 3: Combat corruption within the Justice, Crime Prevention and Security Cluster to enhance its effectiveness and its ability to serve as deterrent against crime Output 4: Manage perceptions of crime among the population Output 5: Ensure security at the border environment Output 6: Secure the identity and status of citizens Output 7: Integrate ICT systems and combat cyber crime Output 8: Corruption <p>Outcome 8: Sustainable Human Settlements and Improved Quality of Household Life</p> <ul style="list-style-type: none"> Output 1: Accelerated delivery of housing opportunities Output 2: Improve access to basic services Output 4: More efficient land utilisation Output 4: Improved property market
Gauteng Multi-Pillar Program	<ul style="list-style-type: none"> PLANNING OF NEW HUMAN SETTLEMENTS: Modernisation of human settlements through green and high density settlements MODERNISATION OF PUBLIC TRANSPORT: Planned urbanisation and urban development: Radically improve on better urban planning, public transport. DECISIVE SPATIAL TRANSFORMATION: Through public transport and new sustainable and integrated human settlements and new cities. ACCELERATING SOCIAL TRANSFORMATION: Modernise education and build smart schools; improve quality of care and modernise health institutions and rollout NHI; tackle urban poverty and social development challenges; dramatically improve community safety.

4. Rural Development	
National Development Plan	<p><u>Objective 6: Inclusive rural economy</u></p> <ul style="list-style-type: none"> ▪ A more inclusive rural economy can be established through integrated rural development. Spatially the focus is on research and the development of adaptation strategies for the protection of rural livelihoods and expansion of commercial agriculture.
National outcomes	<p><u>Outcome 7: Vibrant, Equitable and Sustainable Rural Communities and Food Security</u></p> <ul style="list-style-type: none"> ▪ Output 1: Sustainable agrarian reform ▪ Output 2: Improved access to affordable and diverse food ▪ Output 3: Rural services and sustainable livelihoods ▪ Output 4: Rural job creation linked to skills training and promoting economic livelihoods ▪ Output 5: Enabling institutional environment for sustainable and inclusive growth

5. Development Oriented Public Service	
National Development Plan	<p><u>Objective 13: Building a capable and developmental state</u></p> <ul style="list-style-type: none"> ▪ Proactive steps are needed to resolve coordination problems between different government entities and government in general needs to be more accessible to the public.
National outcomes	<p><u>Outcome 9: A Responsive, Accountable, Effective and Efficient Local Government System</u></p> <ul style="list-style-type: none"> ▪ Output 1: Implement a differentiated approach to municipal financing, planning and support ▪ Output 2: Improving access to basic services. ▪ Output 3: Implementation of the Community Work Programme ▪ Output 4: Actions supportive of the human settlement outcome ▪ Output 5: Deepen democracy through a refined Ward Committee model ▪ Output 6: Administrative and financial capability ▪ Output 7: Single window of coordination <p><u>Outcome 11: A Better South Africa, a Better and Safer Africa and World</u></p> <ul style="list-style-type: none"> ▪ Output 1: Enhanced African agenda and sustainable development ▪ Output 2: Enhanced regional integration ▪ Output 3: Reformed global governance institutions ▪ Output 4: Enhanced trade and investment <p><u>Outcome 12: A Development-Orientated Public Service and Inclusive Citizenship</u></p> <ul style="list-style-type: none"> ▪ Output 1: Service delivery quality and access ▪ Output 2: Human resource management and development ▪ Output 3: Business processes, systems, decision rights and accountability management ▪ Output 4: Tackling corruption in the public service
Gauteng Multi-Pillar Program	<ul style="list-style-type: none"> ▪ TRANSFORMATION OF THE STATE AND GOVERNANCE: Build developmental state capabilities through better organisation and professionalisation; promote activist, purpose-driven and results-based government; active citizenry, sectoral engagement and community mobilisation. ▪ MODERNISATION OF THE PUBLIC SERVICE: Build green and smart public services and infrastructure to deliver services effectively and efficiently: build a connected government; vertically, horizontally, back office, intranet, and government to citizens, citizens to government etc.

3. THE STUDY AREA

Merafong City Local Municipality (referred to as the Municipal Area) is located in the southwestern extreme of the Gauteng Province (See Figure 3.1). The municipal area is bordered by Tlokwe municipality and Ventersdorp municipality (North West Province) in the West and Mogale-, Randfontein- and Westonaria municipalities in the north and east. To an extent, the study area is peripherally located within Gauteng and it is therefore not well-located in terms of access to core employment opportunities found within the core of the Gauteng City Region (Johannesburg, Pretoria and Ekurhuleni). This simultaneously puts the municipal area at a spatial advantage as well as disadvantage which is discussed in the following sections. The study area can be divided into 3 broadly defined areas:

- The north which contains high value agricultural land and contains the most populous urban centres in the municipality, namely the Carletonville-Khutsong-Welverdiend urban area, with Carletonville being the most significant service centre.
- The central mining belt is characterised by intensive mining activities with a scattered pattern of small mining settlements and is physically dominated by the Gatsrand mountainous formations.
- The southern area contains the relatively wealthier town of Fochville and the surrounding townships of Kokosi and Greenspark.

FIGURE 3.1. THE LOCALITY OF MERAFONG CITY WITHIN GAUTENG



4. SPATIAL ANALYSIS

The spatial analysis was conducted in terms of three themes, Biophysical, Socio-Economic and Built Environment. Each theme is divided into subthemes and analysis is done from regional level down to local level and includes a very short summary with challenges, strengths and opportunities relevant to the specific sub-theme.

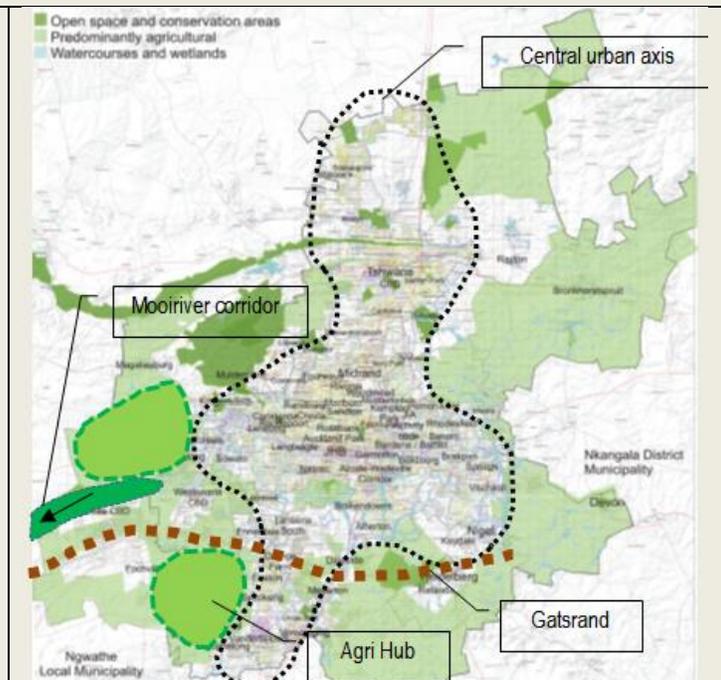
Biophysical Analysis

4.1 BROADER REGIONAL OVERVIEW

Located in the south west of Gauteng, Merafong is influenced by broader natural features that are present on a provincial scale. Gauteng is dominated by grassland. Intermittent savannah and occasional patches of forest also occur and are associated with ridges. Mountainous formations traverse the southern parts of Gauteng in an east-west direction, called the Suikerbosrand to the east and Gatsrand to the west. These formations are of major ecological and tourism significance. The western portions of the province generally have more natural and agricultural land remaining and contain 2 Agricultural Hubs namely the Emfuleni and West Rand hubs. Geologically the most significant aspect is the occurrence of dolomite especially in the western and central northern areas, as well as the south east of the province. The valleys of the Mooiriver (Vaal watershed) and its tributary the Wonderfonteinspruit form a major biodiversity corridor that stretches from the western part of Gauteng into the North West Province and includes 2 provincial nature reserves namely, Abe Bailey (Gauteng) and Boskop Dam (North West), and also the proposed Highveld Park (North West). This eco-corridor has major significance for the protection of the grassland biome in the northern Highveld region.

Synthesis

- Western Gauteng predominantly grassland. Savannah and Northern Highveld Afrotropical Forest associated with ridges.
- Gatsrand is a significant topographical feature, ecological and tourism corridor.
- North-South urban core axis, west and east → less urbanised.
- 2 Agri-hubs in the west.
- Dolomite prevalent in many parts of the province including northern parts of the West Rand.
- Eco-corridor links Gauteng and North West in southern West Rand.



4.2 AGRICULTURE (NON-ECONOMIC FACTORS)

From a biophysical perspective, Merafong is well endowed with proportionately large areas of high value agricultural land. These favourable conditions occur predominantly north of Carletonville and east and south west of Fochville with rocky outcrops and ridges lowering the workability of soil in the central and south central areas. These rocky areas have mostly moderately high grazing capacities. Currently many areas that were cultivated previously are now lying fallow, particularly areas west of Fochville. These areas have the potential to be productive again in future. Mining activities and mine ownership of land has reduced the potential areas under cultivation and grazing. In addition to this water and soil has been contaminated in some places which will inhibit agricultural production in the future.

Legacy challenges

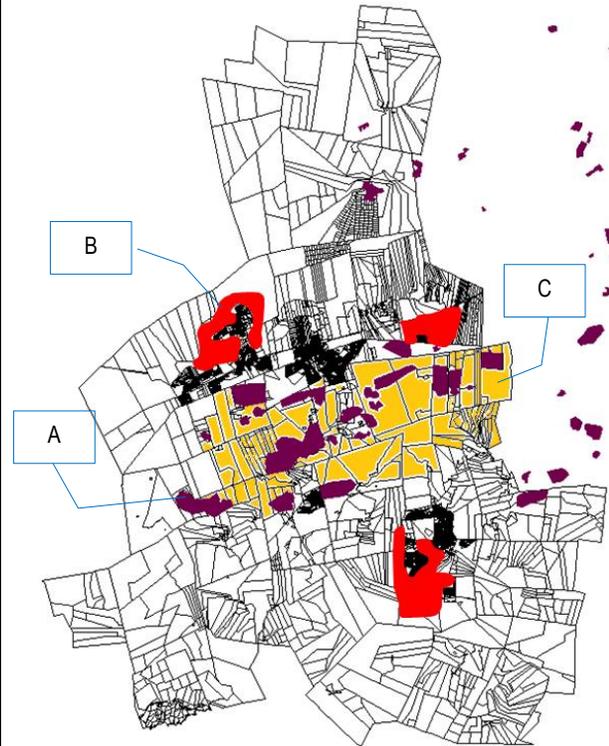
- Lack of control over mining pollution (A).
- De-watering of Bank and Oberholzer underground dolomitic water compartments
- No protection of valuable agricultural land resulting in scattered mosaic in places

Current challenges

- Increasing water demand
- Unsustainable farming practices on prime agricultural land around previously disadvantaged areas, e.g. over grazing and subsistence farming (B).
- Trade-off: Potential agricultural land lost due to mining (C).

Future challenges

- Climate change.
 - Increased frequency of disasters
 - Increased rainfall over a shorter rain season
 - Changes in vegetation, e.g. bush encroachment
 - Shifts in biome and veld ranges
 - Incorrect farming practices can increase climate change pressure on the environment.
- Rehabilitation of mine land for agricultural use and dealing with contaminated areas that cannot be rehabilitated sufficiently.



Current strengths

- Large tracts of high value agricultural land in Merafong
- Underground aquifer with vast amounts of water
- Moderately high grazing capacity in areas that cannot be cultivated

Opportunities

Refer to economic analysis.

4.3 GEOLOGY, HYDROLOGY AND TOPOGRAPHY

The most significant geological and hydrological factor in Merafong is the prevalence of dolomitic rock north of the Gatsrand. A number of settlements were developed on dolomite before the adverse effects thereof was well understood. Associated infrastructure was not designed to mitigate the risks. New technology and techniques have made mitigation much more successful although there are cost implications. Merafong and some of its neighbours are underlain by a vast dolomitic aquifer that could potentially be utilised once more is known about its geophysical properties. Mining has made its mark on the geophysical environment. Merafong hosts the deepest mines in the world and as mining continues deeper, changes in seismic activity are likely. Mine closures in the future could also have a big impact on underground and surface water. Apart from dolomitic constraints, the geophysical environment is generally favourable for urban development and dolomitic risks can be mitigated. Property damage due to dolomite has been minimal.

Legacy challenges

- Settlements located on dolomiticly unsuitable land (A). Carletonville, Khutsong and Welverdiend.
- Infrastructure in many areas is not suitable to mitigate dolomitic risks.
- Some erven in Welverdiend are affected by a floodline (B) .

Current challenges

- Lack of information on dolomitic conditions of public and private land (C) .
- The costs associated with testing and mitigation of dolomitic land is escalating rapidly.
- Mine discharges of water into streams and rivers is highly variable and could cause fluctuations in water quality and increase erosion.

Future challenges

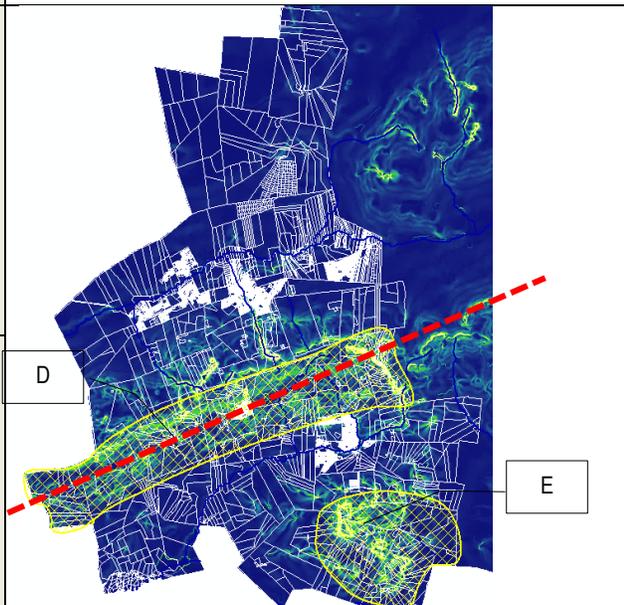
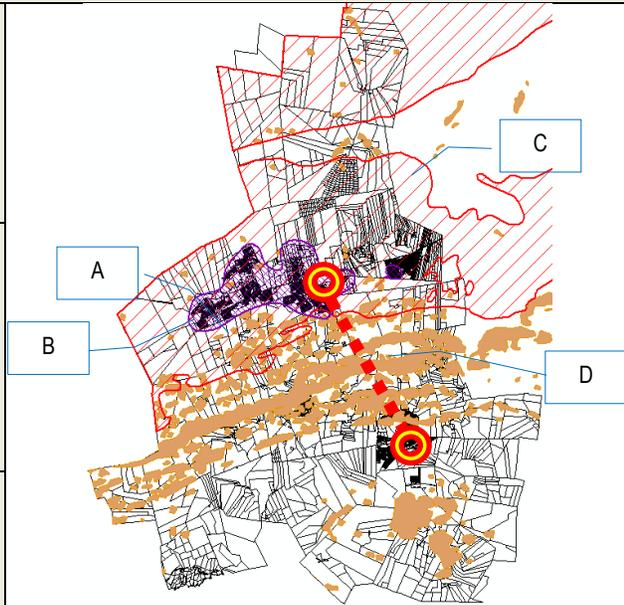
- The topographical barriers between Carletonville and Fochville will partially inhibit spatial integration (D) .
- The geohydrology will be affected by future mine closures.
- Deeper mining could cause greater seismic instability leading to stronger earthquakes.

Current strengths

- The topography in the central and south eastern parts of Merafong has created aesthetically appealing landscapes (D). The N12 Treasure Corridor runs through a scenic area (E).
- Generally slopes in the urban development areas are well suited for infrastructure provision.
- Aside from dolomite, most areas where urban development is suitable have very few geotechnical constraints.

Opportunities

Refer to economic analysis.



4.4 BIODIVERSITY AND ECOSYSTEMS

<p>Legacy challenges</p> <ul style="list-style-type: none"> Invasive Alien Plants associated with mining tailing storage facilities and villages. (A). Pollution of soils and water associated with mining. 	
<p>Current challenges</p> <ul style="list-style-type: none"> Water pollution from urban runoff, agriculture, mining and municipal sewage spills. (B) Some veld types are not sufficiently protected, especially grassland types. Moderate development pressure on high value agricultural land and valuable grassland. Habitat over-utilisation and destruction near previously disadvantaged areas. (C). 	
<p>Future challenges</p> <ul style="list-style-type: none"> Avoidance of creating isolated pockets of natural vegetation. Migration of animal and plant species due to climate change. Aquatic ecosystem destruction due to decanting from closed mine shafts. 	
<p>Current strengths</p> <ul style="list-style-type: none"> Variety of different habitats within 3 biomes and 6 veld types. Significant amount of land lies untransformed or only partially transformed. Existing provincial nature reserve (Abe Bailey) within a major ecological corridor and Critical Biodiversity Area. Mining ownership has left some potential areas for conservation undisturbed. 	
<p>Opportunities</p> <ul style="list-style-type: none"> Protect existing eco-corridors and hotspots through the establishment of conservancies and managing development in the following areas: <ul style="list-style-type: none"> Gatsrand (D) Wonderfonteinspruit-Moorriver (E) Losberg and Klein Losberg (F) Loopspruit (G) Promote the creation and protection of micro-scale corridors to avoid isolated pockets of biodiversity by acting as Ecological Support Areas. 	

Socio-Economic

4.5 THE REGIONAL SPACE ECONOMY

Merafong forms part of the Gauteng Global City Region often referred to as the GCR. The GCR is a system of networks created by the interaction of numerous urban nodes that function in an integrated manner. Each node (City/town) fulfils a role and influences and is influenced by the other nodes in the system, forming an interdependent system that has a global influence. Spatially the GCR is characterised by a central core area that contains the metropolitan cities of Johannesburg, Ekurhuleni and Pretoria. Nodes (Towns and cities) in the GCR have their origins in mining, industry or as agricultural central places. Through the evolutionary development of the GCR most of these nodes have changed their functions, adapting to economic changes. Upon examination of spatial patterns of settlement within the GCR a concentric pattern emerges with the large metros at the core. On the outer ring are the secondary cities that are very strongly linked to the city region. Between the inner and outer rings there is another ring of smaller towns among which the Merafong urban areas can be found. Interestingly the nodes within this intermediate ring have generally under performed and in most cases have retained their original urban functions such as mining in the case of Merafong. The regional core historically and also the secondary cities more recently have drained the intermediate ring of investment, although the proximity to national routes has benefited many of these towns to a degree in recent years. Over spilling of urban growth from Johannesburg into the West Rand has started taking place in Westonaria and Krugersdorp. In the case of Westonaria it is to accommodate subsidised housing and in the case of Krugersdorp it is a result of high income polarisation reversal. This trend will continue in the future and affect more areas further away from the core. It simultaneously presents challenges and offers opportunities which need to be examined.

Legacy challenges

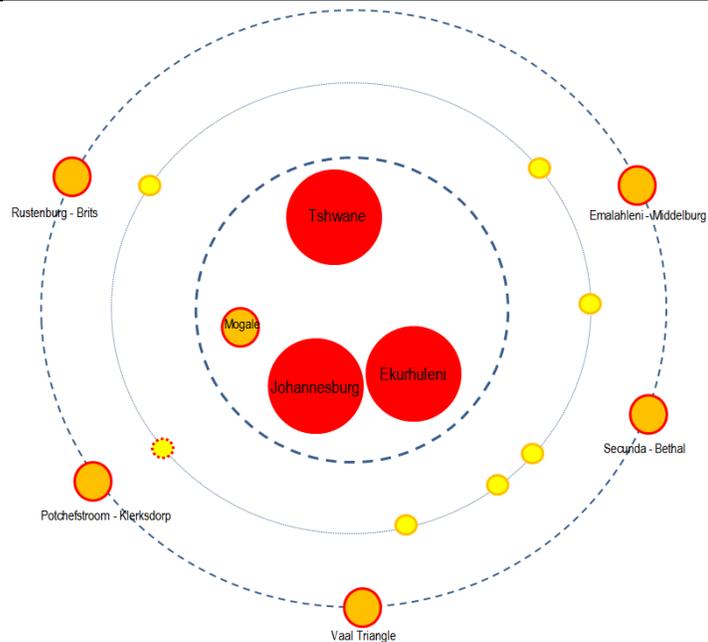
- Merafong is drowned out by larger more well-known centres
- Development of an outer band of secondary cities caused a less active development inner ring within the GCR consisting mostly of resource related economies (Mining and agriculture) with weakly developed urban nodes.

Current challenges

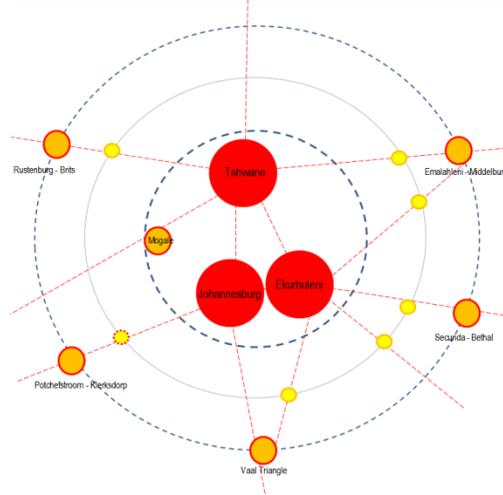
- West Rand as a sub-region of the GCR is underperforming in terms of economic growth.
- Many nodes in the West Rand are less connected to the core due to transport connectivity gaps.
- Stepwise migration of destitute rural population is taking place at a rapid pace, outgrowing the capacity of the labour market and municipal services to accommodate them.
- Significant proportion of the West Rand economy falls within lagging and declining sectors, e.g. mining, metal related industry.

Future challenges

- Increased spatial marginalisation of the West Rand and especially Merafong.
- Mining as main base economic driver of the West Rand will have lost its significance and cause instability if it is not replaced with other basic drivers in the near future.
- Parts of the West Rand and specifically Merafong could end up exclusively as dormitory areas for workers commuting to the Gauteng core if diversification of the economy does not take place.
- Over spilling from Johannesburg into the West



Rand has started taking place in Westonia and Krugersdorp. In future the demand for land from within the core will increasingly affect the West Rand.

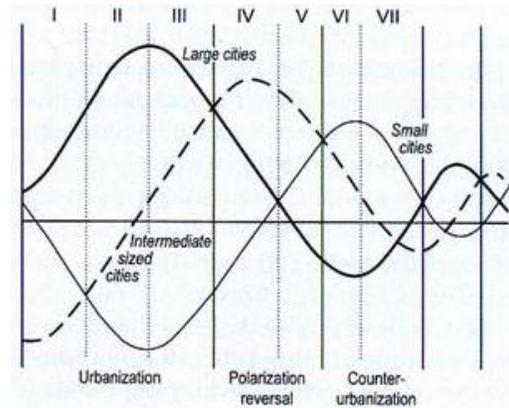
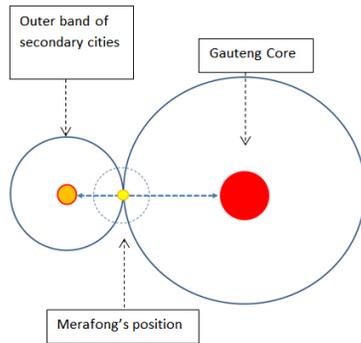


Current strengths

- Position on the N12 and N14
- Proximity to the Gauteng core without experiencing negative externalities of the core.

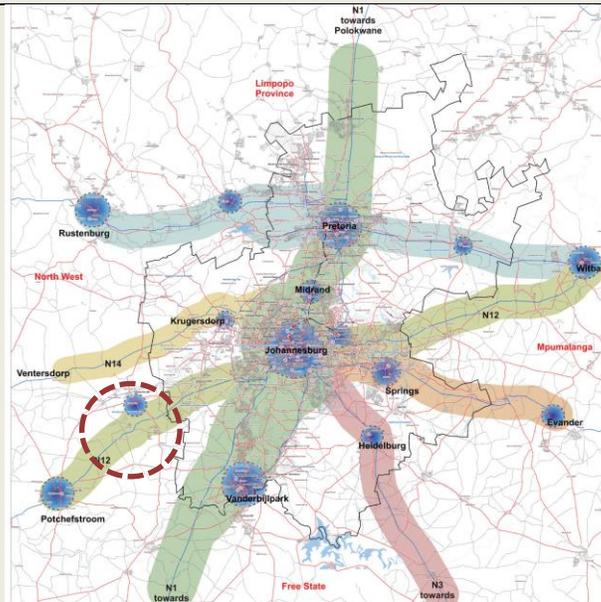
Opportunities

- Utilise transport corridors to better integrate with the Gauteng core, e.g. road, rail and petroleum pipe connections.
- Better integration with and utilisation of opportunities related to the N12 and N14 and the 2 major railway lines in Merafong.
- Attract investors that are averse to the negative externalities of the Gauteng core (High land prices, congestion, pollution, crime, grime).
- Theoretically (In terms of Differential Urbanisation) the future holds good growth opportunities due to overspill effects from the core.
- Develop Merafong into, and market as a rural setting with amenities and within reach of the 'big city'.
- Rather than competing with neighbours in the GCR, develop unique opportunities related to leading and potential leading sectors.
- Gauteng-Cape Town heavy haul rail will traverse West Rand in future.

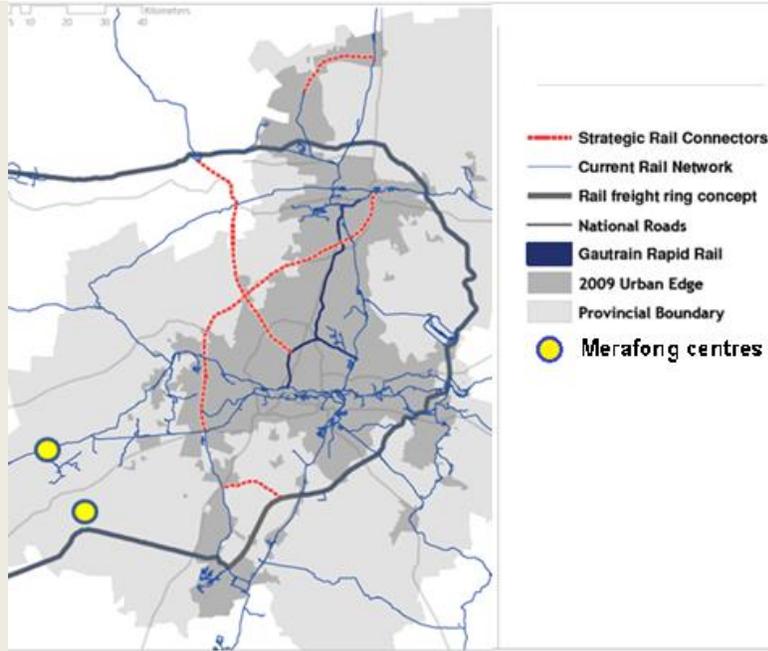


4.6 PROVINCIAL AND REGIONAL MOBILITY PATTERNS

Gauteng province is highly connected with major national routes converging on the province from all areas in South Africa and beyond. The West Rand is connected to the rest of the Gauteng City Region (GCR) on an east-west axis through the N12 and the N14 and the north-south axis through the R28 and the R500. Through the movement network the West Rand has access to the GCR core as well as the major centres surrounding it including Rustenburg-Brits, Potchefstroom-Klerksdorp and the Vaal Triangle. The N12 and N14 have been neglected somewhat and have not been upgraded to the level of other similar routes such as the N17. Urban centres in Merafong link up with their West Rand counterparts mainly through the N12 and N14, but also the R559. These links are adequate, however they only perform transport functions and do not have major development corridor potential from an intra-regional perspective, although the N12 has major potential as a corridor from an inter-regional perspective.



Regionally Merafong forms part of the rail network with 2 railway lines traversing the municipality. A Transnet Freight Rail (TFR) line (The Figure) linking Potchefstroom-Merafong-Johannesburg carrying freight as well as passenger services traverses the north of Merafong. A TFR line (B in the Figure) links Potchefstroom-Merafong-Vereeniging. The TFR line from Vereeniging has been designated for an upgrade to a heavy haul freight line in 2022 and will become the main freight link between Cape Town and Gauteng. This line also connects with the Trans Kgalagadi Corridor (Through Sentrarand) that links Namibia and Botswana with South Africa. Currently there are 3 railway stations in Merafong, namely Welverdiend, Oberholzer and Fochville/Losberg. Oberholzer is the only operational station; however the Passenger Rail Association of South Africa (PRASA) is investigating the feasibility of building a new station in Khutsong for commuters which has proven viable so far, although the study is not completed.



Short summary of road and rail connections to and from Merafong

Origin/Destination	Passenger/Commuter	Business/Freight
Johannesburg	N12,PR	N12,FR
Pretoria	N14, PR	N14, FR
Ekurhuleni	N12, PR	N12, FR
Krugersdorp	N14	N14, FR
Randfontein	R559	R559, FR
Westonaria	R559, N12, PR	R559, N12, FR
Vereeniging	R54	R54, FR
Potchefstroom	N12, PR	N12, FR
Rustenburg	R500	R500, FR
Free State	R500, N12	R500, N12
Limpopo	R500, N12, N14	R500,N12,N14,FR
Botswana	N14	N14, FR
Namibia	N14, N12	N14, N12, FR

PR=Passenger Rail, FR=Freight Rail

4.7 SETTLEMENT PATTERNS

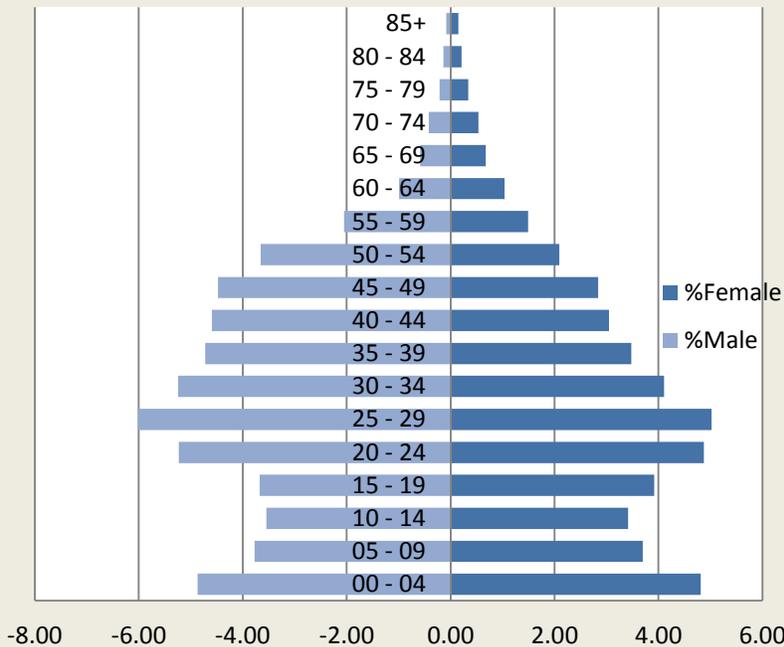
The patterns of settlement in the West Rand was dictated by the presence of gold and as such all major settlements can be found in a broad band stretching through the central parts of the district and a temporal line of establishment can be traced from east to west as gold exploration and mining moved from east to west.

Urban ranking, roles and functions within the West Rand			
Town/City	Hierarchical Ranking	Role within the GCR	Functions that support roles
Krugersdorp	1	Emerging GCR core expansion, Emerging as major industrial area	High order retail + service, air freight related industrial expansion
Randfontein	2	Regional agro-processing hub	Aggregation and processing of produce
Carletonville	3	Gold mining and agri service centre	Retail, service and industrial mostly in support of mining
Fochville	4	Gold mining and agri service centre	Retail, service, high income residence and industrial mostly in support of mining
Westonaria	5	Gold mining service centre	Retail and service mostly in support of mining

Urban ranking, roles and functions within the Merafong			
Town	Ranking	Role within Merafong	Functions that support roles
Carletonville	1	Higher order urban centre	Dominates with regard to retail, service, industrial & institutional functions
Fochville	2	Specialised services and residential	Significant quaternary sector, high income residential
Khutsong	3	Dormitory township	Dominated by low income residential
Wilverdiend	4	Lower order urban centre and mid income dormitory town	Middle income dominated with small scale retail, service and industrial
Kokosi	5	Dormitory township	Dominated by low income residential
Wedela	6	Mining dormitory township	Dominated by mine labour residences
Blybank	7	Mining dormitory township	Dominated by mine labour residences
Greenspark	8	Dormitory township	Dominated by low income residential

4.8 DEMOGRAPHY AND SOCIAL DEVELOPMENT

Population Pyramid



According to the Stats SA census 2011 the population of Merafong is 197 520. This is 1.6% of the total Gauteng population. Between 2001 and 2011 the Merafong population has declined by 2.4% from 215 868. This population decline is mainly attributable to mine labourers being laid off and the closure of some mine shafts. Some migrant labourers have moved away after losing their jobs. In contrast to this the population of Gauteng has experienced significant growth reaching over 12 million. Figure (Left) illustrates the population pyramid of Merafong. The pyramid is indicative of a constrictive (Slow growth) profile where most of the population is concentrated in the economically active population group and is male dominated. The Merafong population has a gender ratio of 118.59 males per 100 females. This has decreased from a ratio of 132 males per 100 females

INDICATOR	2001	2011	
Total population	210,481	197,520	▼
Young (0-14)	22,4%	24,1%	▲
Working Age (15-64)	72,5%	72,5%	▶
Elderly (65+)	2,4%	3,4%	▲
Dependency ratio	33%	37,9	▲
Sex ratio	135,1	118,6	▼
Unemployment rate	28,1%	27,2%	▼
Youth unemployment rate	39,9%	37,8%	▼
No schooling aged 20+	12,9%	6,5%	▼
Higher education aged 20+	4,4%	7,1%	▲
Number of households	56,336	66,624	▲
Average household size	2,1	2,7	▲
Female headed households	24,6%	29,4%	▲
Formal dwellings	67,7%	74,7%	▲
Housing owned/paying off	36,7%	29,8%	▼
Flush toilet connected	83%	81%	▼
Weekly refuse removal	68,2%	74,9%	▲
Piped water inside dwelling	29,7%	52,9%	▲
Electricity for lighting	80,1%	82,8%	▲

in 2001. Most of the population falls within the younger stages of the economically active age group. This implies that youth unemployment is high.

Although the population has declined, the number of households has increased during the same period from 56 336 to 66 623. The increase in the number of households has concurrently reduced the average size of households to 2.97 persons per household. This can mainly be attributed to the significant presence of migrant labourers from rural areas such as parts of the Eastern Cape. These men work in the mines and send a large portion of their income back home to their families. Another factor which is having an effect around the country is the greater availability of housing stock which enables extended family members to move into different houses and form nuclear family units, where extended families used to live under one roof in many cases.

Merafong is characterised by the presence of many different cultures and languages as illustrated by the differing language choices. The variety of languages can be attributed to migrant labourers, specifically IsiXhosa speakers from the Eastern Cape. The other three prominent languages namely Setswana, Sesotho and Afrikaans are more characteristic of this region.

There has been a general improvement in socio-economic conditions however the progress is generally slow and some indicators have deteriorated.

Legacy challenges

- Separate social development during apartheid causing a lagging effect amongst the previously disadvantaged.

Current challenges

- Decreasing population
- Increasing dependence ratio
- High unemployment especially amongst the youth
- In-migration of low education job seekers and out-migration of skilled labour in Merafong.

Future challenges

- High probability of mass layoffs in the mining sector in the long term which will result in high unemployment and social decay.
- The current lowering in unemployment and youth unemployment is not sustainable in the long term.
- Levels of dependency are increasing.

Current strengths

- Large pool of semi-skilled and technically skilled labour.
- Improvements in living conditions are discernible.
- The dependency ratio is relatively low.
- The gender ratio is improving which will lead to more sustainable family units.

Opportunities

- Invest in infrastructure related to sectors that require technical knowledge such as agriculture and manufacturing in order to retain the technical skills base.
- Build on the gains made in terms of human development by providing more social development opportunities. Focus on allowing people to help themselves by providing resources for them to start Community Based Organisations and micro enterprises instead of trying to do it for them.
- Dependency levels are low, however it is increasing. This opportunity should be utilised and basic services and social 'buffers' should be developed to face increasing levels of dependency.

4.9 AGRICULTURE AND FORESTRY

The agricultural sector has historically been neglected in Merafong. Vast areas of land were bought up by the Far West Rand Dolomitic Water Association (FWRDWA) to compensate for dewatering dolomitic compartments and drying up boreholes in some areas. This land has not been utilised and most of it is prime dry land for agriculture. Recently the agricultural sector in Merafong has experienced significant growth and has outperformed SA and the West Rand. Merafong has significant tracts of high value agricultural land (A), possibly proportionately the most of any Gauteng municipality. Many opportunities for agro-processing exist. Merafong has a very small forestry sector related to the mining sector. A few thousand hectares are planted up with Eucalyptus species that provide wood for underground supports (B).

Legacy challenges

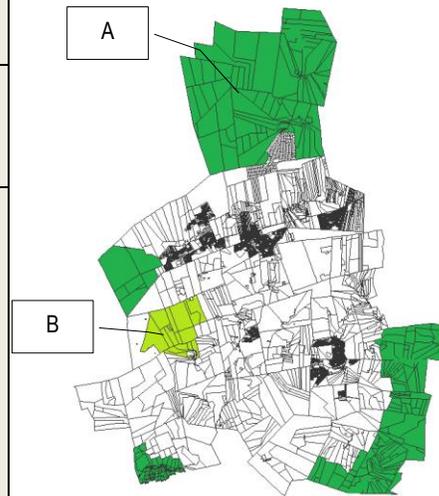
- Lack of government focus and support for agriculture.

Current challenges

- Uncertainty over government policy changes is causing an investment slump in private infrastructure.

Future challenges

- Climate change may cause unforeseen changes in weather patterns, soil conditions, disaster frequencies and seasonal changes.
- Land use conflicts where agriculture loses out unless valuable land is protected.

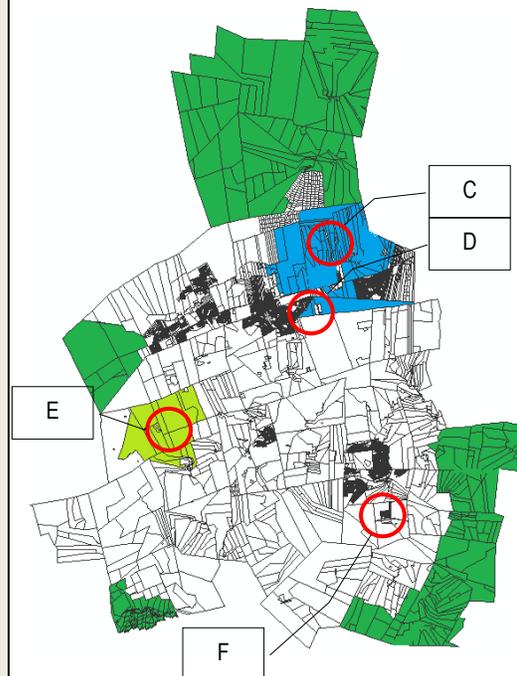


Current strengths

- There are vast areas of unutilised and underutilised agricultural land in Merafong which can contribute to increased production and also bring emerging farmers into the sector.
- Most of the decanted mine water sources in Merafong are completely safe for irrigation and treated waste water from municipal sources could be utilised for non-human consumption produce.
- The locality of Merafong within the GCR is highly favourable for agricultural production and agro-processing.

Opportunities

- Land belonging to the FWRDWA, north east of Carletonville can be utilised for intensive agriculture and/or forestry (C).
- FWRDWA land directly adjacent to the Carletonville industrial area (Ext 6 and 14) can be utilised in support of agro-processing (D).
- A proposed bio-energy project based on agro-processing will offer opportunities for high intensity/industrial scale agriculture such as cattle feedlots and floriculture (D).
- Existing Eucalyptus plantations can be expanded and new value chains developed such as bee husbandry, paper and pulp, bio-energy and essential oils (E).
- Existing large scale piggeries can be expanded and vertical integration could be introduced with infrastructure available in either Losberg (F) or with a bioenergy component in Carletonville (D).
- Opportunities exist for the development of bio-energy and biofuel value chains with large tracts of land, industrial infrastructure and co-digestion opportunities available. Agro-ecological practices should be considered.
- Large tracts of contaminated land can be utilised for energy crops related to the proposed bio-energy project.



4.10 MINING

Gold mining is the primary base economic driver in Merafong. It has dominated the economy for more than half a century (A). Unfortunately the shallower gold reserves have been depleted and this has resulted in some shafts being closed. Significant reserves remain, however they are located deeper beneath ground level. This has resulted in mining reaching depths greater than anywhere else globally. The mining industry has reached a point where rising input costs such as labour and energy are forcing new approaches. The biggest change in the long term will be the shift towards automation. The introduction of automation will have positive and negative effects on the economy. Lower skilled job losses on a large scale are likely, which will result in a difficult socio-economic transition for Merafong characterised by high unemployment, public unrest, high crime rates and eventual large scale emigration. However automation will also create new economic opportunities, specifically in manufacturing and advanced services. More gold reserves exist to the west and the Potchefstroom gold field is currently being explored (B). Improvements in technological efficiency and the global gold price will determine when this new gold field will be mined. Given the amount of resources that still remain and the resources that lie unexploited, mining will continue for many decades, although not in the manner we have become accustomed to. Therefore it is of great importance to adapt to change and utilise the existing opportunities in mining and expand into other sectors in order to build the foundations of a new economy.

Legacy challenges

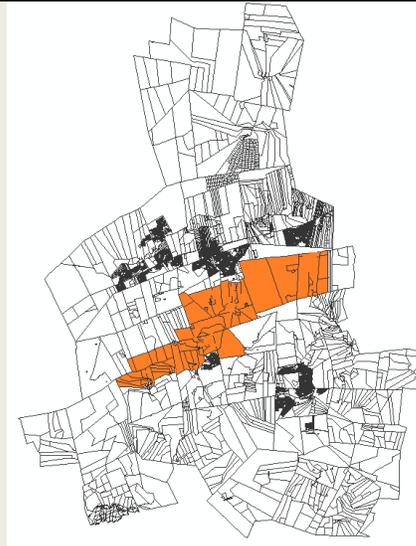
- Intensive mining has depleted the 'easy' gold reserves.
- A lack of control has led to inefficient and scattered mine settlements and the mushrooming of informal settlements next to mine shafts. Mining companies are struggling to deal with this problem.

Current challenges

- The proliferation of informal settlements associated with mining is a major concern.
- Soil and water pollution coupled with

Future challenges

- Dealing with mining wastelands after mining has ceased.
- Developing new resources in a sustainable manner so as not to make the same mistakes as in the past.
- Decanting water from abandoned mines without polluting it.

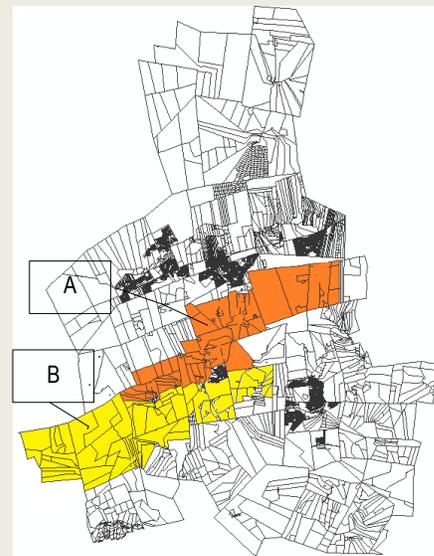


Current strengths

- Merafong is the most active gold mining area in the country and new reserves could still be exploited.
- Business, institutional and physical infrastructure exists to support the development of new reserves.

Opportunities

- Value chain opportunities related to mining can be acted upon including:
 - ✓ Mining automation and related industrial and service activities.
 - ✓ A mining technical education institution (Mining Centre of Excellence)
 - ✓ A mining supplier development focussing on manufacturing and industrial services.
- The adaptive re-use of mine infrastructure should be investigated.
- The purification of semi-potable mine water for residential, industrial and especially agricultural use.
- Deep mining opportunities in the Potchefstroom gold field (B).



4.11 MANUFACTURING AND SERVICE INDUSTRY

The industrial sector in Merafong is very strongly geared towards serving the mining industry. A few strong companies have emerged that have started operating at a global level because of the competitive advantage Merafong offers, namely Telegenix, Master Drilling and Bulk Mining Explosives. Despite the dominance of mining related industries, Merafong offers great investment value for many other types of industrial activities such as agro-processing, capital equipment manufacturing, metal fabrication, recycling, chemicals & polymers and bio-fuels. The most viable are agro-processing and bio-fuels given the vast tracts of unutilised prime agricultural land and bio-energy development opportunities. Merafong is well positioned for exporting food products and capital equipment to Botswana, Namibia and beyond via road or rail. Industrial land and infrastructure is available and with small targeted investments great capacity for expansion can be created. Merafong is strategically well located for industrial development given its position within the GCR space-economy and its links to the Northern Cape and SADC countries. The Northern Cape and our neighbouring countries are all experiencing mining booms currently and this trend will continue for decades.

Legacy challenges

- Strong government focus only on mining at the expense of other sectors, even mining related manufacturing.
- Merafong's gold reserves were only more recently exploited and the gold mining towns to the east had industrialised in the meantime, producing goods and services without relocating westwards.

Current challenges

- Minor infrastructure deficiencies at Losberg and unproclaimed Cltv Ext 14.
- Lack of bulk infrastructure in the vicinity of strategic localities e.g. N12 node.
- Political unwillingness to dispose of property.
- Lack of incentives and marketing.

Future challenges

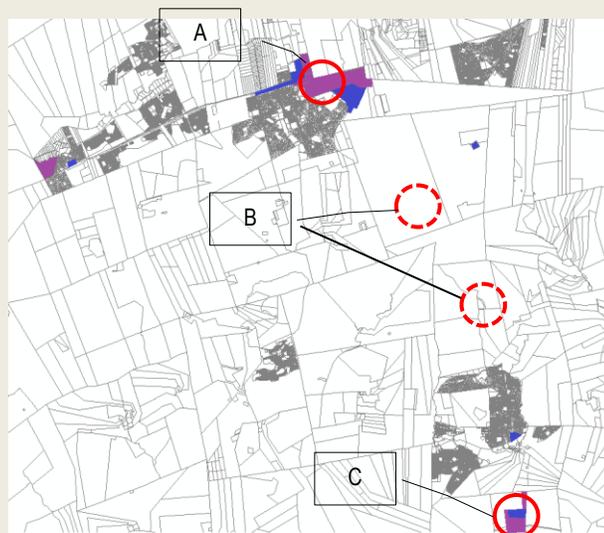
- Containing industrial encroachment into residential areas in Fochville.
- Servicing strategic development areas.

Current strengths

- Very affordable industrial land at between R20.00/m² to R100.00/m²
- Serviced stands available.
- Locality within the GCR and for exports to other regions and countries.

Opportunities

- Develop bio-energy industrial park opportunity at Carletonville Ext 14 adjacent to unutilised agricultural land belonging to the FWRDWA (A).
- Link Oberholzer and Carletonville industrial nodes through the "Bloubos" and create new warehousing and light industry development with rail access by accessing mine railway line (A).
- Develop the N12 or West Driefontein-West Wits proposed node as a logistics node and mining supplier park to serve the mining industry in the region as well as the Platinum, Northern Cape and SADC mining regions (B).
- Develop infrastructure at Losberg (C).



4.12 UTILITIES AND CONSTRUCTION

The utilities and construction sector in Merafong is benefiting from significant investments in subsidised housing with more than 10 000 housing units constructed in recent years and about the same number planned in the near future. Private sector initiatives in the sector have decreased since the recession, however significant retail developments are currently underway with a total of about 25 000m² GLA under construction in Carletonville, Fochville and Kokosi. Some large scale affordable housing projects are also planned for the near future in Carletonville, Welverdiend and Kokosi. Infrastructure upgrading to accommodate growth is necessary at regular intervals. The construction of unapproved structures in Khutsong, Blybank, Carletonville, Wedela and Kokosi is becoming proliferous.

Legacy challenges

- A lack of economic diversity and growth has hampered the development of the construction sector.

Current challenges

- Illegal construction and the sporadic appearance of builders yards in residential areas (A).
- Stricter legislation related to energy conservation and mitigation of dolomite are escalating costs and increasing technical knowledge requirements.
- Lack of professional skills in Merafong related to the construction sector such as Engineers, Town Planners, Architects, Quantity Surveyors, Land Surveyors.
- Capacity constraints within the government sector to manage subsidised housing and public works projects.
- Municipal water losses cost millions. Lack of municipal infrastructure planning

Future challenges

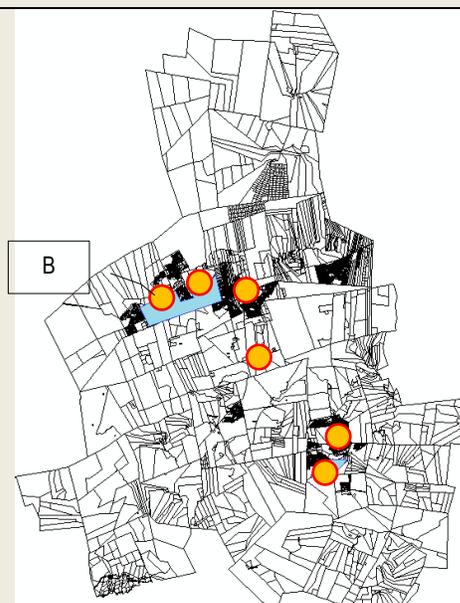
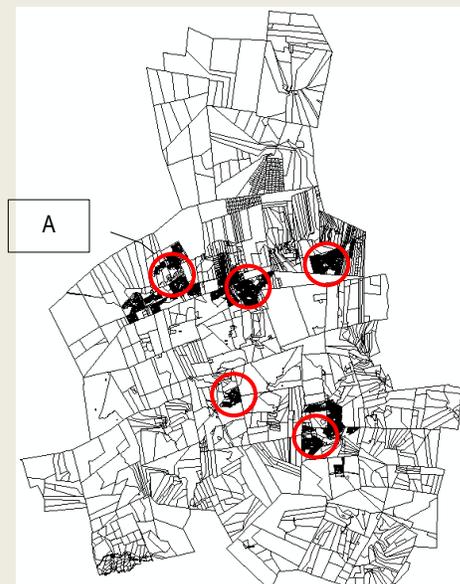
- Regulating the construction of new buildings in all urban and rural areas of Merafong

Current strengths

- Large scale public projects stimulate the sector and provide incubation conditions for small and micro enterprises to develop.

Opportunities

- Persistent backlogs in subsidised housing will ensure construction projects for decades to come in Khutsong, Khutsong South, Carletonville, West Wits, Fochville and Kokosi (B).
- Merafong should conduct geotechnical investigations on strategically located land such as the Carletonville CBD and new industrial areas to reduce development costs.
- Purify semi-potable water that is being decanted from Blyvooruitzicht for residential, industrial and agricultural uses.
- Develop a comprehensive infrastructure master plan aligned with spatial planning.



4.13 TRANSPORT AND COMMUNICATION

Merafong is relatively well connected to the GCR and other regions through road and rail links with airports not far away. There are relatively few activities taking place within this sector in Merafong however there has been a surge of interest lately with applications for fuel depots and filling stations. Merafong has a lack of warehousing as identified by the West Rand Industrial Development Strategy. The N14, R500 and especially the N12 has experienced increased freight volumes in recent years due to the development of mining in the Northern Cape and high economic growth in Potchefstroom which explains the surge in interest and investment.

Legacy challenges

- Slow development in this sector mainly due to a lack of diversity in the local economy and the municipality's positioning relative to other urban centres within the GCR.

Current challenges

- Lack of warehousing to support industrial and agricultural production expansion.
- Lack of bulk infrastructure to support the development of the sector at its most strategic development location, namely the N12 node.
- Increasing traffic volumes on major routes.

Future challenges

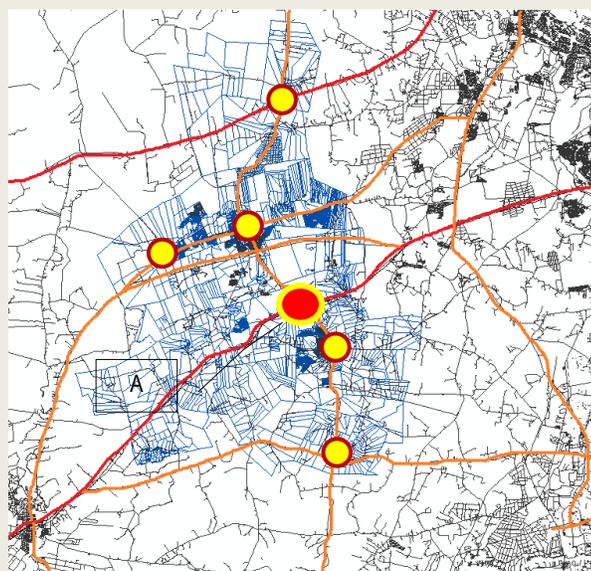
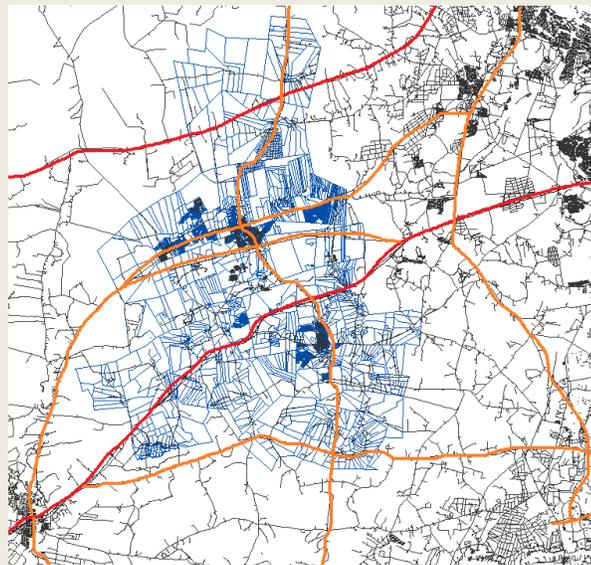
- Congestion on the N12 and R501.

Current strengths

- Large grain silos serve the northern and southern parts of Merafong offering opportunities for industrial processing.

Opportunities

- Develop infrastructure for the N12 node to facilitate development of logistics. Develop a Logistics Village to capitalise on freight traffic on the N12 (A).
- Enable logistics support land uses such as warehousing and filling stations to develop in strategic localities such as the N14 node, Welverdiend, Carletonville, Fochville and the R54.
- Develop the "Bloubos" in Carletonville by providing serviced erven with rail access and use this development to link the 2 industrial nodes in Carletonville and Oberholzer.



4.14 WHOLESALE AND TRADE

The tertiary Sector consisting mostly of retail and services is historically under developed in Merafong which resulted in massive haemorrhaging of purchasing power. However in recent years there has been a steady expansion of activities in this sector. This has helped to boost employment and improve the economic base multiplier from 1 to 3 (2 additional jobs are created for every basic sector job). Many opportunities still exist for development in new residential areas as well as niche markets. Currently 2 community sized shopping centres with a combined GLA of ± 50 000 m² are under construction with new types of retail offerings which will further retain purchasing power. The Wholesale & Trade Sector in Merafong is the second largest in the West Rand and has grown at an average of 4% annually for the last decade, outpacing the SA average of 3%. The Transport & Communication Sector has also grown by 4%, slightly below the SA average of 5%. Unfortunately employment in this sector has declined by 6%. The Merafong Services sector has grown at 3% compared to the national average of 4% with decline in employment of 1%.

Legacy challenges

- Underperformance and massive losses of purchasing power.

Current challenges

- Declining mining base is putting pressure on certain sub-sectors.
- Encroachment of informal trade in CBDs
- Unaesthetical appearance of CBDs (Especially Carletonville).
- Decay zones appearing due to the migration of investment (Investment migration moving west in Carletonville and north in Fochville).

Future challenges

- Risk of capital flight from CBDs to planned shopping centres.
- Changing land uses and infrastructure to adapt to economic changes with regard to urban design, parking, Non-Motorised Transport and public transport.

Current strengths

- Land is available to be sold for development in some localities and privately owned vacant land also exists in many localities.
- Market niches exist and new residential areas are opening up new markets.

Opportunities

- Develop niche market and market growth opportunities in Carletonville and Fochville.
- Develop untapped markets in Khutsong, Welverdiend and Kokosi.
- Develop a whole new business district in Khutsong South Ext 7.
- Plan for long term development of a West Wits business district.



4.15 FINANCE AND BUSINESS SERVICES

The development of this sector had a slow start; however it showed significant growth after in the last decade. Services were historically procured from surrounding cities and towns. In recent years businesses have recognised market gaps and have started filling them. The sector contributes towards diversifying the economy and by offering support services and facilitating growth. The sector is concentrated in Carletonville and Fochville. Fochville experienced significant growth, mostly related to the property market and higher income residence.

Legacy challenges

- The sector's development lagged due to procurement of services from other centres and government's lack of focus on non-mining sectors.

Current challenges

- Under supply in some areas where services are obtained from Potchefstroom and Johannesburg.
- Current uncertainty about the economy is resulting in a cautious approach taken by potential investors.

Future challenges

- The handling of economic change as the economy shifts away from mining in the long run.



Current strengths

- Active mining in Merafong provides opportunities for underground training and to incubate small firms in the Finance & Business Services sector.

Opportunities

- Market gaps exist which should be exploited. Public sector led investment will boost investor confidence.
- The Fochville Civic Centre is currently underutilised and could be leased for business process outsourcing.
- Land next to the Fochville Civic Centre is available for purchase to develop an office park.
- Office and related land uses must be encouraged within CBDs and on the main development corridors linking up with the CBDs.
- The opportunity exists to establish an internationally recognised mining technical training institution with practical experience gained underground as part of the education process. Often referred to as a Mining Centre of Excellence.



4.16 TOURISM

Merafong is not a traditional tourism destination with many of its neighbours outperforming the municipality by a wide margin. There are however numerous tourism development opportunities in Merafong. The municipality is endowed with significant scenic beauty especially along the Wonderfonteinspruit, Gatsrand and Losberg. Given the locality of Merafong close to the GCR core there are many opportunities for weekend tourism and the Johannesburg Skydiving Club has seized this opportunity by operating in these less congested skies.

Legacy challenges

- Mining activities have scarred landscapes in the centre of Merafong where much of the areas scenic beauty is concentrated.

Current challenges

- Not enough tourist attractions. The existing historical attractions are not at all well preserved, making them worthless from a tourism point of view.
- Almost no events are hosted in Merafong such as music festivals, agricultural shows, etc.

Future challenges

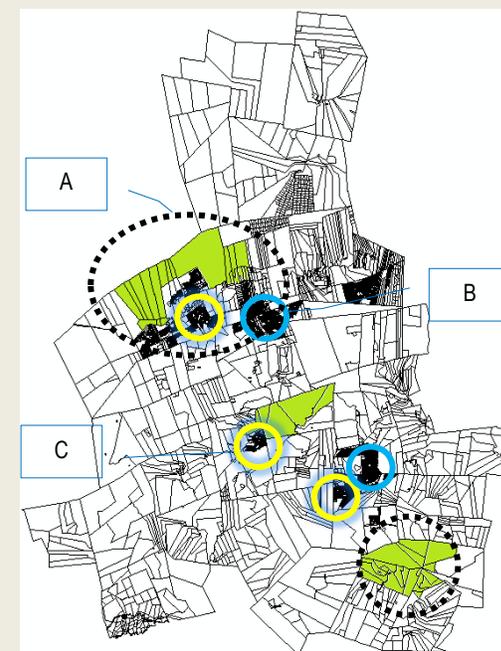
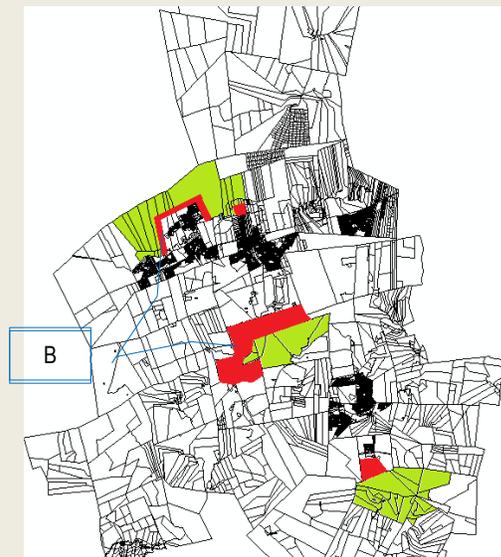
- Preserving scenic areas for tourism and ecological purposes (B).

Current strengths

- Merafong is endowed with valuable and interesting natural resources such as Gatsrand, Losberg, the Wonderfonteinspruit, dolomitic caves and other geological features.
- The presence of large gold mining companies in Merafong creates a demand for business tourism.

Opportunities

- Build upon existing eco-tourism areas and offer protection against threats to the ecology and aesthetics of the following areas: Abe Baily–Moorriver Eco-corridor; Gatsrand Eco-corridor and Losberg & Klein Losberg (A).
- Business tourism opportunities should be exploited focussing on Carletonville and Fochville (B).
- Lodges, guest houses and events venues should be encouraged with due consideration to ecological sensitivities.
- Township tourism opportunities exist in Khutsong, Wedela and Kokosi. Land Use Management should encourage tourism development in townships (C).
- Caving and geological tourism is an opportunity that should be explored given the fact that Merafong has large caves and unique geological features.



4.17 EMPLOYMENT AND SPACE

As is the case with most cities and towns in South Africa, there are great distances between places of residence and work caused by apartheid spatial policies. Although spatial restructuring of Merafong's urban areas are underway, there are still many challenges that remain. The previously disadvantaged areas of Khutsong and Kokosi are experiencing the greatest burden from these commuting distances.

Legacy challenges

- Segregation of people and places through government policy.
- Scattered development of mining villages.

Current challenges

- Long commuting distances especially in Khutsong.
- Lack of transport options for captive users.
- Employment concentrations remaining in place.
- Drawing capital investment into previously disadvantaged areas.

Future challenges

- Developing a viable and sustainable public transport system.
- Drawing capital investment into previously disadvantaged areas will remain a problem for some time.

Current strengths

- The ability and will to restructure urban areas into more efficient forms exists.

Opportunities

- Develop a primary development and commuter corridor that connects all urban areas and acts as the primary restructuring tool for Merafong.
- Draw private investment into previously disadvantaged areas and provide micro enterprises with land to develop their businesses.



4.18 URBAN STRUCTURE, MORPHOLOGY, LAND USE AND ACTIVITY PATTERNS

Merafong municipality is primarily rural in nature with significant tracts of mining and agricultural land. Scattered unproclaimed settlements dot the central mining belt and proclaimed townships are located close to the belt on the northern and southern side. This scattered settlement pattern is a result of under-regulated mining surface rights, where mining companies established mining dormitory villages without any regards for post mining use and the municipalities governing these spaces did not apply proper spatial logic. This is over and above the apartheid legacy that Merafong shares with the rest of South Africa. Despite policy interventions, development is still occurring mostly along apartheid divisions and not breaking through these divisions. Most post-apartheid subsidised housing developments have the same layouts as during apartheid. Some settlements such as Khutsong are far removed from economic opportunities and others such as Blybank and Wedela are currently located close to mining operations which will not be sustained indefinitely. Fortunately, through restructuring, based on development corridors, nodes, infill development and growth boundaries, greater integration is obtainable and is already showing results. Urban efficiency is greatly dependent on the structure morphology and land use patterns of an urban area.

Legacy challenges

- Scattered settlements (A)
- Urban development in dolomitic areas
- Land use separation
- Spatial exclusion of previously disadvantaged

Current challenges

- Lack of sufficient land use diversity, especially in previously disadvantaged areas.
- Virtually no densification taking place due to a lack of geotechnical data and lack of information on infrastructure.
- Mine owned erven in corridors and nodes remain undeveloped.
- Urban restructuring in the north is adversely affected by dolomite and significant tracts of land lie unused due to bad dolomitic conditions.

Future challenges

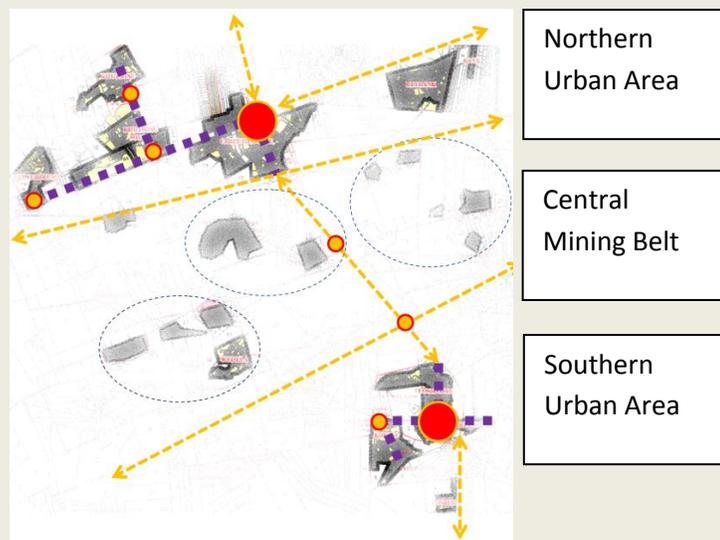
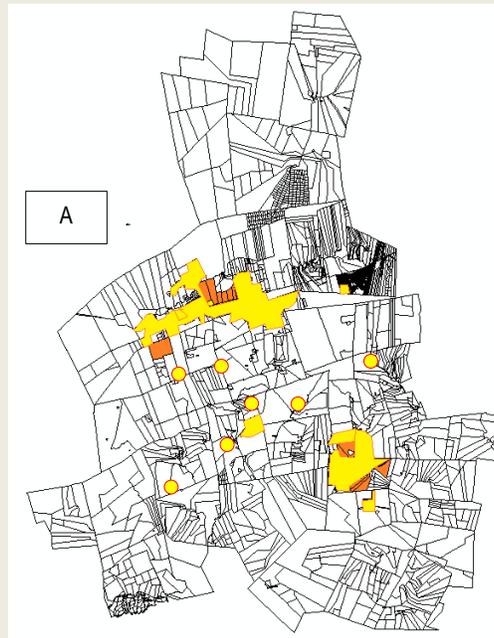
- Mine village viability after mine closures
- Adaptive re-use of mine related land uses will be required.

Current strengths

- Existing corridors and nodes help strengthen the sustainability of urban systems.

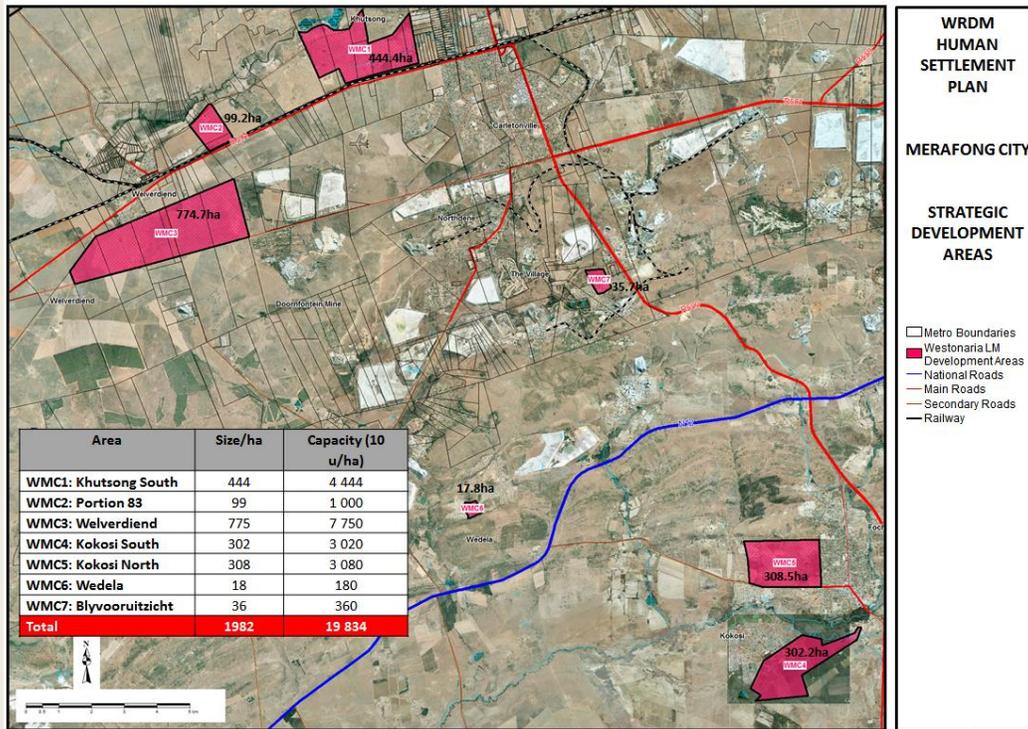
Opportunities

- Develop new nodes and corridors to strengthen the sustainable development of urban areas and to integrate the north and south.
- Consolidate into 3 development areas namely North, South and Mining Belt, each with its own development constraints and opportunities.
- Opportunities for densification are numerous. Information to support growth management is required.
- Land abandoned due to geotechnical constraints can be utilised for other suitable uses. An investigation into possible uses should be conducted.



4.19 INFRASTRUCTURE

In Merafong there is a massive gap in information on the status quo of infrastructure. Currently there are no major infrastructural shortages and the Department of Human Settlements finances most of the infrastructure requirements of subsidised housing expansion. Infrastructure master planning is needed urgently in Merafong.



Code	Project Name	Project Yield	Water Reservoir		
			Mega Litre per Day		
			Reservoir	Capacity	Demand
WMC1	Khutsong South	4 444	Welverdiend	-6.79	2.13
WMC2	Portion 83	1 000	Welverdiend	-7.27	0.48
WMC3	Welverdiend	7 750	Welverdiend	-10.99	3.72
WMC4	Kokosi South X6 X7	8 027	Fochville	1.04	3.85
WMC5	Fochville X8	3 080	New Reservoir	18.52	1.48
WMC7	West Wits	360	Mining Village	Ample	0.17
	TOTAL	24 661			8.85

Code	Project Name	Project Yield	Waste Water Treatment Works		
			Mega Litre per Day		
			WWTW	Capacity	Demand
WMC1	Khutsong South	4 444	Welverdiend	-5.66	1.78
WMC2	Portion 83	1 000	Welverdiend	-6.06	0.4
WMC3	Welverdiend	7 750	Welverdiend	-9.16	3.1
WMC4	Kokosi South X6 X7	8 027	Kokosi	-0.8	3.21
WMC5	Fochville X8	3 080	Kokosi	-2.03	1.23
WMC7	West Wits	360	Wedela	0.93	0.14
	TOTAL	24 661			8.85

Code	Project Name	Project Yield	Electricity		
			Mega Volts Ampere (MVA)		
			Substation	Capacity	Demand
WMC1	Khutsong South	4 444	Khutsong	40.61	11.11
WMC2	Portion 83	1 000	Welverdiend	4.5	2.5
WMC3	Welverdiend	7 750	Khutsong	21.24	19.38
WMC4	Kokosi South X6 X7	8 027	Fochville	-16.07	20.07
WMC5	Fochville X8	3 080	Fochville	-23.77	7.7
WMC7	West Wits	360	ESKOM (new)	-0.9	0.9
	TOTAL	24 661			8.85

Legacy challenges

- Scattered settlements with uncoordinated infrastructure
- Urban development in dolomitic areas which impact on water and sanitation services.
- Under provision of services in previously disadvantaged areas

Current challenges

- Lack of information on the status quo of existing infrastructure. Lack of planning and coordination in future planning.
- Inefficient urban structure and low densities reduce economies of scale.
- Regulation standards with regard to infrastructure on dolomitic land are becoming stricter.

Future challenges

- Mine village viability after mine closures
- Adaptive re-use of mine related land uses will be required.

Current strengths

- Existing corridors and nodes help strengthen the sustainability of urban systems.

Opportunities

- Develop new nodes and corridors to strengthen the sustainable development of urban areas and to integrate the north and south.
- Consolidate into 3 development areas namely North, South and Mining Belt, each with its own development conditions.
- Opportunities for densification are numerous. Information to support growth management is required.
- Land abandoned due to geotechnical constraints can be utilised for other suitable uses.

4.20 CRITICAL INFRASTRUCTURE BOTTLENECKS

In some areas critical infrastructure projects have been halted due to funding constraints. The freezing of these projects are blocking significant urban and economic development projects from continuing. About 10 township establishments and a number of 'game changer' economic projects are being held back. This is hampering the restructuring of the local economy and causing a worsening of the tax base imbalance currently experienced (worsening cross-subsidisation ratio). The unblocking of these bottlenecks is of paramount importance and will eventually threaten the viability of the municipality if not addressed. Many of these situations have been worsened by under spending on economic infrastructure and a lack of infrastructure maintenance.

Khutsong South – Welverdiend area

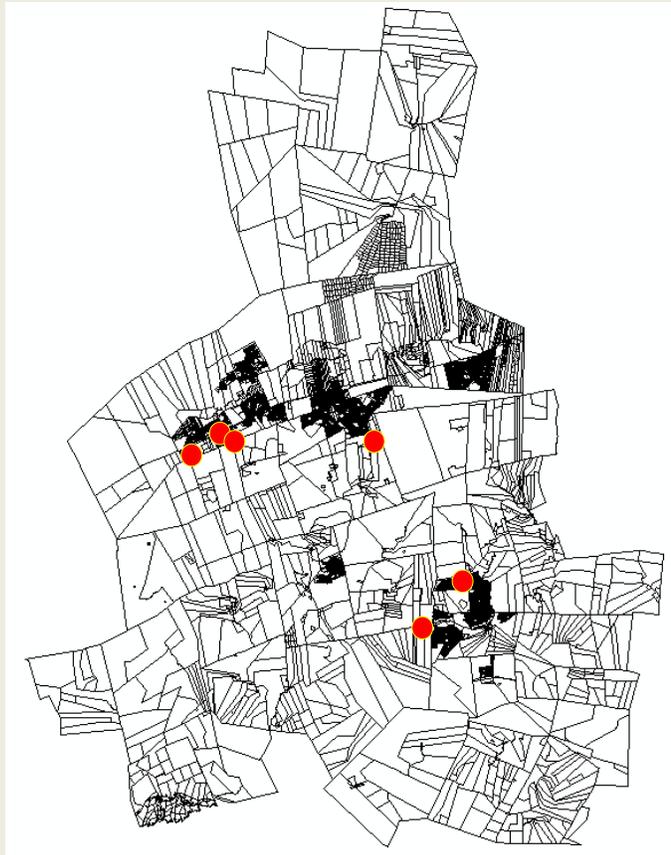
- **20 MI Water reservoir** (Khutsong South) – R 70,000,000
- Of the required 48 hour water holding capacity, currently 0 hours available.
- Bulk Supply Khutsong South **132kV Substation** - R86,000,000
- Bulk supply Khutsong South **secondary network** - R17,500,000
- Projects halted:
 - Khutsong South Extension 6 and 7 (±1519 erven mixed typologies)
 - Chief Albert Luthuli (Varkenslaagte) mixed use development (±10 000 erven mixed housing including BNG, Walk-Ups, FLISP and Social Housing as well as retail, office and government institutional developments)
 - Welverdiend Gap housing development (256 erven)
 - Welverdiend mixed use node (Truck stop and retail with envisaged expansion)

Fochville - Kokosi area

- **30 MI Water reservoir** – R159,000,000
- Kokosi **Waste Water Treatment Works modular addition** – R98,500,000
- Projects halted:
 - Fochville Extension 3 (156 Middle income units)
 - Fochville Extension 7 (700 High income erven)
 - Fochville Extension 8 (1429 Gap market erven)
 - Fochville Extension 14 (± 50 Industrial erven)
 - Kokosi Extension 7 (3211 Mixed typologies with business uses)
 - Residential densification within the designated Restructuring Zone.

Carletonville area

- **20 MI Water reservoir** – R 70,000,000
- Of the required 48 hour water holding capacity, currently 0 hours available.
- Projects halted:
 - Merafong Bioenergy Park (Thousands of job opportunities in the balance)
 - Merafong Solar Farm Cluster (Up to a thousand job opportunities in the balance)
 - Residential densification in the designated Restructuring Zone.
 - Carletonville Heritage Precinct urban renewal.



4.21 HOUSING

A socio-economic analysis of informal settlements in Merafong has revealed that 3 distinguishable groups exist, namely, persons living on the fringes of townships, persons living close to mine shafts, and persons living on farms, not associated with those localities mentioned above. This report focuses on township and mine informals because those in the rural areas are too dispersed for data accuracy. A survey of, amongst other things, population distribution in rural areas has been budgeted for in the 2013/2014 financial year. About 55% of households in mine settlements consist of a single person as opposed to 38% of the township settlements. About 55% of households in mining settlements consist of 1 person. Only $\pm 17\%$ of population in mining settlements of school going age as opposed to $\pm 40\%$ in township informal areas. There are $\pm 20\%$ more men than women in informal settlements. A large proportion of people in mining settlements are unemployed. A significant number of people living in informal settlements would qualify for affordable housing bonds.

Legacy challenges

- Apartheid policies have caused massive disparities in meeting basic human rights among which housing is one of the most important.

Current challenges

- Large backlogs in subsidised housing provision.
- Although the localities of new housing projects are highly sustainable, there is largely a continuation of apartheid style urban layouts.

Future challenges

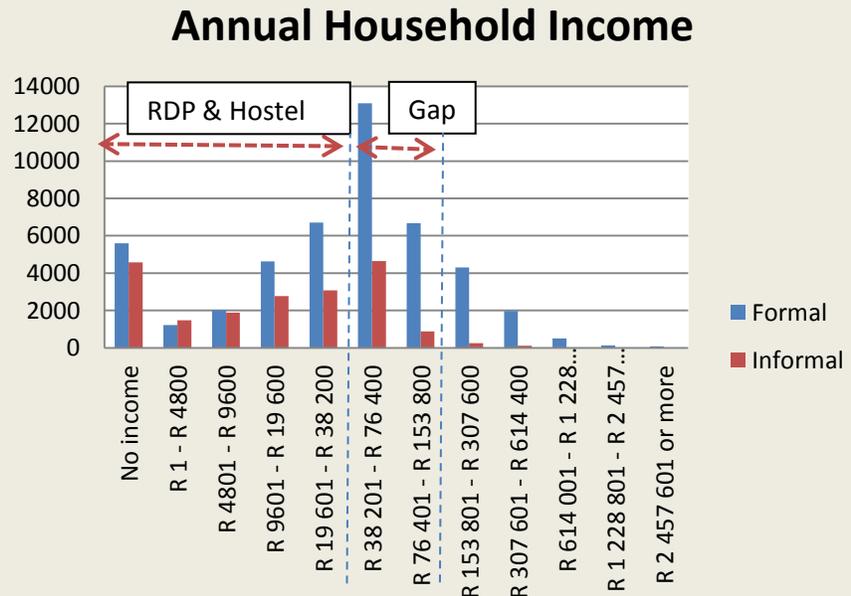
- To continue constructing settlements filled with subsidised housing. Finding space, financing infrastructure and dealing with the lack of revenue from these areas.

Current strengths

- Large projects underway that are bringing about massive reductions in housing backlogs.
- Attention to mining social problems are leading to increased investment and urgency within government.

Opportunities

- Develop more sustainable human settlements in future that are more adaptable and have much greater opportunity generating capacities.



4.22 COMMUNITY PRIORITIES

The community priorities have been derived from the public participation process of the 2016/17 IDP and has been backed by desktop analysis, surveys and observations. The table below depicts the results with yellow indicating problems flagged by the community and red indicating problems confirmed by analysis and or observations. The reason for having yellow and red is that in some instances a problem identified by the community has been adequately addressed by government in accordance with its standards, e.g. it has been indicated that there is a lack of sports facilities in Carletonville whilst the provision is more than adequate in terms of accepted standards (CSIR standards for facilities).

	Carletonv	Khutsong	Blybank	West Wits	Wedela	Driefontein	Fochville	Kokosi	Rural
Basic Water									Yellow
Basic Electricity		Red						Yellow	
Street lighting	Yellow	Yellow			Yellow	Yellow		Yellow	
Sanitation		Red				Red		Red	
Roads & Storm water		Red			Yellow			Yellow	
Housing RDP/BNG		Red			Red	Red		Red	Red
Housing Gap market	Red	Red	Red	Red	Red	Red	Red	Red	
Parks: access	Yellow	Red			Yellow			Red	
Parks: maintenance	Red	Red			Red			Red	
Street names	Yellow	Red				Yellow		Red	
Community halls		Red			Yellow			Red	
Libraries		Red				Yellow		Red	
Sport fields	Yellow	Red			Yellow	Yellow		Red	
Multi-purpose centres	Yellow	Red			Yellow	Yellow		Red	
Schools: Primary		Red			Red			Red	
Schools: Secondary		Red							
Clinics		Yellow		Yellow	Yellow			Red	
Police station		Red			Yellow			Red	
Court		Yellow			Yellow			Yellow	
Waste removal	Red	Red		Yellow	Red			Red	Red
Fire fighting		Yellow			Yellow				
Dolomite	Red	Red	Red						
Pollution		Yellow		Yellow					
Crime		Yellow		Yellow					
Social development		Red			Yellow			Red	
Unemployment		Red			Yellow			Red	Yellow
Informal trade	Red	Red			Red		Red	Red	
Small business development	Red	Red	Red	Red	Red	Red	Red	Red	Red