Municipal Spatial Development Framework

VERSION: Council Approved

Agenda Item: C 09/04/18 Date of Approval: 25th April 2018





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ACRONYMS

ACSA	Airports Company South Africa
BEPP	Built Environment Performance Plan
BRT	Bus rapid transit
CBAs	Critical biodiversity areas
CBD	Central business district
ССТ	City of Cape Town
CDS	City Development Strategy
CEF	Capital expenditure framework
CIF	Capital investment framework
CITP	Comprehensive Integrated Transport Plan
CRR	Capital Replacement Reserve
CSIR	Council for Scientific and Industrial Research
CTIA	Cape Town International Airport
C TOD	Comprehensive transit-oriented development
CTSDF	Cape Town Spatial Development Framework
DU/HA	Dwelling units per hectare
DEADP	Department of Environment Affairs and Development Planning
DGA	Discouraged Growth Area
DMS	Development Management Scheme
ECAMP	Economic Areas Management Plan
EFF	External Financing Fund
EGS	Economic Growth Strategy
FF	Floor factor
GABS	Golden Arrow Bus Service
GCMRSIF	Greater Cape Metro Regional Spatial Implementation Framework
ICDG	Integrated City Development Grant
ICMA	Integrated Coastal Management Act
IDP	Integrated Development Plan

IDZ	Industrial Development Zone
IRT	Integrated rapid transit
IUDF	Integrated Urban Development Framework
IHSF	Integrated Human Settlements Framework
IKNEP	Integrated Koeberg Nuclear Emergency Plan
IPTN	Integrated Public Transport Network
KNPS	Koeberg Nuclear Power Station
LUPA	Land Use Planning Act
LUPO	Land Use Planning Ordinance
MPB-L	Municipal Planning By-Law
MPPM	Municipal Planning and Performance Management
MPT	Multipurpose terminal
MSA	Municipal Systems Act
MSDF	Municipal Spatial Development Framework
MTIIF	Medium Term Infrastructure Investment Framework
MTERF	Medium Term Expenditure and Revenue Framework
NDP	National Development Plan
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act,
NEM:PAA	National Environmental Management: Protected Areas Act
NHRA	National Heritage Resources Act
NLTA	National Land Transport Act
NNR	National Nuclear Regulator
NPA	National Ports Authority
PAZ	Precautionary Action Zone
PGWC	Provincial Government of the Western Cape
PLTF	Provincial Land Transport Framework
POS	Public open space
PPM	Project portfolio management

PSDF	Provincial Spatial Development Framework
PRASA	The Passenger Rail Agency of South Africa
PTI	Public transport interchange
RRR	Radiological Release Plan
RSIF	Regional Spatial Implementation Framework
SABS	South African Bureau of Standards
SAHRA	South African Heritage Resources Agency
SBIDZ	Saldanha Bay Industrial Development Zone
SCOT	Spatial Costing Tool
SDS	Social Development Strategy
SFF	Spatial Development Framework
SMF	Strategic Management Framework
SPLUMA	Spatial Planning and Land Use Management Act
SRA	Special rating area
TAPS	Transport / transit accessible precincts
TDI	Transport Development Index
TOD C	Transit-Oriented Development Comprehensive land use scenario
TOD	Transit-Oriented Development
TOD SF	Transit-Oriented Development Strategic Framework
UDZ	Urban Development Zone
UIC	Urban Inner Core
UDP	Urban Development Policy
USDG	Urban Settlement Development Grant

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NB: for the purpose of this MSDF Maps are typically technical in nature depicting City based source material and informants. MSDF Diagrams of a spatial nature are for the most part analytical and interpret the technical aspects or informants for a particular purpose.

EXECUTIVE SUMMARY

Introduction

Cape Town's Municipal Spatial Development Framework (MSDF) sets out the spatial vision and development priorities to achieve a reconfigured, inclusive spatial form for Cape Town. The document is a spatial interpretation of the City of Cape Town's Integrated Development Plan and flows from the five-year review of the previous MSDF, which was drafted in 2012.

The MSDF is informed by the requirements of the Spatial Planning and Land Use Management Act, Act 16 of 2014 (SPLUMA) and the City of Cape Town's Municipal Planning By-law as well as a range of other national, provincial and local policy and law. Key national informants are South Africa's National Development Plan and the national Integrated Urban Development Framework (IUDF). City policy that has been adopted post-2012 and that has been an important informant of this SDF includes the Transit-Oriented Development Strategic Framework, the Integrated Public Transport Network (IPTN) and the Densification Policy and a range of social, economic and environmental policies.

Fundamental to the MSDF is ensuring spatial transformation via dense and transit-oriented growth and development anchored by an efficient transport system. The 2012 MSDF projected long-term growth along two northern corridors. This MSDF, informed by an evidence-based approach, proposes instead targeted investment and land use management based on inward growth.

The MSDF has been revised during a period of bleak national economic performance and forecasting. Fiscal constraints, credit rating downgrades and a flat-lined economic trajectory have, at a national level, set a challenging backdrop for the preparation of this plan.

Furthermore, new growth management tools have highlighted the unsustainable operational costs associated with servicing peripheral development. This has led to the MSDF introducing an investment rationale that considers how and where the City should invest in infrastructure, given fiscal constraints.

Localised challenges such as a routinely failing rail system and increasing levels of congestion of the City's roads compound many of the fundamental, structural inefficiencies in the City's current urban form and function. Furthermore, the recent water shortages facing the City, attributed to the worst recorded drought in the city's history, is a stark reminder that all cities will need to become more robust, resilient and efficient.

Urban growth of a formal or informal nature will need to occur in a manner that will not compromise the City's ability to respond to a range of shocks and stresses associated with climate change. It is important to recognise the long-term aspirations of this MSDF and that issues of resource management (and availability) and infrastructure renewal and management are fundamental to transforming the city's spatial context and directing the inward growth rationale.

Public comments based on the draft MSDF also contributed to its finalisation and the City thanks all contributors for the many considered comments that were received. These were incorporated into later drafts and have enriched the document.

Cape Town's spatial context

The city in a region

Contextually Cape Town's MSDF must be located within a broader regional economy. Although Cape Town is the Western Cape's focal urban area – with its scale, infrastructure and employment base – it is also part of a regional spatial and economic network that includes Stellenbosch, Malmesbury, Paarl, Saldanha and Grabouw. Cape Town's spatial development exists in a dynamic relationship with its neighbours in the region, necessitating a coordinated approach between planning authorities.

Cape Town's spatial history

The city's spatial form was shaped by the development of its transport infrastructure, most notably the rail service and road network which formed part of a southern corridor. By the 1950s, however, Cape Town's urban form was increasingly being shaped by apartheid. This notorious policy resulted in forced removals and the implementation of discriminatory laws. Increasingly black and coloured communities were forced to live in segregated dormitory townships on the fringes of the city. This contributed fundamentally to the sprawling urban form that has stubbornly persisted in the post-apartheid era.

The burden of this persistent and unsustainable urban form is born primarily by the poor who are forced to travel at great cost to access employment and a range of the other public and private goods. Of particular concern is the mismatch between the location of job seekers in the residentially dense southeast of the city and the location of jobs in the historic city centre and related areas that comprise what this MSDF terms the Urban Inner Core.

Other structuring elements

In addition to the historic and apartheid-era spatial development that remains imprinted on Cape Town's urban form, other important elements also give structure to it.

Natural assets and destination places

Notable structuring elements are Cape Town's natural assets and destination places, which make the city a desirable place to live, work, study and do business. These include the unique nature areas of Table Mountain and Cape Point, heritage areas, coastal areas, biodiversity and important cultural landscapes.

People, activities and land use trends

The MSDF review was informed by studying data and research pertaining to the decade between 2005 and 2015. This study revealed important trends that the MSDF must respond to, and which are discussed in detail in Technical Supplement G. Based on this evidence the MSDF assumes that Cape Town has entered a phase of its development characterised by demographic and spatial consolidation within the context of low growth forecast for the global economy. This implies the need to do more with less in order to address the city's historic spatial challenges.

The analysis indicates that population growth is slowing, with household formation exceeding it, while inmigration rates and projections remain uncertain and difficult to predict.

Household sizes have decreased from 3.92 to 3.17 people per household since 2011, with implications for housing supply. It is estimated that 35 000 housing opportunities must be supplied each year, over 20 years, to meet the current backlog.

Spatially there is a transition underway from outward to inward growth with a concentration of commercial activity in three business nodes (CBD, Century City and Tyger Valley). At the same time, in Cape Town's increasingly services-oriented economy, blue-collar jobs are moving to peripheral industrial nodes.

With respect to employment in-migration is outpacing job creation and modest economic growth is centred in service-oriented industries. There are approximately 440 000 unemployed citizens (23%), using the narrow definition of unemployment which excludes discouraged job seekers. With economic growth expected to reach 3,2% by 2020, skilled and semi-skilled workers will be gradually absorbed, but the anticipated growth is unlikely to have significant impact on the prospects for unskilled workers.

Other trends include rising efficiencies associated with water, electricity and land resources as households and businesses begin to use these more sustainably; rising transport costs associated with congestion and rail failures; and a transition from formal, market-led housing supply to informal solutions. This has implications for infrastructure in less-established areas in the city, and while there have been marginal increases in density, these are insufficient to support public transport thresholds.

Socio-economic needs

In addition to changes in population and household structure, the MSDF must respond to socio-economic needs. The City's Socio-Economic index identifies the areas of greatest need and indicates that 25.5% of households live in 'needy' or 'very needy' areas of the city.

Transport infrastructure

Transport infrastructure is an important spatial structuring element of the city. Given Cape Town's spatial fragmentation and imbalance between land uses, this has not been optimal. The city's road, rail and BRT networks impact directly on its spatial form. Currently an estimated 500 000 people only have access to non-motorised transport and cannot afford public or private transport. In addition, poor households that do make use of public transport may have to dedicate up to 45% of their household income to make use of it. The IPTN aims to improve the public transport network premised on MyCiTi and an expanded rail network.

Cape Town's road network is the most congested in South Africa, with motorists spending more time in traffic each year.

A new spatial vision

The implication of Cape Town's spatial, social and economic challenges is that it must place sustained jobgenerating economic growth at the heart of its spatial priorities. This means supporting investment in welllocated growth nodes, reinforcing transit-oriented corridors and linking growing nodes with lagging nodes through connective infrastructure.

Connected, inward growth is the most cost-effective way of reducing the social and economic costs of the current inefficient urban form. This MSDF motivates for land use intensification based on transit-oriented development (TOD).

This implies a greater mix of residential and non-residential land use (diversification) through the increased use of space, both vertically and horizontally (densification).

This can be achieved within existing areas or properties and new developments with an increased number of dwelling units and should be encouraged in locations with good public transport access, concentrations of employment, commercial development and other amenities.

A new land use scenario

The City developed four land use models between 2013 and 2015 which were used in strategic City documents including master planning of City utilities, the IPTN and the Medium Term Infrastructure Investment Framework (MTIIF). With public transport and the optimisation of associated locational benefits fundamental to the restructuring and spatial transformation agenda in Cape Town, Council approved the Comprehensive TOD land use scenario. This forms the strategic and policy basis for Cape Town to transform the sprawling, predominantly low density, mono-use city by reducing travel times and increasing the efficiency of infrastructure networks with benefits all.

This will be achieved through the implementation of Cape Town's Integrated Public Transport Network 2032, encompassing both road and rail-based public transport. In addition to the existing rail network it includes the planned Blue Downs rail link, the extension of the Strand rail line and the implementation of a number of new bus rapid transit trunk routes.

Development corridors and transit accessible precincts (TAPS), which are important spatial restructuring elements, also form part of the vision, acting as generators and attractors of people and trips, contributing to economic growth and public transport viability.

Infrastructure capacity, renewal and provision will also impact the structure of Cape Town's urban form and must be aligned with projected land use intensification.

Directing spatial transformation

The basis for growth management in the city is through four primary Spatial Transformation Areas namely:

- An Urban Inner Core
- Incremental Growth and Consolidation Areas
- Discouraged Growth Areas
- Critical Natural Asset Areas

The MSDF supports the prioritisation of public investment and incentivised private sector investment in support of growth areas in the Urban Inner Core. The Urban Inner Core includes the majority of the city's existing industrial and commercial nodes; the airport, ports and primary freight infrastructure; the three Integration Zones, IPTN corridors and TAPS. The City will prioritise these areas for investment and co-investment.

Incremental Growth and Consolidation Areas are areas where the City is committed to servicing existing communities and where new development will be subject to infrastructure capacity.

The City will not invest in Discouraged Growth Areas, which include protected areas based on natural and agricultural assets, areas with a lack of social and physical infrastructure and areas that do not contribute to spatial transformation, inward growth or the premise of transit-oriented development.

Critical Natural Asset areas, are areas that contribute significantly to the City's future resilience and/or have protection status in law. They include a number of protected natural environments and conservation areas outside the urban inner core or incremental growth areas,

In addition to these four categorisations, there are a number of unique cases where the spatial transformation categorisation does not successfully reflect the intent of the MSDF. These include Paardevlei, Atlantis, Swartklip and the Philippi Horticultural Area (PHA).

The City will establish investment partnerships with the public and private sector to achieve the goals of these Spatial Transformation Areas.

The Spatial Development Framework

Cape Town's Integrated Development Plan contains three spatial strategies:

Spatial strategy 1: Build an inclusive, integrated, vibrant city.

Spatial strategy 2: Manage urban growth, and create a balance between urban development and environmental protection

Spatial strategy 3: Plan for employment, and improve access to economic opportunities.

These provide the spatial direction that establishes a corporate spatial perspective which informs the review of sector and lower-order spatial plans.

The spatial strategies also inform submissions and motivations for development proposals and applications from the public and private sector and directly affect the assessment of applications under delegation or via the Municipal Planning Tribunal.

Development directives

The MSDF sets out development directives based on environmental, risk and social factors that are likely to impact on the development potential of sites and may trigger additional legislative processes.

Environmental development directives include the coastal edge, protected environmental or marine areas and wetlands.

Development directives in areas of risk include aviation-related activity, utility services buffers, safety zones and flood and fire hazards.

Other development directives relate to high potential or unique agricultural land and aquifers, heritage resources and aesthetic or social assets such as parks and public open space and infrastructure capacity.

Implementation

The Urban Inner Core represents the priority development and investment focus for the City at a metropolitan scale. Where infrastructure needs to be upgraded and prioritised to support intensification efforts in support of spatial transformation, budget will be prioritised here. Incentives and regulatory reform will be focused on the Urban Inner Core together with co-operation and collaboration with other spheres of government and the private sector to direct the City of Cape Town's capital budget timeously.

There is an acknowledgement that a number of the city's informal settlements are located outside the Urban Inner Core and, based on need, the Urban Inner Core investment rationale will also be applied to locations identified in the IDP for informal settlement upgrades.

A number of City-led interventions are already being planned and implemented to support the Urban Inner Core. These include affordable/social housing projects in Cape Town's inner city, the Athlone Power station, Bellville CBD, Conradie Hospital, Foreshore Freeway, Philippi East and Two Rivers Urban Park. Specific and immediate implementation actions include:

- Revising and adapting master plans of utilities;
- Developing a prioritised Infrastructure Investment Programme to support the activation of the Urban Inner Core and the maintenance of the City's built footprint;
- Prioritising, planning and implementing TOD precincts;
- Reviewing district plans to interpret the reviewed MSDF;
- Producing Social Facility Optimisation Plans;
- Reviewing and adapting the City's housing plans;
- Developing a land acquisition strategy to include a section for transit accessible/well-located residential development;
- Initiating high level assessments and predictions on the future demand for industrial land;
- Supporting initiatives in the Voortrekker Road, Blue Downs and Metro South-East Integration Zone aimed at diversifying land use;
- Identifying underutilised opportunities to create special/destination places;
- Collaborating, and leading where applicable, in initiatives relating to emergency planning and urban growth management surrounding Koeberg and the Cape Town International Airport;
- Motivating for the continuation of Urban Development Zones under National Treasury Regulations and actively promote the incentive; and
- Executing the Freight Management Strategy.

1 INTRODUCTION

1.1 Overview

Cape Town's Municipal Spatial Development Framework (MSDF) is required by law to translate the vision and strategy of the Integrated Development Plan (IDP) into a desired spatial form for the municipality. It should inform public and private investment decisions and represent the different, and sometimes contested, spatial implications of the physical, social and economic and environmental sectors.

It represents a framework for long-term growth and development, including a spatial vision, policy parameters and development priorities to support Cape Town achieve a reconfigured and inclusive spatial form and structure.

It is essential for the City's MSDF to:

- be consistent with prevailing legislation and policies of national government, provincial government and the City;
- be respected, consistently applied and honoured by all decision-making authorities;
- identify significant structuring and restructuring elements of the spatial form, now and into the future;
- show the joint spatial effect of the policies of all the City's departments;
- provide guidelines for the City's land use management system;
- inform the more detailed district spatial development frameworks and local spatial plans;
- guide and support future economic growth and development priorities;
- address the fragmented and inefficient regional and metropolitan spatial form that resulted from apartheid;
- recognise the unique topography and ecological assets of Cape Town;
- balance competing land use demands and sector priorities, such as housing and transport initiatives, environmental asset protection and infrastructure provision;
- support a sustainable and resilient development path that determines what, where, how and when development takes place; and
- optimise public and private operational and capital resources.

To respond to these considerations, the MSDF:

- Aligns the City's spatial development goals, strategies and policies with relevant national and provincial spatial principles, strategies and policies (Chapter 1 and Technical Supplements D, E and F);
- Analyses and contextualises the political, economic, environmental and social drivers and trends shaping the existing landscape and livelihood of the city (Chapter 2 and Technical Supplement G);
- Provides a long-term vision for the desired spatial form and structure of Cape Town (Chapters 3 to 5 and Technical Supplements A, B and C);
- Spatially coordinates, prioritises and aligns public investment in the IDP via a Capital Expenditure Framework (Chapters 4 to 6);
- Directs and supports private and public investment by identifying areas that are suitable for urban development and supportive of the City's strategies, areas where the impacts of development need to be managed and areas that are not suited for urban development (Chapters 4 to 6); and
- Provides policy guidance to direct decision-making on the nature, form, scale and location of urban development, land use change, infrastructure maintenance and development, disaster mitigation and environmental resource protection (Chapter 5 and Technical Supplements A, B and C).

1.2 Municipal Spatial Development Framework review 2017

The Cape Town Spatial Development Framework (CTSDF) was approved in May 2012 and established a long-term spatial vision and policy framework for the City after extensive technical drafting and public participation.

This document represents the five-year review of the CTSDF, as required by the Spatial Planning and Land Use Management Act, 2014 (Act No. 16 of 2014) (SPLUMA).

As an integral component of the Integrated Development Plan (IDP) the CTSDF provided the technical foundation for recommendations made to the decision-making authorities within the municipality on planning, investment and development control matters.

This review of the CTSDF forms part of the annual IDP process and reflects the new strategies and policies which have been adopted by the City of Cape Town since 2012 including:

- Integrated Development Plan 2017-2022 (IDP);
- City Development Strategy (<u>CDS</u>);
- Transit-Oriented Development Strategic Framework (TODSF);
- Integrated Public Transport Network (IPTN);
- <u>Bioregional Plan;</u>
- <u>Environmental Strategy</u>;
- Economic Growth Strategy (<u>EGS</u>);
- Social Development Strategy (<u>SDS</u>);
- Integrated Human Settlements Framework (<u>IHSF</u>); and
- <u>Cape Town Densification Policy</u>.

Contemporary data and informing the review and detailed in Technical Supplement F, include:

- changing local, national and global circumstances;
- the impact of climate change and other major global events;
- population, residential and economic growth trends;
- new and updated information related to natural resources and infrastructure provision;
- loss of biodiversity, loss of aquifer options and ongoing water scarcity;
- ongoing heritage auditing, identification and inventories; and
- performance against approved measurements.

A City-led five-year review of the Urban Edge informed by:

- the delineation criteria for development edges;
- identified policies and guidelines;
- urban growth management strategies;
- development trends;
- the availability of bulk infrastructure inside and outside the Urban Edge; and
- new information regarding natural, cultural and heritage resources and land absorption rates inside the Urban Edge.

The 2017 five-year review of the Spatial Development Framework was guided by these informants together with SPLUMA and Cape Town's Municipal Planning By-Law.

SPLUMA specifies certain elements for review including population growth estimates for the next five years, estimates of economic activity and employment trends, and requirements for engineering infrastructure and services provision for existing and future development.

The Municipal Planning By-Law requires the consideration of records of MSDF-deviations, new legislation, relevant City strategies and comments received during the review process.

1.3 Guiding principles

Nationally, the National Development Plan (<u>NDP</u>) establishes a long-term vision for transformation and restructuring to support the elimination of poverty and reduction of inequality by 2030.

Chapter 8 of the NDP re-emphasised the need for and importance of coherent and aligned spatial planning across all spheres of government. Plans need to directly respond to the entrenched spatial patterns that continue to exacerbate social inequality and economic inefficiencies in both urban and rural South Africa. Further, they need to unlock development potential and inform infrastructure investment and prioritisation by playing co-ordinating the efforts and resources of different state agencies and sectors, and the private sector.

The NDP states that "planning in South Africa will be guided by normative principles to create spaces that are liveable, equitable, sustainable, resilient and efficient and support economic opportunities and social cohesion". These principles for spatial development are premised on spatial justice, spatial sustainability, spatial resilience, spatial quality, and spatial efficiency. They are also replicated in the Provincial Spatial Development Framework (<u>PSDF</u>).

These themes are also emphasised in the Integrated Urban Development Framework (IUDF), with its strategic goals of spatial integration, inclusion and access, growth and governance. These goals inform the IUDF's nine policy levers, namely "(1) integrated urban planning forms the basis for achieving integrated urban development, which follows a specific sequence of urban policy actions: (2) integrated transport that informs (3) targeted investments into integrated human settlements, underpinned by (4) integrated infrastructure network systems and (5) efficient land governance, which all together can trigger (6) economic diversification and inclusion, and (7) empowered communities; all of the above will demand effective (8) governance and (9) financial reform to enable and sustain these policy actions." (IUDF, 2016.)

The City is committed to pursuing these transformational priorities supported by the five pillars of the IDP illustrated in Diagram 2.



Diagram 1: Strategic goals and levers supporting the IUDF vision



Diagram 2: IDP pillars and transformation priorities

These transformational priorities manifest in and are impacted by the built environment. Ensuring spatial transformation via dense and transit-oriented growth and development, anchored by an efficient, integrated transport system and in turn building integrated communities are fundamental to this MSDF review.

The CTSDF 2012 prescribed 'what' and 'where' land uses could be supported through the use of Spatial Planning Categories and a defined Urban Edge. This was due in part to the regulatory environment of the time. Long-term growth was projected along two northern-growth corridors.

To deliver on the guiding national and IDP principles and transformation priorities, the City has revisited and rescinded this spatial logic (Diagram 3).



Diagram 3: 2012 versus 2017 long-term spatial vision

The 2017 MSDF is guided by an evidence-based approach and analytical tools to better inform the City's perspective regarding 'when' and 'how' development can be facilitated. This is a strategic and facilitative approach to spatial transformation with targeted investment and land use management based on four primary Spatial Transformation Areas (STAs) and a number of localised areas. The STAs prioritise public investment and growth within an Urban Inner Core in pursuit of dense and diverse, transit-oriented development in the corridors, nodes and transit precincts identified in Chapters 2 and 3.

Supporting this MSDF review, city-driven, evidence-based initiatives included:

- Detailed land use and transportation modelling scenarios, Business-as-Usual; Pragmatic Densification (PD); Pragmatic TOD (PTOD) and TOD Comprehensive (TOD-C), that consider progressively targeted intensification, densification and diversification of future land uses in proximity to the public transport network envisaged in 2032 (Technical Supplement J).
- A Medium Term Infrastructure Investment Framework (MTIIF) assessing current infrastructure capacity, costing and sequencing of future infrastructure provision, and an articulation of operating and capital 'cost surfaces' to illustrate differentiated costs to the City, investors, households and the other public sectors in relation to the latter three land use scenarios.
- A Spatial Costing Tool (SCOT) that provides the basis for a quantitative assessment of development rights allocations on the financial sustainability associated with the operational and capital costs of development proposals.
- The Economic Areas Management Programme (<u>ECAMP</u>) that established an evidence-based understanding of the City's space economy and routinely assesses locational performance and potential indicators of the City's economic nodes.
- Detailed assessment of the capacity of the City's social and community facilities up to 2032, including those areas with a surplus or deficit in terms of these fundamentals for integrated human settlements.
- Detailed planning and strategy development for two of the City's three Integration Zones, namely the Voortrekker Road corridor and Metro South–East Integration Zones.

Since 2012 the Cape Town has experienced electricity and water shortages highlighting the need to respond to resource crises. The City has initiated a resilience programme, which aims to position the city to better recover from shocks by monitoring stresses (such as increased traffic congestion) which are exacerbated by the spatial form.

The inward growth approach is also a response stresses including increased congestion as a result of continued sprawl and the non-performing rail network. This places an increased burden on the poorest of the poor who commute long distances between home and work and contributes to social inequality with a concentration of poverty far from places of employment.

Collectively, these initiatives provide the basis for a more progressive time and resource allocation dimension to the spatial plan and directly inform the 'when' and 'how' components of the MSDF.

These aspects are increasingly important as legislation demands spatial targeting and the coordination of public infrastructure investment in priority areas. SPLUMA requires the expression of a Capital Expenditure Framework (CEF) within the MSDF. In Cape Town, this is expressed annually via a Built Environment Performance Plan (BEPP). The BEPP articulates spatial targeting efforts and the intended impact of the City's planned capital and operational funding within the three-year Medium Term Revenue and Expenditure Framework (MTREF) period.

The purpose of the BEPP is to "improve the performance of metropolitan built environments by promoting a more compact, integrated and transit-oriented urban form. There is growing consensus that fundamental urban spatial restructuring is critical to faster and more inclusive growth. The fragmented and low-density spatial form of our metropolitan municipalities has become a structural constraint to growth, not just in the property market but also impacting on the cost of doing business

in labour and product markets. Our cities are uniquely unproductive, unequal and unsustainable, and the costs are being paid for by poor people, government and the environment." ¹

This shifts the emphasis of the MSDF from a prescriptive planning approach to a facilitative growth management approach based on appropriate resourcing and implementation.

A conceptual framework reflecting the corporate, spatial, temporal and planning elements constituting the City's growth management rationale and culminating in the Capital Expenditure Framework is reflected in Diagram 4.

1.4 Legislative context and legal status

The legislative context applicable to the MSDF has changed considerably since 2012. Under the previous planning regime, the Western Cape Government determined a number of municipal planning matters in terms of the Development Facilitation Act, Act 67 of 1995 and the Land Use Planning Ordinance, 15 of 1986 (LUPO). These have subsequently been repealed and replaced by SPLUMA in 2013, the Western Cape Land Use Planning Act, Act 3 of 2014 (LUPA) and the City's Municipal Planning By-Law, 2015 (MPB-L).

SPLUMA and LUPA have resulted in fundamental changes in spatial planning and land use management including:

- Entrenchment of the autonomous mandate of municipalities in municipal planning² (land development, land use management, MSDF approval) with dual approval by the provincial government no longer applicable.
- Establishment of Municipal Planning Tribunals and Appeals structures by municipalities to determine land development applications.
- Development of a single and inclusive land use scheme for the entire municipality;
- Development of SDFs by all three spheres of government, guided by the development principles outlined in this chapter;
- Strengthened intergovernmental support through enforcement, compliance and monitoring.
- Increasing alignment of authorisations processes where necessary on policies and legislation impacting land development applications and decision-making.

Technical Supplements reflect the content requirements, legislative references (Technical Supplement C), and policies and strategies (Technical Supplements E and F) that impact on the respective chapters of this MSDF review as well as other sectoral legislation that directly informs the content and spatial demands on the MSDF and supporting plans.

¹Source: BEPP 2016/17 Guidelines issued by National Department of Treasury.

² Municipal competencies are contained in Schedule 4B and 5B of the Constitution of the Republic of South Africa, 1996

Corporate Planning (what?)	Spatial Planning (where?)	Temporal Planning (when?)	Resource Planning (who?)
Growth rationale and priority framed by corporate strategy and targets / commitments made e.g. IDP / Energy 2040/ EGS/ SDS/ IPTN 2032, TOD SF/ IHSF / Bioregional Plan / Environmental Strategy Key themes growth must contribute to: • Addressing fragmented legacy of the city form (integration/ compaction) • Extending basic service provision • Economic inclusion and job creation • Efficiency of networks and investment (balance between new and maintenance) • Socio-economic and improved livelihoods for marginalised communities • Resource efficiency/ optimisation • Financial sustainability • Transit-oriented development	 Spatial informants of growth described via strategies and policies emphasising: Intensification of land use (diversity and density) within the existing urban footprint Inward growth optimising existing infrastructure and viable public transport. Investment in potential (i.e. economic nodes with potential) Alignment of resources and infrastructure provision within priority locations Public transport infrastructure and consolidation of infrastructure networks as key informants of restructuring Protection of biophysical assets and infrastructure Resource and energy efficiency and sustainability Risk management and precautionary buffers informed by specialist studies Environmental and agricultural policy and strategy ECAMP assessment of economic nodes TOD SF (Inc. TOD C) 	 Timing/ phasing/ sequencing of support informed by: Resource challenges (e.g. water, energy supply and network capacity) Spatially defined and targeted areas prioritising in the short-medium-long term (i.e. current to 2032): Spatial targeting initiatives (e.g. Integration Zones, public transport zones); Existing and future public transport infrastructure (IPTN Implementation Plan); and The existing urban footprint. Defined Spatial Transformation Areas that facilitate intensification (i.e. densification) and diversification) and determine resource allocation. Utilisation of assessment tools to consider i) the financial impacts (on City, public partners and end users) of capital and operational costs (life-cycle costing) ii) the potential and performance of economic nodes and iii) infrastructure and facility capacity. 	 City's commitment to facilitate growth indicated via: Review of infrastructure and facility development programmes (post SDF review and MTIF and Financial Sustainability of Utility Services conclusions) Aligned medium-term capital budget to support Spatial Transformation Areas (Strategic Management Framework / BEPP). Collaborative planning with other spheres of government to align investment and strategy. Development and communication of resourced project pipeline linked to land assembly initiatives supporting priorities and longer-term opportunities. Expanded commitment to support and incentives. Legislative requirements to balance expenditure re: repairs and maintenance. Annual revision of above via the BEPP - constitutes the City's Capital

 supported by: District plans + DMS + overlay zones 	A project pipeline that is resourced in the short, medium and long-term with capital and operational	Expenditure Framework.
	budget.	

Diagram 4: MSDF conceptual framework

2 SPATIAL CONTEXT, CHALLENGES AND OPPORTUNITIES

2.1 Historic form and function

The historic form, function and spatial characteristics of the city can be attributed to complex variables including:

- the topography, coastal location and abundant natural assets;
- global, regional and localised development, economic trends and politics;
- inequitable socio-economic conditions emanating from the racially divisive polices of South Africa's history;
- market forces and investment decisions made by the private and public sector; and
- the transportation networks facilitating the movement of people and goods.

The location of the city within a regional and historical context is considered initially. The structuring elements are then considered in turn.

2.2 The city within a region

Cape Town functions within a regional spatial structure, where the settlements, transport network, agricultural resources and natural systems all interact in a system supporting the economy, services and food security.

The diverse identities, functions and growth opportunities within the towns and rural settlements surrounding Cape Town must be preserved, and the dependencies and structural linkages (the natural and transport linkages in particular) recognised, respected and enhanced.

Cape Town remains the focal point in the Western Cape in terms of urban scale, transport infrastructure and employment base. Nevertheless, it functions within a broader regional spatial and economic network that includes Stellenbosch, Malmesbury, Paarl, Saldanha and Grabouw.

Diagrams 4a, b, c and d illustrates this dominance in respect of key demographic and socioeconomic variables (source: Greater Cape Metro Regional Spatial Implementation Framework).

The province faces the increased pressure of urbanisation and in-migration from other parts of the Western Cape. Nine of the top 30 fastest growing municipalities, including Cape Town, are located within the Western Cape. Of these four, Swartland (ranked 5th), Overstrand (7th), Stellenbosch (26th) and Drakenstein (33rd) directly border the City. Invariably, spatial contestation, in relation to growth and policy approaches, will periodically arise.

The Provincial Spatial Development Framework (<u>PSDF</u>) and Greater Cape Metro Regional Spatial Implementation Framework (<u>GCMRSIF</u>)have in recent years considered the complex interrelationships and spatial dynamics of the province and region. These have in turn specified a number of underlying principles, approaches and cross-border hot-spots which need to be monitored and addressed via institutional arrangements and co-ordinating forums. Technical Supplement E considers these planning informants in more detail.



Diagram 4a Population Size per Municipality (Census, 2011)

Diagram 4b Western Cape GDP Contribution per Sector and District (StatsSA 2001 as referenced in Pegasys, 2014)



GDP contribution per sector







Diagram 4d Average Annual GDPR Growth, 200-2013 (WCG, Provincial Treasury, 2014b)

Where appropriate, diagrams have been included throughout this MSDF to express the fit and alignment of the planning within the broader regional and provincial context.

Diagram 5 illustrates the MSDF in a national, provincial, regional and local context. Diagram 6 places the city within the context of the GCMRSIF and PSDF.

Diagram 5: MSDF contextualised within spatial hierachy



Diagram 5: City in relation to provincial planning informants



2.3 Historical context

Map 1 illustrates Cape Town's historic spatial growth pattern. It reflects the initial development pattern associated with rail and road infrastructure towards the south of the city. In the first half of the 20th century, the city grew incrementally to the east and intensified within a southern corridor. Densities exceeded 70 persons per hectare³ for both periods and by the mid-20th century the spatial footprint had quadrupled.

The reversal of apartheid's spatial legacy – a legacy which limits movement, access and integration within and around Cape Town – is a key principle of the City's IDP and this MSDF.

From the mid-century, apartheid policies and laws had a fundamental impact on the growth trajectories and spatial development of the city. National legalisation enforced racial segregation policies dividing the country along racial lines and limiting black South Africans' access to the city. Many non-white South Africans, previously living in urban areas endured forced removals to the fringe of the city to racially segregated dormitories or townships with long commuting distances to and from work⁴. Consequently, densities decreased and the footprint of the city tripled with the population estimated at 1,3 million inhabitants in 1970.

Urban sprawl, associated with rapid urbanisation, is clearly illustrated by 2000 with the urban footprint 30 times greater than the initial footprint at the turn of the century. Sprawl has manifested in an inhabited pattern to the southeast and is a direct result of the Group Areas Act.

Between 1970 and 2000, this sprawling pattern to the southeast continued with the population exceeding three million. Citywide density is almost a third of that in 1900 in spite of concentrated pockets of higher-density informal settlements.

In more recent years, despite a new national political environment, this sprawling trend has continued. However, large disparities between densities in formal and informal 'township' areas remain. Low density, formal, predominantly white neighbourhoods remain well-located with convenient private vehicle access to the city. Conversely, high density, informal, predominantly black South African townships continue to exist on the outskirts of the city, removed from immediate employment opportunities and reliant on a challenged public transport system.

Although diverse densities and building typologies exist in the City (Diagram 7) formal densities in Cape Town are low by international standards estimated to be an average of 9 – 12 du/ha (Western Cape Government, 2009).

³ Dewar D. and F Todeschini F. (2004). Rethinking Urban Transport after Modernism – Lessons from South Africa. United Kingdom: Ashgate Publishing Ltd.

⁴ The Group Areas Act of 1950, classified spatial areas on racial grounds. Black and coloured people were prohibited from living in or owning property in areas classified for whites only. In order to further emphasise this separation, forced removals resulted in non-white South Africans being forcibly taken from their homes, and relocated to segregated communities. These were typified by underserviced and peripheral locations remote from employment opportunities and structured around infrastructure buffers (for example highways and rail lines) that compounded the marginal, inaccessible nature of these dormitory settlements. During this process, an estimated 60 000 people were moved to remote neighbourhoods on the edge of the city (SA History Online, 2011).

The burden of the city's unsustainable spatial form is placed on the urban poor, located predominantly in the southeast and peripheral margins of the city. The city's urban poor are forced to travel – at great cost – from highly dense, under-serviced, predominantly informal areas, to sparsely populated, wellserviced areas of the city where employment opportunities are located.

Diagram 6: Differentiated residential densities and building typologies

Employment density is presently located within the city centre and along the Voortrekker Road corridor in the north, while the majority of the city's residential density is located in the southeast of the city. In-migration puts additional pressure on the current spatial disparities affecting Cape Town and will manifest in both formal and informal forms. Despite having the highest concentration of residential density, the southeast does not have the corresponding formal building density (or economic activity) to match this. This is illustrated in Diagram 8.

Congestion of road and public transport networks negatively impacts on all income and racial groups, and the City's economic efficiency, as a result of this spatial configuration. A restructured urban form to address these historic imbalances, inefficiencies and inequities and to accommodate future growth projections is required.

This is premised on transit-oriented development: land use intensification (namely diversification and densification) in and around the corridors, nodal points and transit precincts serviced by an existing and future public transportation network and a prioritisation of development and investment to support this approach.

The following section considers the contemporary urban structure influenced by:

- an existing biodiversity and open space system;
- an existing transportation system
- variables influencing the form and function
- an existing infrastructure network
- a social and economic profile.



Map 1: Cape Town's development 1862 – 2015



Diagram 7: Residential, employment and building density in Cape Town

2.4 Structuring elements

2.4.1 Biophysical assets and destination places

Natural features including the biodiversity, agricultural, coastal and topographic assets of the city have historically defined its growth parameters. Despite coming under increasing pressure from development, these assets continue to play a structuring role that shapes the urban and rural / natural form and quality of life enjoyed by citizens. They also help to mitigate climate change, provide food security for the city and region and support the growing tourism economy.

Cape Town's natural assets, biological diversity and destination places are part of what makes it a unique and desirable place in which to live, work and play. These assets form the basis of an interconnected and managed open space network that supports interactions between social, economic and ecological activities, sustaining and enhancing both ecological processes and human settlements. They include natural areas and active and passive recreation areas such as sports fields, parks, squares, detention ponds, servitudes, river corridors and road reserves. Benefits from the natural environment are derived in direct and indirect ways and the natural assets play an important role in shaping where and how the city has developed and will develop in the future.

An imperative is the functional integrity and connectivity of ecosystems to facilitate easy movement of fauna and growth of flora.

Urban development must respect the presence, role and function of natural assets, and develop in a complementary manner making the most of the possible benefits residents and visitors can derive from them.

In addition to making the city an attractive place and providing the foundation for a thriving tourism economy, the biophysical environment provides important ecological services including stormwater drainage and the mitigation of risk to people from coastal hazards such as storm surges and longer term sea-level rise. Recreational spaces and non-motorised transport links are also provided by the biophysical environment.

Diagram 9 conceptually identifies the natural assets that merit protection in the longer term, and/or where the impacts of development need to be carefully managed.

At a metropolitan level, these biophysical assets include:

- Biodiversity conservation areas, ecological support areas, natural vegetation, terrestrial and freshwater aquatic habitats within the city's extensive network of rivers and wetlands;
- Coastal areas and beaches which are important economic and recreational assets for the city. The dynamic nature of coastal processes necessitates the preservation of certain coastal areas to avoid risks to people and the built environment;
- Groundwater aquifers;
- Agricultural Areas of Significance (AAS)⁵; and
- Other sites and landscapes with scenic, recreational or place-making qualities.



Diagram 8: Biophysical assets and destination places

⁵ Areas of Agricultural Significance (AAS) includes areas formerly classified as 'high potential' and unique agricultural land' or 'areas of significant agricultural value' by the Department of Agriculture. AAS reflects high potential and unique agricultural land worthy of long-term protection given unique production, cultural and heritage attributes. This include land that is currently cultivated, has been cultivated within the past 10 years, has the soil potential to be cultivated or be regarded as high value grazing land and contributes to food security, irrespective of extent. This can include non-arable land that supports the ecological support system.

Destination places in the MSDF context refers to landmarks or locations that form a significant point or area of attraction contributing to the unique identity of Cape Town.

At city-wide level, destination places (Table 1, Diagram 10) are well known public places, while at local or district level, they can include public places such as squares, parks and sports facilities. These attractions are different to other types of nodal activities in that they are more directly linked to tourism and recreation.

The typical morning and peak trip patterns in these places are not the same as commercial and business nodes. When hosting major seasonal or special events they can generate significant trip generation and a high intensity of amenity usage.



Table 1: Types of destination places

Diagram 9: Destination places in the context of regional natural assets

2.4.2 People, activities and land use trends

The MSDF review was informed by an analytical review of City-generated / commissioned research and third party data. Greater clarity on the variables and drivers of urban change have a direct implication for how the City prioritises and plans for future growth and resource allocation.

Technical Supplement G provides an in-depth analysis of the variables and drivers impacting on the urban form and function of the City. The review mostly reflected on a ten-year period from 2005 to 2015.

This enabled the City to consider the period and impact preceding and following the global economic downturn of 2008. The lasting spatial implications of that turbulent period were arguably not fully understood when the CTSDF was approved in May 2012.



Diagram 10: Relationship between structuring elements of the city

The variables considered and key messages derived from the analysis are summarised in Table 2. In summary, the review suggests that the drivers of urban change impacting on the city have shifted profoundly. Cape Town has entered a phase of its development characterised by demographic and spatial consolidation within the context of a low-growth global economic forecast. With limited future growth with which to address its historical spatial challenges, Cape Town has to do more with less.
Table 2: Key messages derived from the analysis

Variable	Assessment	Informant(s)
Population (demographic profile and projections)	 A demographic transition with slowing population growth Household formation outstripping population growth Uncertain in-migration rates and projections 	 City of Cape Town mid-year population estimates PWC population projections
Spatial location and trends: residential development	A spatial transition from outward to inward growth, characterised by marginal, localised increases in density	City of Cape Town building plans dataStats SA Census
Spatial location and trends: non-residential development	 A spatial concentration of commercial activity in three business nodes (the CBD, Century City and Tyger Valley) – all have associated high levels of institutional management A dispersion of blue-collar jobs to peripheral industrial nodes In-migration outpacing job creation 	 City of Cape Town (2016), ECAMP Business Location Platform
Economy	 Economic consolidation with increased unemployment and timid economic growth centred in selected service-oriented industries 	 Municipal Economic Review and Outlook 2015 Integrated Urban Development Framework 2016 National Department of Cooperative Governance and Traditional Affairs Quarterly Labour Force Survey; Global Insight ratios applied to determine formal/informal breakdown City of Cape Town (2016), ECAMP Business Location Platform State of Central City Report (2016)
Infrastructure (provision and constraints)	 Rising efficiencies associated with water, electricity and land resources Rising costs of transport due to congestion and declining levels of service for commuter rail 	 City of Cape Town (2016) Medium Term Infrastructure Investment Framework
Fiscal sustainability	• Cape Town's performance score annually evaluated internally and externally by National Treasury, based on several factors. These contribute to its stable credit rating and high borrowing ability to expand infrastructure investment	• Ratings Afrika, (2016)

Variable	Assessment	Informant(s)
Resource sustainability	• Despite bulk supply issues a ten-year review of resource consumption confirms that Cape Town's economy and households are becoming resource efficient and using less electricity, water and land relative to the size of the economy or population. Of concern, however, is the dramatic increase in fuel consumption during this period	 City of Cape Town (2016), Population Statistics South Africa, mid-year estimates 2014 GGP, Quantec (2016) Regional output by basic prices; water, City of Cape Town water consumption data Petrol, Sustainable Energy Africa Electricity, Cape Town State of Energy Report 2015
Housing supply and demand (quantum / spatial location and trends)	 A transition from formal, market-led housing supply to informal solutions is evident and has spatial implications for already dense residential areas and burdening infrastructure networks in older less established parts of the city 	 City of Cape Town (2016) data extracted from Development Application Management System and General Valuation (2015) Stats SA Census Eighty20 (2016) House Price Index: Cape Town Housing Finance Africa Geo-Terra Image building- based land use" data set Integrated Human Settlements Five Year Plan 2017
Physical growth and form (land consumption and density)	 Decline in land consumption rates Marginal increases in density – not sufficient to support public transport thresholds 	City of Cape Town February 2015 aerial photography

In contemporary Cape Town, population growth and economic activity are driving the demand for urban space. Affordability is a primary determinant of location and the interaction between people, activities and land uses. Technical Supplement C provides an in-depth assessment of current land use patterns spatially depicted as land use density of residential and non-residential land uses.

Household composition (household size) and characteristics including education, income, age, gender affects the demand for housing (to buy or rent) in different price ranges. By implication the location choice of households, which impacts on the structure and efficiency of the city, depends on affordability. The same applies to non-residential property markets.

Affordability plays a significant role in the location of people and land uses in space and resulting patterns of urban segregation, decentralisation and sprawl. Technical Supplement G reflects on the population trends and the impact on housing supply and demand. This is resembled in a physical growth and form associated with land consumption and density trends and patterns, which in association with the economic trends result in activities and land uses.

For the MSDF to direct development and investment, in order to restructure and spatially transform the city, a clear understanding of the implications of this on future spatial planning is required. Technical Supplement G further consider the impact of current trends on demands for connective infrastructure such as public and private transport, bulk services and digital connectivity. Financial implications include fiscal sustainability pressures, renewal of municipal assets, requirements for enhanced urban management, essential resource efficiency and climate change.

The people, activities and land use trends implies the following for the structuring elements of the MSDF:

- Cape Town needs to place sustained job-generating economic growth at the heart of its spatial priorities. This objective is an absolute precondition to the realisation of other important goals from poverty reduction and mobility, to spatial equity and accessibility, to environmental protection and resource efficiency.
- New development is desirable and should be accommodated but the nature and location of development (considering its associated costs and benefits) has long-term impacts that are borne by the City, national and provincial government, businesses and households.
- The City has to focus its spatial priorities in support of connected inward growth, namely:
 - Inward investment in well-located growth nodes to maximise the employment benefits of urban agglomeration.
 - Reinforce transit-oriented corridors linking leading growth nodes and lagging nodes through connective infrastructure.
 - Spatially plan for a range of housing and accommodation types as per the IHSF inclusive of informality (including second and third dwelling), incremental and other forms of formal housing.
 - Spatially prioritise and target infrastructure and asset renewal to sustain municipal fiscal health.
 - Unlock and optimise vacant and under-utilised transit-oriented land to enhance mixed-use development.

Technical Supplement G suggests that prioritising connected inward growth is the most cost-effective means to reduce the economic, social and fiscal cost of geographic distance and fragmentation. It also declares that a purely spatial programme of action is not a panacea for the fundamental structural challenges facing Cape Town. Job-generating economic growth also requires that Cape Town's residents are educated, safe and healthy, and given an opportunity to use their knowledge and skills in an inclusive, business-friendly environment.

2.4.3 Economic profile⁶

Cape Town plays a significant role in the regional economy and is strongly affected by developments in the global economy. The city generates a gross geographic product of over R300 billion and is the second largest urban economy in southern Africa. A dominant services sector constitutes 76% of the economy (Diagram 12).



Source: Own calculations based on IHS Global Insight ReX regional Data 2016

Diagram 11: Cape Town's GVA, labour intensity and output growth⁷

Official projections expect economic growth to increase from 1,8% in 2015 to 3,2% by 2020, driven by construction (average of 3,6% between 2015–2020), business services (3,2%) and transport and communication $(3,1\%)^8$.

Approximately 440 000 citizens are unemployed (2nd quarter 2016 estimate) and the 'strict' rate of unemployment within the City is estimated to be 23%. Economic growth forecasts over the medium-term will be sufficient to gradually absorb skilled and semi-skilled workers affected by the economic slump in certain sectors. However, in the absence of marked improvement to educational outcomes growth is unlikely to have any significant impact on the employment prospects for unskilled workers.

In order to adapt to a low-growth future, Cape Town must reduce its vulnerability by optimising the potential for growth, productivity and innovation that arises from the spatial concentration of jobs,

⁶ The Economic Performance Indicators for Cape Town (EPIC) publication presents and analyses economic (and related) trends in Cape Town on a quarterly basis. EPIC provides relevant and up-to-date information on Cape Town's economy. This includes statistics and an analysis of key economic trends, which provide direction for economic development strategies. The publication is accessible to a range of stakeholders, presents economic intelligence and analysis, and focuses on localised economic performance trends. Each edition has a sector focus, including such areas as the film industry, clothing and textiles, renewable energy etc. Each publication is available for download via this link.

⁷ Own City calculations based on <u>IHS Global Insight ReX</u> regional data 2016. Note that the size of the bubble denotes proportional GVA.

⁸ Municipal Economic Review and Outlook 2015.

people and opportunities and which enables household to access employment and higher quality public services⁹ .

Cape Town's space economy comprises a network of inter-connected and inter-dependent productive urban nodes where the vast majority of the city's firms and formal jobs are clustered (Diagram 13). Urban nodes are typically characterised by concentrations of higher intensity, mix and the clustering of activities or land uses (including commercial and business development and associated employment opportunities and higher-order services) at points of maximum accessibility, exposure, convenience and urban opportunity. The informal economy is more adaptable in terms of spatial location but requires a high footfall of potential customers and is generally symbiotic to the formal economy.

To understand the space economy of the city in terms of the performance and potential of nodes within Cape Town, the Economic Areas Management Programme (ECAMP) was introduced by the City. It has established an analytical and diagnostic tool to guide the spatial targeting and prioritisation of area-based interventions across each urban node, tailored to local business opportunities and constraints. Diagrams 13 and 14 illustrate the nodes considered by ECAMP and the diagnostic classification according to market performance¹⁰ and location potential¹¹ into one of four quadrants namely growth, consolidation, transition and opportunity.

At a metropolitan level, Cape Town CBD and Bellville function as commercial, civic and a diverse range of other service roles. The nodal character and function incorporates a broad spectrum of intense and diverse land uses serving a wide spectrum of citizens and businesses via formal and informal means.

Sub-metropolitan nodes including Claremont, Wynberg, Retreat, Khayelitsha, Mitchells Plain, Century City, Blackheath, Saxenburg and Cape Gate serve communities on sub-regional level. Each node exhibits different attraction levels with differentiated land use combinations and employment opportunities. Khayelitsha as an emerging node is primarily focused on essential civic facilities, Cape Gate has a strong retail character, Century City and Tyger Valley have a mixed land use pattern and Blackheath/Epping/Marconi Bean/Montagu Gardens include a combination of retail and industrial uses.

Emerging nodes, potentially of metropolitan significance are developing at the Cape Town International Airport/ Philippi node as well as Somerset West. The latter's increasing metropolitan significance is premised on its physical growth (associated with retail and potentially enhanced by the development of Paardevlei) and regional connectivity with neighbouring Stellenbosch, Grabouw and surrounds. Another longer-term node is the anticipated industrial/ retail node in the Blaauwberg area in the vicinity of the intersection of the planned Berkshire Boulevard, M12 and the railway line.

The performance and marketability of each node to business is capitalised into revenue for the City in the form of rates and tariffs. In turn, this revenue directly contributes to the infrastructure, investment and social programmes undertaken by the City. The extent to which the City realises its transformation priorities is therefore bound to its ability to sustain job-generating economic growth over the medium-term. It is recognised that the informal economy plays an important role in terms of job creation and livelihood generation and should be supported, however, the spatial manifestation of the informal economy is not limited to nodes and the formal space economy.

⁹ Integrated Urban Development Framework 2014.

¹⁰ Market performance is a composite, weighted indicator which includes non-residential rentals and rental growth, vacancy, building development and property sales.

¹¹ Location potential is a composite, weighted indicator which includes the scale, intensity and complexity of economic activity, room for growth, proximity to markets, skills, disposable household income and regional economic gateways, congestion, infrastructure constraints and the incidence of crime affecting businesses.



Diagram 12: Economic nodes (business, retail, office and industrial areas)



Diagram 13: Diagnostic classification of business nodes¹²

¹² City of Cape Town (2016), ECAMP Business Location Platform.

2.4.4 Socio-economic profile

Cape Town's population is expected to reach 4.5 million in the early 2030s based on the City's base projections.

Population growth rates are decelerating, from an average compound growth rate of 3.3% between 2000 and 2010, to an expected 1.5% between 2010 and 2020. The largest uncertainty in future growth projections is the nature and extent of in-migration, both internal and transnational. If the high inmigration scenario as modelled for the Western Cape is downscaled to Cape Town, an additional 160 000 people will be added to the base projection by 2040, from 4.63 million to nearly 4.8 million.

The city is experiencing a rapid increase in the number of households being formed and the rate of new household formation outpaces that of population growth. From 2011–2016 population increased by 7.1%, but the number of households increased by 18.4%. Cape Town's households are becoming smaller; over the last 20 years the average household size has gone from 3.92 people to 3.17. The rate of household formation is likely an effect of the increase in the younger, working-age population.

An increase in the number of households, and the changing population structure, is of particular relevance to the supply and demand for housing with both the number and type of housing affected. The overall demand for housing increased from approximately 15 000 per year in 2005 to 20 000 in 2015.

Therefore, approximately 35 000 accommodation opportunities will need to be supplied by the overall formal housing market annually to eradicate the official backlog over 20 years whilst meeting new demand.

The Socio-Economic Index (2014) (Map 2) consolidates the Household Services Index, Education Index, the Housing Index and Economic Index into a single spatial assessment of socio-economic conditions in the city.

The purpose Socio-Economic Index¹³ was to:

- identify comparable areas of the Western Cape and Cape Town that have the greatest need for development purposes
- objectively prioritise areas for projects
- serve as a proxy for poverty/ vulnerability/ areas of high need.

In identifying the areas of greatest need, the higher the value of the index for any area the poorer, or needier, the area is in terms of the index.

An analysis of the Index indicates that 4,7% of the city's sub-places (with more than 20 households) were classified as 'very needy' and 4,4% as 'needy'¹⁴. Those classified as very needy predominantly reflected sub-places consisting of informal settlements.

A total of 25.5% of all Cape Town households live in these very needy and needy sub-places (6,78% of the population in the very needy and 18,7% in the needy).

¹³ The Census 2011 Socio-Economic Index was calculated using a combination of four separate indexes: a) The Census 2011 Household Services Index; b) The Census 2011 Education Index; c) The Census 2011 Housing Index; and d) The Census 2011 Economic Index. The Census 2011 Socio-Economic Index has been derived for households in all municipalities, wards and 2011 Census sub-places in the Western Cape. Areas of highest need can thus be identified for the Western Cape.

¹⁴ The majority (43,4%) of the sub-places in Cape Town were classified as good and 40,15% were classified as very good, if compared against the index figures for the rest of the Western Cape.



Map 2: 2014 Socio-Economic Index

2.4.5 Existing utilities infrastructure networks

The provision and maintenance of physical infrastructure and social amenities needs to respond to the formal and informal development patterns that have shaped Cape Town. Similarly, the provision of new infrastructure remains an immediate and direct mechanism that the City has available to direct the pace and direction of future growth. It is important to acknowledge deficiencies and deficits in the current networks and systems and to sequence the prioritisation of infrastructure programmes with the spatial and socio-economic priorities.

Diagram 15 illustrates the current infrastructure capacities associated with the sanitation, water, electrical and stormwater networks.

Equally important to a well-serviced and functional urban environment are the supporting social amenities and services that support the livelihoods and quality of life enjoyed by communities. Education and health-care facilities, libraries, fire and police services are all fundamental to the sustainability and livelihood of the City. These are addressed in specific policy statements in Technical Supplement A.



Diagram 14: Infrastructure capacity per utility service (source: MTIIF)

2.4.6 Existing transport network¹⁵

Transport routes act as a conduit for economic opportunities moving people, goods and services between land uses via land, sea and air. The City must consider travel demands and land uses in a comprehensive and integrated manner to provide a cost effective and efficient transport network. Given the spatial fragmentation and imbalance between land uses, historically, this has not been optimal.

The current transport infrastructure comprises an interconnected network of freeways and major arterials and rail facilitating national and regional and passenger and freight movements within and from the city. Cape Town International Airport and the Cape Town port facilitate international and domestic movements of cargo and passengers and are significant infrastructure resources that are supportive of Cape Town's different economic markets (Map 3).

This section provides a brief overview of transport networks that impact directly on spatial form. For a comprehensive overview of the various transport networks, routes with the highest amount of passengers, user experiences on different modes, cost and travel time, refer to the City of Cape Town's Comprehensive Integrated Transport Plan (<u>CITP</u>).

Air

Cape Town International Airport is an international hub which served more than 9.7 million passengers in 2015 (Cape Town International Airport, 2016). Over 50% of the country's air passengers pass through the airport making it Africa's third largest airport (Airports Company South Africa, 2016). Other airfields such as Ysterplaat Aerodrome and Fisantekraal Airfield are used for activities such a flight training (Cape Town Flight Training Centre, 2017).

Sea

There are various ports and harbours located along the coast of Cape Town. The City's main port, the Port of Cape Town, is located in Table Bay on one of the world's busiest trade routes and is a multipurpose terminal (MPT), trading with over 20 countries (Transnet Port Terminals, 2013). Currently, 95% of the freight arriving or leaving the port is road-based. The port also accommodates passenger and cruise ships arriving in Cape Town (CITP, 2017).

The port has recently completed the expansion of its container terminal to handle larger vessels and increase throughput capacity. Short term plans include a dedicated berth passenger terminal, the expansion of the landside area for ship repair and the development of 160ha of the Culemborg site for back-of-port commercial logistics. Medium term plans include expanding the container stacking seaward with additional berths in the Schoeman Basin and in the long term building an outer basin.

It is anticipated that the Port of Cape Town will continue in its existing role as primary container and general cargo port for the Western Cape region, with the Port of Saldanha Bay playing a complementary role as the region's primary dry and liquid bulk port. ¹⁶

Other harbours located in Cape Town are the Hout Bay Harbour and the Kalk Bay Harbour which combine working marine harbour activity and tourist attractions (Map 2.3).

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<sup>6</sup> Transnet National Ports Authority Port Development Framework Plans 2016
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¹⁵ Airports Company South Africa. 2016. Cape Town International Airport. Available: http://www.airports.co.za/airports/cape-town-international. [2017, June 26].

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flying.co.za/fisantekraal_airfield.php. [2017, June 26].

Cape Town Flight Training Centre. 2017. Fisantekraal Airfield. Available:

Cape Town International Airport. 2016. Guide to Cape Town Airport – CPT. Available: www.capetown-airpory.com [2017, June 26]. Transnet Port Terminals. 2013. Cape Town Terminal. Available: http://www.transnetportterminals.net/Ports/Pages/CapeTown_Multi.aspx. [2017, June 26]

Road

The national road system in Cape Town, namely the N1, N2 and N7 connects Cape Town to the rest of South Africa. The N1 originates in the city centre and extends towards the northern suburbs through Goodwood and Bellville. The N2 also originates in the city centre and extends eastwards towards Somerset West. Cape Town International Airport is accessible via the N2. The N7 extends to the north of Cape Town towards Malmesbury, and ultimately to the Namibian border.

Lower order arterials which contribute to the primary road system in Cape Town are the M3, M5, M7 and the R300. The M3 connects the upper part of the city centre to the southern suburbs. The M5 extends from north to south in order to connect Milnerton in the northern suburbs to Muizenberg in the southern suburbs. Also known as Jakes Gerwel Drive, the M7 creates a north-south link through the Cape Flats and ends at False Bay. The R300 connects Mitchells Plain in the south east with Kuils River and Bellville.

The M4, also known as the Main Road, runs from the southern suburbs to the city centre. This route is used by various users including public transport operators such as minibus taxis, the Golden Arrow Bus Service, and a planned MyCiTi service (Phase 2A).

The City's road network is shared by and supports various licensed public transport operators:

MyCiTi IRT service

Phase 1 of the MyCiTi service serves the West Coast along the R27 between Atlantis in the north, to the CBD and surrounding areas, and further south to Hout Bay (Map 3). Additional routes include a route along the N2 which runs from the Civic Centre to the Cape Town International Airport, as well as Khayelitsha and Mitchells Plain.

Phase 2A plans to extend services from Khayelitsha and Mitchells Plain through Philippi to Wynberg and Claremont.

Contracted bus

The Golden Arrow Bus Service (GABS) and Sibanye provide contracted bus services in the Cape Town area.

The GABS system includes 30 public transport facilities, with 21 located within public transport interchanges, while nine are stand alone.

Minibus taxi system

The minibus taxi system is an informal public transport system which operates in most South African cities. It includes various taxi operating companies, each of which manages their own fleet.

The minibus taxi system makes use of 120 official public transport facilities, of which 63 are within public transport interchanges, and 57 are stand alone. In addition, the system consists of 65 unofficial public transport facilities. Eleven of these facilities are located within public transport interchanges and 54 are stand alone.

Due to the flexibility and lack of official timetables for the minibus taxi system, evaluating the efficiency of the fleet is a unique challenge.

Rail

The passenger rail system in Cape Town consists of nine radial routes originating from the Cape Town station (IPTN, 2014). The network consists of 118 stations (CITP, 2017; IPTN, 2014). The five main passenger routes are the Southern Suburbs line, the Cape Flats Line, the Central Line, the Malmesbury Worcester Line and the Northern Line. The Malmesbury and Worcester lines have only a few train services per day (IPTN, 2014).

Cape Town requires 88 operational train sets to support its network. At August 2017 only 59 set were available. 52 of the 59 were running short. The average age of the fleet is over 40 years old. These factors have affected the punctuality and efficiency of the service which is further compromised by vandalism and theft. All of these issues have become more acute in Cape Town during the review of this MSDF and rail passenger numbers are estimated to have fallen a further 30% during this period. Inevitably, the vast majority of passengers have shifted to the road network leading to serious gridlock in the peak periods.¹⁷

Two major transport challenges face the city based on its existing network, affordability (to both households and service providers) and congestion.

Affordability and access to services

17% of the population of Cape Town fall into the non-motorised transport (NMT) user group. This means that over 500 000 people do not have access to any transport mode other than walking or cycling due to their income constraints.

The Transport Development Index (<u>TDI</u>) developed by the City demonstrates that 95% of public transport users are in the low to low-medium income groups. The largest priority cost for the low-income user group is the direct cost to public transport users who are located in peripheral locations, removed from economic and job opportunities.

The average direct transport cost for the low-income public transport user group is 45% of monthly household income, against the internationally accepted norm of between 5% and 10%

To support the existing private and public transport networks, the City has committed to an Integrated Public Transport Network (IPTN) premised on the MyCiTi network and an upgraded and expanded rail network.

Congestion

In 2013, the <u>TomTom global traffic index</u> suggested that Cape Town was the most congested city in South Africa, ranked 48th globally. The survey also revealed that motorists were spending an extra 35% of their time in traffic.

Congestion comes at a great cost to the sustainability and efficiency of the city, not only in terms of the economic and social costs of time and money lost, but also by generating pollution with its long-term effect on the environment.

¹⁷ CITP - 2017 - 2022



Map 3: 2014 Transport network (2017)

3 SPATIAL VISION AND CONCEPT

3.1 Spatially transforming Cape Town

Recognising the historical and regional context, legal and policy environment, guiding principles for development and the opportunities and constraints described in the preceding sections, this spatial vision has been formulated to support the City's spatial transformation objectives to better serve all citizens and businesses:

"The City is intent on building – in partnership with the private and public sector – a more inclusive, integrated and vibrant city that addresses the legacies of apartheid, rectifies existing imbalances in the distribution of different types of residential development, and avoids the creation of new structural imbalances in the delivery of services. Key to achieving this spatial transformation is transit-oriented development (TOD) and the densification and diversification of land uses."

A restructured urban form and functionality for Cape Town is premised on:

- Transit-Oriented development and land use intensification (i.e. diversification and densification) in and around the corridors, nodal points and transit precincts serviced by an existing and future public transport network and a prioritisation of development and investment to support this approach.
- Acknowledging inherent natural and manmade risks and development directives; and
- Preserving and enhancing the natural assets of the city.

This section primarily considers the first of these aspects, namely the future land use demand i.e. the land use estimates that the City is planning for between now and 2032, as the basis of land use intensification supportive of TOD and supported by an extensive and citywide Integrated Public Transport Network. This is to be structured around and within a spatial frame of development corridors and associated nodal development / transit accessible precincts and implemented via a deliberate and spatially-targeted investment approach to infrastructure provision.

3.2 Land use demand estimates

The City developed four Land Use Models between 2013 and 2015 which informed strategic initiatives including master planning of City utilities, the IPTN and the Medium Term Infrastructure Investment Framework (MTIIF).

Technical Supplement J explains the modelling departure points and high-level assumptions. The modelling assumptions differed for each scenario (for example land parcels' intensification levels). However, the land use quantum of projected demand has remained constant, based on anticipated population growth and derived values for the bulk of non-residential land uses. Diagram 16 illustrates the projected land use demand quantum for an estimated 20 years from 2012 which informed the scenarios and provides the policy direction within this MSDF.

Â	Dwelling units:	500 000	Residential
	Retail:	1 000 000 m ²	
	Office:	3 500 000 m²	Economic
R.	Industrial:	4 500 000 m ²	

	Baseline	2032	
	(estimated units /sq metres)	(projected units / sq metres)	
Residential	750 000 (formal units)	500 000	
Retail	7 500 000	1 000 000	
Office	6 175 000	3 500 000	
Industry	18 400 000	4 500 000	

Diagram 15: Projected additional land use quantum required for 20 years

The projected land use demand was then added to the base land use estimates resulting in four spatial scenarios of potential density and diversity. As transport cost and time increases with distance travelled, the third and fourth scenarios were heavily influenced and directed to promote land use intensification in areas with public transport accessibility.

Access to public transport and the optimisation of associated locational benefits, became fundamental to the restructuring and spatial transformational agenda in Cape Town. Council approved the Comprehensive TOD land use scenario in 2016 and the associated TOD Strategic Framework parallel to the City's Integrated Public Transport Network plan (IPTN, 2032, see Diagrams 17 and 18).

This forms the strategic and policy basis for Cape Town to transform the sprawling, predominantly low density, mono-use city form by reducing travel distances and increasing the efficiency of infrastructure networks to the benefit all residents, businesses and other role players in the city.

Diagrams 17 and 18 illustrate the difference between the base year and the optimised result of the comprehensive TOD land use scenario (base year plus TOD-located allocation of 20-year land use demand).

Technical Supplement C provides more details on where which type of land use should ideally be located to optimise density and diversity.



Diagram 16: Base estimates of current land use mix and intensity per Transport Analysis Zone

DEMAND

Following Transports optimisation process

Pie sizes depicts intensity of use (Largest pie = 24000 Ps + As) Pie split depicts diversity of use (Residential Vs Non residential)



Diagram 17: Existing and future land use mix and intensity per TAZ based on TOD C

3.3 Land use intensification premised on TOD

In order to address the City's fragmented spatial form and inefficiencies, harness potential, mitigate negative trends, and optimise scales of efficiency associated with the City's investment commitments it follows that property and development economics, land use, and transport must be considered in an integrated manner.

Land use scenario planning undertaken by the City has confirmed the mutually supportive relationship between land use and transportation and the importance of density and diversity within the City. This aligns with the following transformation objectives embedded in the City's IDP:

- A compact, dense, transit-oriented urban growth and development approach, connecting locations within the city through a high-quality public transport system.
- Integrating land use and transport in support of each other (and by so doing integrate communities and promote economic inclusion).
- Optimise resource use and user distance travelled, thereby improving operational sustainability.

Land use intensification implies a greater mix of residential and non-residential land use (diversification) through the increased use of space, both horizontally and vertically (densification).¹⁸

This can be achieved within existing areas or properties and new developments accompanied by an increased number of dwelling units and/ or population/ households (densification), in accessible, high-opportunity locations. Land use intensification should be encouraged in locations with good public transport accessibility, and also at concentrations of employment, commercial development, social amenities and civic functions, in order to generate the thresholds required to support a sustainable public transport system.

Transit-oriented development is the City's basis for land use intensification and targets higher-density, mixed land use development in close proximity to high-capacity, high-quality public transport.

TOD principles adopted by the City and fundamental to this MSDF are:

- Intensification (densification and diversification) of land uses prioritising higher density and a greater diversity of land uses within development corridors that include higher-order public transport routes with a particular focus on precincts associated with transit (Transit Accessible Precincts);
- Affordability reducing the costs (time and money) and distances of transport for commuters; and the operating costs incurred by the City and other service providers to provide public transport;
- Accessibility facilitating equal access to social and economic activity through strategicallylocated urban development and the provision of safe public transport, non-motorised transport infrastructure; and
- Efficiency providing an investment environment and differentiated levels of service that are conducive to and incentivises compact, inward urban growth and development.

¹⁸ Technical Supplements C and J contains information, extensive analysis, and mapping indicating the density and diversity associated with the City's Comprehensive Transit Oriented Development land use scenario.

3.4 Integrated Public Transport Network (IPTN)

The CITP provides the strategic and guiding framework within which the IPTN has been developed for 2032. It outlines the strategic approach to designing an integrated public transport network for Cape Town that:

- responds to the mobility needs of the future city;
- achieves an appropriate mix of modes; and
- provides a sustainable balance of adequate capacity and reduced travel time for all trips.

The IPTN encompasses the rail and road based modes as well as making proposals for improving nonmotorised transport access and park-and-ride facilities at modal interchanges. It determines which modes are best suited to cater for the existing and future public transport demand, route descriptions and modal interchanges, station and stop locations, system operational parameters, infrastructure needs and estimates of total system costs.

The long-term network plan indicates prioritised public transport corridors for implementation according to available funding.

The public transport routes, as defined in the approved IPTN 2032, consist of the existing rail network and the planned Blue Downs rail link, the extension of the Strand line as shown in Diagrams 19 and 20 and the existing and planned BRT trunk routes.

This is to be supported by a network of feeder routes (included at an indicative level only in the IPTN).

3.5 Development corridors, nodes and Transit Accessible Precincts

Development corridors are broadly defined as urban areas of high-intensity (i.e. dense and diverse) nodal or 'strip' development focussed around (a combination of) rail, high-capacity road and trunk bus routes. They are characterised by a dynamic, mutually supporting relationship between land use and the movement system.

Development corridors are generally supported by a hierarchy of transport services that function as an integrated system to facilitate ease of movement for private and public transport users. Corridor development is focused predominantly on routes serviced by mass rapid public transport services (i.e. rail or bus rapid transport (BRT) trunks). However, the routes may serve different functions, with some routes combining route functionality in terms of accessibility and mobility. The concentration of intense bands of high-intensity urban development reduces overall trip lengths and improves access to opportunities, offering a means of conveniently integrating communities with service provision, and fulfilling a range of economic and social needs.

Historically, the nodes acted as the catalyst followed by infill development between these nodal points. However, corridors do not necessarily comprise 'wall-to-wall' development and mixed land uses; the form, scale and intensity of land use and associated nodes along the corridor may vary over short distances.

The combined operational capacity of the public and private transportation system supports a mix of land uses (diversity), and enables the development of medium and high levels of efficiency and effectiveness.

The nodes and corridors that form the basis of the spatial form and structure of the city and support land use intensification areas and the TOD principles on a citywide scale are considered in Technical Supplement H and Diagram 21. In addition to the corridors and nodes the importance of Cape Town's 98 rail stations and 42 BRT stations to land use intensification based on TOD principles is also integral to the approach. Areas within a 500 metre walking distance of rail and BRT stations and certain higher order stops are referred to as Transit-Accessible Precincts (TAPs) (Diagram 22).

Depending on the land use intensity (density and diversity) of surrounding land, TAPs can act as generator or attractor (or both) of people / trips. By facilitating an optimised distribution of land use intensity across the city, a movement pattern can potentially be encouraged that systematically improves the sustainability of the public transport network. Scale is important, again, recognising that TAPs can form part of a node, but do not always constitute a conventional node without the supporting generative and attractive force of land uses surrounding it. TAPs could, however, be constructed in strategic areas to incentivise development and by so doing create new or support emerging nodes.

The relative importance of TAPs differs based on:

- Station status: station exists or station is proposed;
- Network status: the network/ route exists or is proposed;
- Connectivity: travel time to other locations;
- Mode capacity: the capacity/ level of service of the individual transport modes (rail, BRT trunk, BRT feeder) found at the station;
- Station capacity: the combination of transport modes at the station, e.g. a confluence of rail lines, rail stations, BRT stations, public transport interchanges, feeder services; and
- Accessibility: the number of people residing or working within the TAP.

TAPS are important spatial restructuring elements. Density and diversity targets from the TOD C land use scenario will be applied to work towards an optimised and desired end-state. These targets and objectives may be supported by future overlay zones designed to incentivise developments in the TAPs.

A number of these TAPs are already demarcated as Public Transport (PT) Zones and are included as an overlay zone in the Development Management Scheme (Diagram 22). PT Zones have reduced requirements for on-site parking as a measure to promote densification in areas with access to good quality public transport (i.e. within walking distance from stations). Park-and-ride facilities must be provided at high-order stations in order to make public transport more accessible and competitive with private transport.



Diagram 18: Integrated Public Transportation Network (2032)



Diagram 19: Future BRT trunk routes







Diagram 21: TAPs shown in relation to the existing and planned IPTN (2032)

3.6 Infrastructure capacity, renewal and provision

Optimising existing infrastructure and prioritising the planning and implementation of infrastructure maintenance, renewal and expansion is fundamental to the City achieving its spatial vision of a restructured urban form.

Notwithstanding the challenges of supply (most recently experienced with energy and water) the future design capacity of infrastructure networks will impact directly on the pace and sequencing of future development.

The City's approach to infrastructure backlogs and future projected needs has an immediate and direct impact on the future direction and pace of growth and development. Investment in reservoirs, sub-stations, waste water treatment works etc. needs to be supported and aligned with supporting infrastructure investment from other state partners including rail, education, and health facilities.

It is imperative to base investment decisions and approvals on an understanding of city-wide infrastructure backlog, capacity and costs by:

- improving and aligning the sequencing of infrastructure capacities in line with projected land use intensification;
- ensuring consistency in decision-making with the spatial policy directives to ensure that the return on the City and state's investment in infrastructure is realised;
- considering differentiated approaches to financial and regulatory aspects of development approvals and property value chain (e.g. tariffs and rateable value) dependent on the prioritisation; and
- developing and utilising analytical tools developed to assist in developing spatial and financial perspectives on existing and projected infrastructure capacity and costs.

4 DIRECTING SPATIAL TRANSFORMATION

"Government has to be willing to prioritise. Senior public officials should focus most of their attention on a few strategic priorities." National Development Plan

4.1 Rationale for spatial transformation areas

The City is challenged in an era of spatial, economic and fiscal consolidation characterised by an increasing reliance on informality as well as vulnerability to environmental stresses and shocks. Accordingly, it must focus resources inwards in support of intensification and prioritise investment in favour of sustainable job-generating economic growth over the medium-term.

This objective is a precondition to the realisation of all other spatial development goals including poverty reduction and social mobility, improving spatial equity and accessibility, decreasing carbon emissions and enhancing environmental protection and resource efficiency.

The previous chapter identified strategies and sub-strategies that require the transformation of the apartheid city as well as addressing spatial economic imbalances. The vision articulated in this chapter recognises that achieving spatial transformation will require an intensification of land uses in areas supportive of transit-oriented development.

A new spatial transformation agenda has emerged in the planning legislation and the City has recommitted to spatial transformation in the IDP. More specifically, the City is committed to "employing a range of new generation urban growth management tools and processes" and considering "the designation of priority areas, managed growth areas and protection areas with associated development parameters and procedural guidelines".

Spatial transformation is based on reversing the impact of apartheid spatial planning by creating more opportunities for more people in highly connected areas. Further, it seeks to counter the creation of new low-income communities on the periphery of the city and the need for the poor to spend a disproportionate amount of their income on transport.

The basis for growth management in the City is established via four primary Spatial Transformation Areas (STAs) and four localised 'unique' areas namely:

- An Urban Inner Core (estimated 17% of geographic area of the City) UIC;
- Incremental Growth and Consolidation Areas¹⁹ (20%) IGA;
- Discouraged Growth Areas (28%) DGA;
- Critical Natural Areas (34%) CNA
- Unique Cases: Atlantis, Paardevlei, Philippi Agricultural Areas (PHA) and Swartklip.

The informants and development outcomes of the STAs are outlined in Table 3. The spatial demarcation, based on a 4-hectare grid delineation of each STA is illustrated in Map 4.

Significantly, previous CTSDF assumptions about long-term growth along the northern growth corridors are no longer part of the long term growth vision of the City and the identification of the UIC and IGAs are informed by and aligned to the policy shift towards the inward growth, spatial transformation directives of the IDP and is largely reflective of the existing built urban footprint.

¹⁹ "Urban Inner Core" represents "Priority Areas" and "Incremental Growth and Consolidation Areas" represents "Managed Growth Areas" as referred to in the IDP.

There are a number of areas on the northern fringe of the City where certain land parcels previously designated as "urban" and within the previously defined urban edge in the 2012 CTSDF are now designated within the DGA. This is largely due to the current absence, and immediate non-availability, of adequate bulk infrastructure and due to the future prioritisation of the provision of infrastructure in existing built up areas²⁰. Other changes relate to technical amendments and minor updates informed by extensive discussions with the District Planning offices.

The STAs have been conceptualised to provide the basis for:

- responding to the IDP directive to consider a range of tools and processes and differentiated priority areas;
- prioritising public investment and incentivising private sector investment within an Urban Inner Core;
- informing the revision of more detailed and locally informed district and local plans;
- assisting in determining in-principle support for development proposals;
- supporting short, medium and longer-term infrastructure provision particularly where infrastructure deficits inhibit development within an Urban Inner Core;
- supporting land use intensification premised on TOD principles outlined in the preceding chapter;
- enhanced capital budget prioritisation and grant funding alignment across sectors and spheres;
- supporting and guiding the City's land acquisition and disposal strategies;
- a spatial rating system to evaluate human settlement programmes and prospective land acquisitions in support of the Integrated Human Settlement Framework; and
- spatial monitoring and evaluation reporting in support of the MSDF implementation.

²⁰ These changes will not affect existing land use rights.



Map 4: Spatial Transformation Area

SPATIAL TRANSFORMATION AREAS

6 A N I	CODE
BAN	
	CONL.

PRINCIPLE	INVESTMENT PARTNERSHIP	INFORMANT	EMPHASIS / DESIRED SPATIAL OUTCOMES
City is committed to spatially targeting investment and development to spatially transform and integrate city form.	City Investment Priority and Areas of 'co- investment'	 Transit-oriented Areas Majority of Transit Accessible Precincts / PT Zones Primary structuring elements = corridor structure as per revised SDF (incl. IPTN) Majority of areas identified in TOD C land use modelling for land use intensification (i.e. increased density and / or diversification) Four of the five priority TOD projects and both provincial TOD projects 	 Inward growth and connectivity (city, regional, national and international). Diversification and densification of land use to support the objectives and aspirations of TOD Comprehensive modelling. Leverage TOD opportunities via integration, density, mixed use development and intermodal interchange upgrades.
		 Need Full extent of current Urban Development Zone Majority of 'very needy' communities as identified in Socio-Economic Index Incremental human settlement initiatives²¹ 	 Service upgrading, local economic development and poverty alleviation. Facilitation of a range of human settlement interventions (delivery methods, partnerships, typologies etc.). Extension of effective urban management practices and programmes. Unlocking development of large-scale economic opportunities within close proximity to areas of social need.

²¹ Informal settlements confirmed for permanent upgrading in the IDP and Human Settlements Plan. Recognising the need to absorb urbanisation in the context of an inward growth aspiration and the ability of informal markets to respond to this need, informal settlements recognised as suitable to be developed for permanent habitation in terms of the IDP and Human Settlements Plan will be deemed to be included in the Urban Inner Core. Human settlements projects in construction phase as of May 2017 will also be deemed to be included in the Incremental Growth and Consolidation Areas. Grant spending on human settlements projects that are not yet in construction phase and outside the Urban Inner Core should be re-evaluated in context with the MSDF investment rationale, and subject to land and infrastructure availability.

		 Economic potential areas and public sector investment Majority of commercial and industrial nodes Airport / ports and primary freight infrastructure 3 Integration Zones (Blue Downs/ Symphony Way, Metro South-East, Voortrekker Road) Phase 2A implementation of MyCiTi / IPTN Blue Downs passenger rail link extension 	 Maximising economic potential and job creation. Supporting regeneration of underperforming inner city business areas, with special focus on area-based urban management. Support continued inward investment in well-performing areas through partnership-based funding arrangements. Improving access to well-performing nodes through investment in connective infrastructure. Extension of effective urban management practice and incentives to areas of opportunity (underperforming, high-potential areas).
INCREMENTAL GROWTH A	ND CONSOLIDATION AREA	S	
PRINCIPLE	INVESTMENT PARTNERSHIP	INFORMANT	EMPHASIS / DESIRED SPATIAL OUTCOMES
City is committed to	Maintenance and		
communities.	upgrading focus for the City. New	Existing built tootprint of the city and approved land use rights	 Current social infrastructure backlogs, operational deficiencies and needs addressed. Diversification of mono-use residential patterns.

DISCOURAGED GROWTH AREAS				
PRINCIPLE	INVESTMENT PARTNERSHIP	INFORMANT	EMPHASIS / DESIRED SPATIAL OUTCOME	
No investment from City.	In event of development approval investment in opex and capx to be self funded.	 Protection of agricultural / natural assets Lack of social and physical infrastructure Beyond City 20-year investment horizon i.e. not included in modelling, costing, budgeting, infrastructure planning Financial sustainability of City and investment rationale From a City perspective these areas would not contribute immediately to spatial transformation agenda or the inward growth / TOD premise 	 No development except that permitted in respect of existing agricultural / rural zoning. Should decision-making authority grant rights²², developers must comply with the following principles: The public sector will not invest or utilise any grant funding in Discouraged Growth Areas during the first 20 years of operation. The developer will carry all costs related to the provision of required services in these areas (both capital and operating costs). The public sector will hold the developer to stringent requirements in order to minimize the risk of the developer defaulting on servicing responsibilities. The developer needs to demonstrate how the development will contribute to spatial transformation within the development proposal.²³ 	

²² Note that this cannot occur prior to the approval and implementation of the required financial and legal mechanisms in order to make compliance with the extraordinary conditions of approval possible.

²³ Whilst the burden is on the developer to illustrate a direct contribution to spatial transformation via the proposed development the following is not deemed to be supportive of spatial transformation: i) exclusive residential estates (by virtue of their rates contribution to the City enabling cross-subsidisation) ii) any financial contribution to a community or cause that is not on their site iii) the provision of employment for domestic workers or the provision of farmworker accommodation.

CRITICAL NATURAL ASSETS					
PRINCIPLE	INVESTMENT PARTNERSHIP	INFORMANT	EMPHASIS / DESIRED SPATIAL OUTCOMES		
City is committed to servicing, protecting, enhancing and extending critical natural assets.	Invest in protection of natural assets.	 Protected Areas (in perpetuity) and proclaimed under various forms of legislation, i.e. a) Proclaimed Areas under NEM: PAA b) Reserves proclaimed under the Western Cape Nature Conservation Ordinance Areas protected / conserved via Stewardship/ Biodiversity Contractual Agreements for mostly privately owned land in association with Cape Nature with a 30-50 year protection implication. Protected Areas in process of proclamation or contractual agreements Conservation Areas Critical Biodiversity Areas (CBA1): e.g. those parcels larger than 50 hectares Philippi Farming Area as delineated in Annexure for Unique Cases 	Limited to tourism-related development, provided it does not compromise integrity of asset.		

Table 3: Spatial Transformation Areas: informants and outcomes

4.2 Unique cases

The identification of the Spatial Transformation Areas follows a spatial logic and public sector investment logic underpinned by city-wide opportunity and need. It is however, recognised that these categorisations, at a metropolitan-scale, are not capable of resolving land use conflicts in certain areas where a more nuanced approach is required.

Four unique cases have been identified where the spatial transformation categorisation does not immediately reflect the intent of the SDF. The merit of each unique case is motivated in Annexure B and guidelines provided.

4.3 Investment partnerships to achieve spatial transformation

The City's spatial transformation agenda cannot be achieved without buy-in and cooperation from the private sector and other public sector. Coordination of public sector investment is also a legislative requirement and a prerequisite from National Treasury for accessing conditional grants such as the Urban Settlement Development Grant (USDG) and Integrated City Development Grant (ICDG) that support the City's investment programme.

Table 5 indicates the various partnerships the City will form in different areas, and how the City's spending will strengthen the principles of fiscal prudence and prioritise spatial transformation.

Table 4: Investment partnerships for spatial transformation

STA	INVESTMENT PARTNERSHIP	CITY CAPEX	CITY OPEX	GRANT AVAILABILITY	PRIVATE SECTOR
Urban Inner Core (UIC)	City investment priority. Areas of co-investment between public and private sector (development charges + City budget allocations cover capital cost of infrastructure)	Priority	Priority	Full suite of grant funding supported and Restructuring Zone priority area Incl. Integrated City Development grant associated with Integration Zones	Development incentivised.
Incremental Growth and Consolidation (IGC)	Maintenance and upgrading focus for the City Areas of co-investment between public and private sector (development charges + City budget allocations cover capital cost of infrastructure)	Priority when serving existing development / communities. Subject to capacity or existing inclusion in utilities master planning when serving proposed development.	Priority	Full suite of grant funding supported Restructuring Zone where aligned to TOD imperatives	Development permitted subject to capacity. Limited incentives.
Discouraged Growth Area (DGA)	Privately funded areas. City will not co-finance any infrastructure and private sector payments would be greater than conventional development charges	Zero	Zero	No grant utilisation permitted	Zero incentives for development. Self-funded and subject to extraordinary conditions of approval ²⁴
Critical Natural Areas (CNA)	Partnerships based on protecting asset	Focused on enhancement , expansion an increasing accessibility of assets	To maintain asset	n/a	Limited tourism-related development opportunities that does not compromise asset.
Unique	Subject to local arrangements	May be high	May be high	Based on local context	Incentives may be applicable.

²⁴ These conditions will ensure that the City will not carry risk and cost as a result of developments in these areas. These costs needs to cover the capital and operating expenditure associated with the development (including the provision of services that the City is legally mandated to provide such as emergency services). Furthermore, financial guarantees will be required to ensure that risk associated with the development is not transferred to the public sector.

5 THE SPATIAL DEVELOPMENT FRAMEWORK

This chapter describes the strategies and policies in support of the spatial vision and concept described in the preceding sections. It culminates in a coherent spatial plan to guide and direct decision-making that is binding on the City.

The elements of the chapter are based on:

- Three spatial strategies drawn from the IDP and associated sectoral and spatial policy statements;
- Development directives: environmental, resource, heritage and risk related spatial aspects ordinarily governed by additional or parallel regulatory processes beyond those associated with land use process and applications made via the MPB-L.
- Conceptual designation associated with the Spatial Development Framework (Map 5)
- A series of maps that collectively indicate a metropolitan-scale interpretation of the City's spatial vision, development directives, land use informants and investment priority areas.

Collectively these components provide direction for strategic developments and infrastructure investment and seek to promote a rational and predictable land development environment (SPLUMA \$12(1)(I)). In addition, they provide the basis for a more detailed review of existing district and local plans.

5.1 Spatial strategies

The spatial strategies incorporated in the IDP are:

- Spatial strategy 1: Build an inclusive, integrated, vibrant city.
- Spatial strategy 2: Manage urban growth, and create a balance between urban development and environmental protection.
- Spatial strategy 3: Plan for employment, and improve access to economic opportunities.

Collectively, they provide the spatial direction that:

- establishes a corporate spatial perspective which informs the review of sector and lower-order spatial plans;
- informs submissions and motivations for development proposals and applications from the public and private sector; and
- directly affects the assessment of applications under delegation or via the Municipal Planning Tribunal.

A comprehensive list of policies associated with these three strategies is included in Technical Supplement A. The sub-strategies are summarised in Tables 6, 7 and 8.

5.1.1 Spatial strategy 1: Building an inclusive, integrated, vibrant city

The City is intent on building a more inclusive, integrated and vibrant city that addresses the legacies of apartheid.

Key commitments are to address existing imbalances in the distribution of different types of residential development and avoid the creation of new structural imbalances in the delivery of services. The desired outcomes are a greater mix of income groups, land uses, population density, and the adequate and equitable provision of social facilities, recreational spaces and public institutions.

Imperatives for this spatial strategy are:

- transforming informal settlements into economically and socially integrated neighbourhoods;
- forging public-private partnerships to provide and diversify integrated housing delivery;
- identifying, conserving and managing the heritage resources, cultural landscapes, scenic routes and destination places fundamental to Cape Town's unique sense of place in line with legal requirements, including those of the National Heritage Resources Act;
- celebrating Cape Town's diverse historical legacies through appropriate management of urban form, architectural design, signage and artwork, and the various land use management tools provided for in the Development Management Scheme;
- maintaining and creating quality, safe open space systems and public spaces, utilising
 partnerships and commitments from both the public and private sector to optimise existing
 facilities, whilst strategically locating new ones; and
- planning and managing collaboratively in creative and innovative management arrangements to ensure operational sustainability and reduce operational costs.

5.1.2 Spatial strategy 2: Manage urban growth, and create a balance between urban development and environmental protection

The City actively promotes an urban form with higher densities and mixed land use patterns within an urban inner core, supported by an extensive and efficient bus rapid transit (BRT) and rail network. Through this form, it wants to achieve developmental outcomes such as more sustainable use of land and natural resources, lower carbon emissions, more efficient use of infrastructure; effective and efficient public transport systems and social amenities.

Imperatives for this spatial strategy are:

- making more efficient use of non-renewable resources, such as land, water and biodiversity, including protecting and maintaining existing surface and groundwater resources and sustainably managing existing and future water supplies;
- using the natural environment to support spatial justice by enhancing access for all citizens to a quality open space network, offering community, recreational, non-motorised transport and economic opportunities;
- avoiding or appropriately managing any negative development impact on natural resources, considering their finite nature and the costs relating to rehabilitating or mitigating degraded natural areas;
- taking into account biodiversity, aquatic resources and networks as well as agricultural areas when planning new development; and
- actively pursuing national biodiversity targets as well as those identified in the City's Bioregional Plan.

5.1.3 Spatial strategy 3: Plan for employment, and improve access to economic opportunities

Cape Town's current and future spatial form and function supports or inhibits the city's immediate and longer-term economic prospects. The extent to which Cape Town realises its spatial development goals is directly linked to its ability to sustain employment-generating economic growth in the medium term and to reduce accessibility costs for the urban poor.

Imperatives for this spatial strategy are:

- establishing and maintaining a liveable, vibrant and productive urban environment through effective urban management and the facilitation of integrated transport and land use;
- creating and attracting 'job-rich' investment that will ensure integrated, sustainable communities by providing new and maintaining existing infrastructure.
- providing services aimed at promoting social cohesion and enhancing social mobility in identified areas in greatest need;
- facilitating economic growth and responding appropriately to the spatial needs of the economic sectors that are attracted to and operate in Cape Town

- prioritising investment in the improvement of public transport systems and linkages to facilitate more convenient and affordable access to employment opportunities, natural resources and social amenities;
- diversifying the travel flows between single-use or higher-density residential developments and social amenities such as schools, which generate large volumes of single-direction movement in peak hours, inter alia by providing optimally located economic development opportunities; and
- augmenting existing infrastructure such as Cape Town's airport, port, transport and logistics systems, with the continued roll-out of broadband networks to enhance the digital connectivity of the city, the MyCiTi bus rapid transit system and the planned Blue Downs rail extension.

SPATIAL STRATEGY 1: BUILDI						
SUB-STRATEGY	POLICY NO.	POLICY STATEMENT	UIC	IGC	DGA	CNA
Encourage integrated	P1	Support the intensification and diversification of land use in areas supportive of transit-oriented development	\checkmark	\triangleleft		
settlement patterns	P2	Ensure that development proposals provide an adequate and equitable distribution of social facilities, recreational space and public institutions.	\checkmark	\checkmark		
	P3	Redress existing imbalances in the distribution of different types of residential development, and actively pursue integration outcomes in future decision-making.	\checkmark	\triangleleft		
Transform the apartheid city	P4	Transform marginalised areas and informal settlements into economically and socially integrated neighbourhoods.	\checkmark	\checkmark		
	P5	Encourage public/private partnerships to develop integrated human settlements and diversify housing delivery.	\checkmark	\checkmark		
Support incremental P6		Support incremental housing delivery methods and tenure in support of a single property market.	\checkmark	\checkmark		
development processes	P7	Respond to informality by proactively addressing current regulatory challenges.	\checkmark	\checkmark		
Address spatial	P8	Unlock employment-generating and livelihood opportunities within the city's marginalised areas.	\checkmark	\checkmark		
economic imbalances.	P9	Support private sector development initiatives in Integration Zones and areas of economic potential that are easily accessible from the city's marginalised areas.	\checkmark	Ø		
Proactively support publicly-led land reform and new housing delivery	P10	Identify land for land reform and publicly-led housing delivery programmes.	\ll	Ø		
Enhance the unique sense of place and quality of the built form of Cape Town	P11	omote quality urban design and contextual fit. \checkmark		~		
Enhance the value of	P12	Identify, conserve and manage heritage resources, including cultural landscapes.	\checkmark	\checkmark	\checkmark	\checkmark
heritage resources and P13 Ensure access to and provide information about public heritage resources.				\checkmark	\checkmark	\checkmark

Table 5: Spatial strategy 1: sub-strategies and policy statements

SPATIAL STRATEGY 1: BUILDING AN INCLUSIVE, INTEGRATED, VIBRANT CITY					APPLICABILITY IN STA			
SUB-STRATEGY	POLICY NO.	POLICY STATEMENT	UIC	IGC	DGA	CNA		
scenic routes	P14	reate an enabling environment for urban regeneration that allows buildings and es of historical and architectural significance to make a positive contribution to e economy and quality of urban life.		Ø				
P15Celebrate Cape Town's diverse historical legacies through urban form, architectural design, interpretive / information signage and, where appropriate, artwork.P16Provide positive spaces for cultural and social ceremonies and life-related events.P17Carefully manage land uses and interventions along identified scenic routes, and in places of scenic and visual quality.		\checkmark	\triangleleft	\checkmark	\checkmark			
		Provide positive spaces for cultural and social ceremonies and life-related events.	\checkmark	\checkmark	\checkmark	\checkmark		
		Carefully manage land uses and interventions along identified scenic routes, and in places of scenic and visual quality.	\checkmark	\triangleleft	\checkmark	\checkmark		
Promote accessible, citywide destination places	P18	Provide efficient access to destination places where potential exists, especially in or near areas of high social need.	\checkmark	~				

Table 6: Spatial strategy 2: sub-strategies and policy statements

SPATIAL STRATEGY 2: MANA AND ENVIRONMENTAL PRO	APPLICABILITY IN STA					
SUB-STRATEGY	POLICY NO.	POLICY STATEMENT	UIC	IGC	DGA	CNA
Encourage a more compact form of development	P19	Promote appropriate land use intensity.	\checkmark	<i></i>		
Make efficient use of non-renewable resources	P20	Enable resource efficient development.	\checkmark	✓		
Appropriately protect the	P21	Direct urban growth away from risk areas/activities.	\checkmark	\checkmark	\checkmark	\checkmark
citizens of Cape Town from risk areas/ activities/events	P22	Discourage urban growth in areas at risk from natural hazards/coastal processes which are expected to be amplified by climate change impacts.			V	\checkmark
Appropriately manage the development impacts on natural resources and critical biodiversity networks	P23	Increase efforts to protect and enhance biodiversity networks at all levels of government.			\checkmark	\checkmark
	P24	Reduce the impact of urban development on river systems, wetlands, aquifers, aquifer recharge areas and discharge areas.	\triangleleft	\checkmark	\checkmark	\checkmark
	P25	Promote risk averse and sustainable urban development along the coast.			\triangleleft	\checkmark
	P26	Protect valuable agricultural areas, viable farmed areas and horticultural areas from urban encroachment, and support urban agriculture.		\checkmark	\checkmark	\triangleleft

SPATIAL STRATEGY 2: MANA AND ENVIRONMENTAL PRO						
SUB-STRATEGY	POLICY NO.	POLICY STATEMENT	UIC	IGC	DGA	CNA
	P27	Adopt a proactive planning approach to mining resource management.			\checkmark	
Protect and enhance the P28		Support appropriate development and activities in rural areas, and in and around unique and culturally significant rural settlements.			\checkmark	
city's rural environment	P29	Rationalise and proactively manage smallholdings.			\checkmark	

Table 7: Spatial strategy 3: sub-strategies and policy statements

SPATIAL STRATEGY 3: PLAN F	APPLICABILITY IN STA					
SUB-STRATEGY	POLICY	POLICY STATEMENT	UIC	IGC	DGA	CNA
	P30	Support investors through improved information, cross-sectoral planning and the removal of red tape.	Ø			
Promote inclusive, shared	P31	Introduce land use policies and mechanisms that will support the development of small businesses (both informal and formal).	~	~		
economic growth and development	P32	Strengthen and improve access to existing business nodes through area-based interventions which are geared towards local assets and constraints.	\checkmark	\triangleleft		
	P33	Encourage uptake of available incentives to encourage investment in the Urban Inner Core.	\checkmark			
	P34	Promote regional economic planning.	\checkmark	\checkmark		
	P35	Maintain, improve and expand an integrated public transport service informed by the transport network.	~			
Integrate land use,	P36	Ensure that new urban development is supported by appropriate public transport infrastructure and services.	~	~		
economic and transport	P37	Include walking and cycling as essential components of land use planning.	\checkmark	\checkmark		
sustainable operation of	P38	Review parking policies to encourage use of the most context-specific and appropriate modal travel choice.	~	\checkmark		
	P39	Reinforce and enhance metropolitan development corridors.	\checkmark			
	P40	Encourage medium-higher density forms of urban development to locate on bus, rail or intermodal stations as well as along corridors and in nodes.	Ø			
Support the development of economic gateways,	P41	Support the complementary development of the area surrounding CTIA airport in order to further leverage its benefits and opportunities.	\triangleleft			
and manage land uses around them appropriately.	P42	Create and manage a functional interface between ports/harbours.	\triangleleft	\checkmark		

5.2 Development directives

Cape Town's biophysical assets and destination places are identified as structuring elements of the existing and future urban form in section 2.4.

SPLUMA, NEMA and the City's Environmental Strategy collectively provide a basis to protect and enhance the city's biophysical and social and aesthetic assets in order to sustain the economy, create liveable urban environments and build resilience.

The following development directives (Table 8) based on environmental, risk and social factors are likely to impact on the development potential of sites and may trigger additional legislative processes.

Accordingly, the following spatial and policy aspects should be considered in early deliberations of development proposals and in the assessment of proposals irrespective of the conceptual designations outlined in Map 5d:

- coastal edge;
- protected environmental / marine areas, wetlands;
- areas of risk aviation related activity, utility services buffers / safety zones / flood and fire hazard;
- high potential and/or unique agricultural land and aquifers; and
- heritage resources and aesthetic, social assets (e.g. parks, public open space).

In assessing a proposal / application within the context of these development directives, the applicant and/ or assessor will demonstrate that cognisance has been given to adopted environmental management instruments and to the protection of agricultural resources (SPLUMA \$12(1)(j-n)).

To avoid duplication of processes and delay, development proposals will not be deemed immediately inconsistent with the MSDF if they are impacted by one or more of these aspects i.e. Maps 5a, b, c within this chapter will not need to be pro-actively amended to ratify/amend a detailed classification. The final determination of proposals will be informed by the outcome of the legal / technical process (associated with a standard operating procedure).

NB: Exceptions in Table 8 relate to cases where a policy position has been established in favour of a specific form or type of development, but where such a policy position cannot currently be reflected in maps based on:

- The policy position still being subject to / affected by a process that is required to conclude before making a final recommendation in terms of footprint or nature of the area of relevance;
- insufficient information available to delineate a suitable development footprint (even at 4 ha grid scale)
- based on specific conditionalities that would only apply in very specific circumstances, such as support for pre-specified land uses that can address unique and urgent needs in the City by virtue of compliance with other policy documents and IDP objectives.

The operating cost of infrastructure supporting exceptions are paid for by the City (as in the case of Incremental Growth and Consolidation areas).

Table 8: Development directives



DEVELOPMENT DIRECTIVES: ENVIRONMENT

ENVIRONMENTAL SUBTHEME	LAWS / POLICY	AUTHORITY	PRINCIPLE THAT APPLIES WHEN CONSIDERING ALLOCATION OF DEVELOPMENT RIGHTS	EXCEPTIONS
Coastal Edge Maps 5a, b and d	Integrated Coastal Management policy and Climate Change Policy (draft), Coastal Economic and Spatial Strategic Framework (draft) and Coastal Management Bylaw (draft).	CCT	Urban development is precluded on the seaward side of the declared coastal edge. Where the coastal edge has been defined to buffer infrastructure against the impacts of coastal processes and to protect coastal ecosystems, it should not be amended. Where development abuts the landward side of the coastal edge but which is at risk to coastal processes, coastal overlay zones must be developed and applied to these areas.	The coastal edge has made provision for development opportunities at strategically located identified coastal nodes such as Silwerboomstrand, Strandfontein, Mnandi, Monwabisi and Kapteinsklip. Provision is made for the refinement of the coastal edge in these areas once feasibility studies have been undertaken. A number of recreational destination areas within intensive urban areas of high economic value include significant areas seaward of the coastal edge. These areas should remain as primarily recreational areas, but need substantial upgrade to meet changing recreational needs. Provision is made for the refinement of the coastal edge in these areas once feasibility studies have been undertaken or the outcome of current processes are finalised.
Biodiversity Network	NEMA Bioregional Plan	DEADP PGWC	As a general guideline, where the protected areas have been accurately delineated to protect natural resources (core bioregional spatial planning categories), development should not be considered.	Airport: Note existing Memorandum of Understanding that requires the City and ACSA to negotiate biodiversity offsets around the airport to enable the realignment of the main runway. The Environmental Authorisation for the new realigned runway has been issued. Hindle Road / R300: Given the socio-economic need, the management of biodiversity assets in the Metro South-East requires a pragmatic approach. In the absence of clarity on whether the Swartklip site will play a biodiversity offset role, this site (currently designated as Core 1) is identified as being strategically located for



DEVELOPMENT DIRECTIVES: ENVIRONMENT

ENVIRONMENTAL SUBTHEME	LAWS / POLICY	AUTHORITY	PRINCIPLE THAT APPLIES WHEN CONSIDERING ALLOCATION OF DEVELOPMENT RIGHTS	EXCEPTIONS
				employment-generating land uses and serving an integration role between communities. Trade-offs with the adjacent nature reserve will need to be negotiated.
				Botfontein Smallholdings: Employment-generating land uses in the Botfontein Smallholdings area that are compliant with the existing guidelines provided in the Northern District Plan will be supported.
				R304 Atlantis: Land uses in line with the provisions of the Klein Dassenberg Smallholdings Development Framework along the eastern edge of the R304 will be supported.
				Macassar Dunes mining area: Given this site's location between areas of need and the anticipated growth in government-subsidised housing opportunities in the broader area, the development of employment- generating land uses would be supported.
				Swartklip: The site has potential as both a strategically located site for non-residential development and as a biodiversity area that is managed and that could be used for offsets to unlock other areas for development in the Metro South-East. Spatial planning categories will be reviewed following more detailed studies by ACSA and the City.



DEVELOPMENT DIRECTIVES: ENVIRONMENT

ENVIRONMENTAL SUBTHEME	LAWS / POLICY	AUTHORITY	PRINCIPLE THAT APPLIES WHEN CONSIDERING ALLOCATION OF DEVELOPMENT RIGHTS	EXCEPTIONS
Agricultural Areas of Significance (i.e. High-potential and / or unique agricultural land) Map 5c:	Act 70 of 70 and Draft Policy and Bill on Preservation and Development of Agricultural Land 2016	National Department of Agriculture PGWC DEADP	The existence of soils with low agricultural potential is not sufficient reason to consider allocating urban development rights. In the case of a specific crop failure, consideration should be given to the potential for other crops.	Jacobsdal / Polkadraai: In context of the existing and future broader employment demands in the Metro South-East, this site is identified as a strategic site for employment-generating land uses, especially given the industrial agglomeration effect of Saxenburg 1 and 2. Further detailed studies and engagement with the Department of Agriculture will be required.
				Fisantekraal and surrounds: Given existing land use disturbances in the area and the agglomeration effect of Fisantekraal Industrial, the Department of Agriculture has confirmed that certain sites in this vicinity are no longer of agricultural significance. Whilst cognisant of the operating cost of infrastructure in this location, it should be noted that there are a number of existing and planned government-subsidised housing sites in the vicinity. Consideration would therefore be given to employment-generating land uses. Botfontein smallholdings: Employment-generating land uses in the Botfontein smallholdings area that are compliant with the existing guidelines provided in the Northern District Plan will be supported.
Aquifers Map 5c	National Water Act 36 of 1998 Policy and Strategy for Groundwater Quality Management in South Africa (2000)	National Department of Water & Sanitation	Prevent weakening or destruction of water sources through appropriate location and design of developments.	n/a



DEVELOPMENT DIRECTIVES: RISK (PRECAUTIONARY AREAS)

RISK SUBTHEME	LAWS / POLICY	AUTHORITY	PRINCIPLE THAT APPLIES WHEN CONSIDERING ALLOCATION OF DEVELOPMENT RIGHTS	EXCEPTIONS
Flood plains and coastal flood risk areas Map 5a	Integrated Coastal Management Policy Floodplain and River Corridor Management Policy	CCT	Development of coastal economic and social opportunities must be undertaken in a manner that does not reduce, harm or degrade our coastal environment or its ability to cope with climate risks in the future. Careful management of development to avoid developing in high flood risk areas, to protect the environmental integrity of aquatic resources and to ensure that permitted development enhances the aesthetics and character of the adjacent watercourses / wetlands.	n/a
Veld fire climate change adaptation Map 5a			Consideration should be given to reducing the risk and to the operational needs of the City's fire services.	In cases where development is permitted, conditions should ensure access for fire fighting vehicles and that building materials and landscaping do not exacerbate risk.
Koeberg Risk Zones PAZ (16km) UPZ (5km) Map 5a	Development Management Scheme section 158. NB: will be superseded by the national Regulations on Development in the Formal Emergency Planning Zone of the KNPS, when approved.	CCT National Nuclear Regulator	No new development is permissible within the Precautionary Action Zone (area within a 5 km radius of the Koeberg nuclear reactors) other than development that is directly related to the siting, construction, operation and decommissioning of the KNPS or that is a result of the exercising of existing zoning rights.	New development within the Urgent Protective action planning Zone (area within a 5 km –16km radius of the Koeberg nuclear reactors) may only be approved subject to demonstration that the proposed development will not compromise the adequacy of disaster management infrastructure required to ensure the effective implementation of the IKNEP/ RRR (version approved by the NNR).



DEVELOPMENT DIRECTIVES: RISK (PRECAUTIONARY AREAS)

RISK SUBTHEME	LAWS / POLICY	AUTHORITY	PRINCIPLE THAT APPLIES WHEN CONSIDERING ALLOCATION OF DEVELOPMENT RIGHTS	EXCEPTIONS
Ysterplaat height restrictions Map 5a			Governed through conditions of approval	n/a
CTIA noise contours (55dBA- 80dBA) Map 5a	SABS, Building Regulations	CCT	Governed through conditions of approval	n/a
Infrastructure Capacity Map G2		Mostly CCT Eskom re: energy	Bulk infrastructure investment not forming part of the City's infrastructure investment plans cannot be funded by the City. Development cannot be approved without absolute clarity of both the CAPEX and OPEX, which will be passed on to the developer.	In cases where development is permitted, conditions of approval.
Waste water treatment works / landfill sites (exclusion buffer) Map 5a		CCT		n/a



DEVELOPMENT DIRECTIVES: HERITAGE, AESTHETIC AND SOCIAL

DEVELOPMENT DIRECTIVES SOCIAL SUBTHEME	MAP REFERENCE	LAWS / POLICY	AUTHORITY	PRINCIPLE THAT APPLIES WHEN CONSIDERING ALLOCATION OF DEVELOPMENT RIGHTS	EXCEPTIONS
Heritage Protection Areas Map A2		NHRA (25/99) Scenic Drives Management Framework	CCT Heritage Western Cape SAHRA UN	Valuable view corridors, undeveloped ridge lines, heritage assets and existing vistas should be enhanced and celebrated by any development proposal or cumulative impact of development proposals.	



Map 5a: Precautionary Areas



Map 5b: Biodiversity network and Marine Protected Areas



Map 5c: Agricultural areas of significance and aquifers



Map 5d: Consolidated spatial plan concept

5.3 Conceptual designations

Beyond the development directives outlined in section 5.2, the conceptual designations identified by the MSDF have significance for directing development in the city. The conceptual designations expressed in Map 5d comprise:

- Spatial Transformation Areas
- Structuring elements supportive of land use intensification
- Additional spatial informants

Most are not precisely geographically defined (or exclusive) areas and have been identified at a broad metropolitan scale. The Spatial Transformation Areas defined in the preceding chapter are based on four-hectare grid cells that span the entire metropolitan area. ²⁵

²⁵ Map 5.1 d cannot define STA designation at a property scale without reference to the additional spatial informants in Maps 5.1 a-c.

Table 9: Conceptual Designations

Spatial Transformation Area	s
DESCRIPTION	LAND USE GUIDELINES
Urban Inner Core ²⁶	Desired land use outcome: diverse and dense land uses in association with current and future public transport infrastructure provision
	 Preferred zoning categories: GR2-6, GB1-7 and MU1-3 as per the City's Development Management Scheme (DMS) in corridors and nodes and SR2 (incremental upgrading of informal settlements) where applicable. Differentiated intensification guidelines outlined in Table 10. Refrain from the following land uses: single residential developments around main transport corridors and stations; low worker density around main transport corridors and stations (such as large warehousing); noxious land uses that limit the nature of development on adjacent land due to Environmental Health Regulations; any land use which is only viable subject to the provision of extensive ground level parking areas (i.e. where densities are too low to make structured parking on site viable); mono-functional, single storey public sector building; and single storey schools and sports fields that are not shared. Spatial manifestation of the following legislative requirements per SPLUMA and MPPM regulations ²⁷ and include areas where: national or provincial inclusionary housing policy is applicable; the strategic assessment of environmental sensitivities has shown that on-site protection or mitigation is less practical than off-site offsets; incremental upgrading approach to development is applicable; high priority is given to coordination, alignment and integration of sectoral policies; high priority be given to the capital infrastructure projects and programmes; public and private land development and investment should be prioritised; the optimisation of the tuilisation of space be prioritised and certain space intensive land uses may be inappropriate;; strategic interventions may be required to achieve the objectives of TOD, and spending of government grants and other capital investment be prioritised.

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²⁶ Spatial manifestation of the following legislative requirements: SPLUMA section 21h, I, k, I (ii), m, n; The Municipal Planning and Performance Management (MPPM) regulations (No 796, 24 August 2001), Chapter 2, section 4 e,i (i, v) ²⁷ SPLUMA section 21 (i, j, k, I, m and n) and MPPM regulations (2001), Chapter 2, section 2 (4)(i),(ii),(iv) and (v).

	 user base (users living and working in Urban Inner Core), are multi-storey and are accessible via public transport. High rise buildings are designed to allow conversion of uses between residential and non-residential.
Incremental Crowth	 All structured parking to have noor to ceiling heights allowing for conversion to non-parking land uses over time.
Incremental Growth and Consolidation Areas ²⁸	 Desired land use outcome: diverse and dense where infrastructure allows Informed by the existing built-extent of the city that is not immediately framed by the structuring elements (such as corridors and nodes) and acknowledging a tapering down of bulk. Optimisation of existing zoning categories as per the City's Development Management Scheme (DMS) with a focus on intensified land uses in existing economic nodes. Differentiated intensification guidelines outlined in Table 10. All intensification subject to engineering services capacity within lapsing period of land use approval. Public sector investment in existing and future human settlements permitted. Spatial manifestation of the following legislative requirements per SPLUMA and MPPM regulations and including areas where: national or provincial inclusionary housing policy is applicable; the strategic assessments of environmental sensitivities have shown that on-site protection or mitigation might be practical; incremental upgrading approached to development is applicable; detailed local plans could be developed for certain existing business nodes and new TOD nodes; optimisation of public private land development and investment should be prioritised; optimisation in the utilisation of space be prioritised although certain space intensive land uses may be appropriate; strategic interventions may be required to achieve the objectives of TOD. Spending of government grants and other capital investment will only be prioritised if associated with addressing urban infrastructure enderse
Discouraged Growth	Desired land use outcome: limit land use to agriculture and rural zone uses
Areas	Status quo with preferred zoning of Agriculture, Rural or Open Space as per the DMS.
Critical Natural Areas	Desired land use outcome: enhance and connect the critical natural assets that support the city and regional environment and ecology
	These areas are considered critical natural assets and include:
	Protected Areas (in perpetuity) and proclaimed under various forms of legislation, i.e.
	a) Proclaimed Areas under NEM: PAA ²⁹ (which include national parks and provincial reserves such as Driftsands and Hottentots Holland) and may include some City reserves (such as Steenbras) and
	b) Reserves proclaimed before NEM: PAA under the Western Cape Nature Conservation ordinance (such as Wolfgat, and portions of

²⁸ Spatial manifestation of the following legislative requirements: SPLUMA section 21: h, l, k, m, n; The MPPM regulations (2001), Chapter 2, section 4 e,i (i,)

²⁹ National Environmental Management: Protected Areas Act, Act 57 of 2003

Blaauwberg).

Protected Areas not (yet) protected in perpetuity but considered as proclaimed such as stewardship/ biodiversity contractual agreements for mostly privately owned land in association with Cape Nature with a 30–50-year protection implication.

Protected Areas in the process of proclamation or contractual agreements. This could include state land with important biodiversity managed for conservation, or where the proclamation is in process or still to be initiated (e.g. parts of Macassar Conservation Area).

Conservation Areas

Critical Biodiversity Areas (CBA1): e.g. those parcels larger than 50 hectares located in the Discouraged Growth Area. For site located in the Urban Inner Core and the Integrated Growth and Consolidation Areas, that may have conservation value, refer to the Map 5b.

Status quo with preferred zoning of Open Space 1,2 or 3 as per the DMS but may include other zonings such as Agriculture.

This predominantly includes land uses defined in the DMS as 'environmental conservation use', 'environmental facilities' and other land uses (after the necessary legislated environmental impact assessment processes) such as 'harvesting of natural resources'.

Detailed guidelines are provided for the Philippi Horticultural Area in the Technical Supplement B.

Structuring Elements su	Structuring Elements supportive of land use intensification						
SPC	DESCRIPTION						
Structuring corridors	Corridors designated are typified by intensified and diversified land use. They reflect the targeted, prioritised areas earmarked for the largest spectrum of land use mix associated with the highest density of population and employment. They are inclusive of Integration Zones and link diverse economic nodes - ranging from mature, developing and emerging nature and at a hierarchy of function and services levels (metropolitan, sub-metropolitan).						
	Examples include:						
	Metro-scale corridors: Voortrekker Road/ Van Riebeeck Road (CBD to Bellville CBD), southern suburbs Main Road to Muizenberg, R27/ Marine Drive/ Koeberg Road and Blaauwberg Road, Phase 2A/ Govan Mbeki (between Claremont/ Wynberg and Metro South-East), AZ Berman (to Mitchells Plain CBD), Bonga/ Walter Sisulu (to Khayelitsha CBD), Blue Downs-Symphony Way Corridor.						
	Secondary corridors: Jan Smuts Drive/ Strandfontein, Spine Road extension, Retreat Road/ Fifth Avenue, Klipfontein Road, Giel Basson Extension/ Jan van Riebeeck/ 35th Avenue, Hindle Road, Durban to Wellington to Botfontein Roads, Birkshire Boulevard (to be established), Marine Drive and Otto du Plessis, Somerset-West Main Road to Strand.						
Urban nodes (current and future)	Urban nodes are characterised by the intensity (density), mix (diversity) and clustering of urban activities and land use. Nodes often contain central access points to municipal (or other) services (sub-council offices, and other services points) and centrally located community facilities (courts, hospitals/ clinics, libraries, community halls, sports arenas).						
	Most nodes have a mix of land uses which focus on services, commercial, retail and industrial mixed with medium to higher density residential. Nodes are located at points of maximum accessibility, exposure, convenience and urban opportunity.						
	The role and function of urban nodes are differentiated in terms of scale (metropolitan, sub-metropolitan, district, and local [not reflected in MSDF]).						
	Some nodes are in the process of being developed and are referred to as 'emerging' nodes.						
Metropolitan and sub- metropolitan nodes	Metropolitan nodes at Cape Town CBD, Bellville						
	Sub-metropolitan nodes at Claremont, Wynberg, Mitchells Plain and Khayelitsha CBDs						
	Emerging metropolitan nodes at Somerset West and Philippi.						
Economic areas	Economic areas / nodes monitored via the City's Economic Areas Management Programme (ECAMP)						

Additional Spatial Inform	dditional Spatial Informants						
SPC	DESCRIPTION						
Areas of Unique Agriculture and Heritage	The MSDF map should be read together with the detailed information on Map 5c Areas of Agricultural significance – especially for areas north of the N2 to the north and east of the built-up area.						
Coastal nodes (emerging) and destination places	Coastal nodes are typically also destination-type places that are areas of attraction on the coast and within the growing denser parts of the city. Existing and future coastal nodes include a range of functions from businesses (shops, services and restaurants), social facilities (including recreation and resorts) and residential development e.g. Camps Bay, Table View, Mnandi, Monwabisi and Silverstroom Strand.						
	Coastal nodes are usually associated with forms of development that support their function as a point of attraction, without detracting from it. These nodes make responsible use of the social and economic benefits of the coast, certain public spaces, historical and biophysical assets and have been identified in locations that allow natural systems to function sustainably and are protected from flood risk. In these areas, public access must be preserved or actively enhanced.						
	Some nodes are in the process of development and are referred to as emerging recreational/ or coastal nodes. The emerging nodes are often in addition to existing destination places.						
	Specific areas identified for intensified use are:						
	 Big Bay to Camps Bay (with intensified intensity around Big Bay, Marine Circle, the CBD, Waterfront, Sea Point, and Camps Bay). Simon's Town to Muizenberg (with intensified intensity around Fish Hoek, Muizenberg) 						
	 Intensified nodal development at Strandtontein, Mnandi, and Monwabisi. Paardevlei (Heartland) to Gordon's Bay (with intensified intensity around, Strand, and less around Hendon Park and Gordon's Bay). 						
Coastal edge	A demarcated area around the coast in such a position as to limit urban development, primarily to protect coastal resources, and avoid hazards and financial risks pertaining to areas at risk of flooding, storm surges and long term climate change impacts.						
	The coastal edge also represents the City's draft coastal management line. This aligns with the requirements of the Integrated Coastal Management Act, Act 36 of 2014, specifically section 25, that requires municipalities to delineate coastal management lines.						
Routes/ roads (current	A network of roads provide access to land uses and depending on the level in the hierarchy, fulfil a range of functions.						
	a) access provided/ routes with an associated pedestrian engagement (high streets in CBDs, routes supporting a mix of land uses and high density development with direct road access and interrupted movement flows);						

Additional Spatial Informants						
SPC	DESCRIPTION					
	 b) access provided/ routes connecting different areas characterised by high volumes of fast-moving traffic, which may include access to abutting land uses and residential properties; c) access provided/ routes with greater mobility functions than a) and b) and fulfils a connectivity role as secondary road to freeways. Although high density and intensity land uses can locate on the route, the access points are predominantly at intersections; and d) access provided/ routes fulfilling a mobility function for people and goods and do not permit direct access to abutting land uses (freeways/ primary roads). The high connectivity provided by direct freeway/expressway connections tends to attract 					
	manufacturing, warehousing, major retail and industrial land uses. Only current and future type c) and d) routes are indicated on the MSDF. These opportunities tend to be realised around key intersections or off-ramps, and on roads running parallel or linked to freeways.					
Railway lines and network (stations) (supplemented by Map A4)	Existing, planned/ future priority railway lines are indicated in the MSDF. The rail network provides for mobility over longer trip distances. The hierarchy of stations supports the rail service and are primary points of accessibility, particularly when associated with areas of high road-based accessibility, and will support intense concentrations of transport-oriented activity and medium to high land use densities. Rail corridors and areas surrounding railway stations are generally suitable for a range and mix of urban development uses at medium to high densities supported by the Public Transport Parking Zone 1 and 2 maps, delineated in terms of the Development Management Scheme. Generally, the classification of a station in terms of its typology should inform the form and scale of development within and surrounding the station precinct, but this work will be conducted in the future.					
Bus rapid transit / IRT trunk routes stations (supplemented by Map A4)	At present the MyCiTi BRT system, runs on the Integrated Public Transport Network (IPTN). Although reviewed over time linking implementation realities to budgets, the anticipated alignment of routes is confirmed. The IPTN uses different classes of roads to establish a network of connectivity, sometimes consisting of dedicated bus lanes or intraffic delineated routes. BRT trunk routes provide mobility through access-controlled right-of-way infrastructure and high-occupancy vehicle priority lanes. The hierarchy of stations (Map A4) will eventually support the IRT (integrated rapid public transport) service and will be primary points of accessibility to different combinations of modes at inter-modal exchange points, particularly when associated with areas of high					

Additional Spatial Inform	dditional Spatial Informants				
SPC	DESCRIPTION				
	road-based accessibility. These stations will support intense concentrations of mixed land use activity and medium to high land use densities. IRT/ BRT/ public transports corridors and high intensification areas surrounding bus/ rail/ minibus trunk stations are generally suitable for a range of urban development uses at medium to high densities. Generally, the classification of a station in terms of its typology should inform the form and scale of development within and surrounding the station precinct.				
Cape Town International Airport Port of Cape Town Harbours	The Cape Town International Airport, the port and harbours are considered critical infrastructure which should be optimally balanced from an economic and social perspective. These physical and economic access points are essential from a business and tourism point of view, but the negative impacts of the land uses and activities should be managed through a set of institutional and policy arrangements.				

Table 4: Differentiated intensification guidelines

	DESCRIPTION OF THE SPATIAL AREA/STRUCTURE	TARGETED LOCATIONS/AREAS	DENSITY GUIDELINE 30
Citywide incremental densification	On all single residential zoned areas	All locations as permitted by the zoning scheme or application for new rights.	Second dwellings as of right, as well as other forms of development, provided no external departures are required. Subject to engineering services capacity clearances.
Affordable housing initiatives	Within areas of focused public sector investment, e.g. subsidised housing or upgrading of informal settlements	Informed by spatial structure locations.	80 - 300 du/ha (nett)

³⁰ As per Density Policy

	DESCRIPTION OF THE SPATIAL AREA/STRUCTURE	TARGETED LOCATIONS/AREAS	DENSITY GUIDELINE 30
Corridors and metropolitan and sub- metropolitan urban nodes	Focus intensification in urban nodes to realise a very high/ high intensity, mix and clustering of urban activities or land uses at points of very high/ high accessibility, exposure, convenience and urban opportunity. Existing corridors may be in different stages of maturity but the aim is to support and expand the mix of land uses concentrated into several higher density urban nodes along the corridor. Rapid and optimal connectivity is essential between these nodes and other mixed land use nodes on the network. The width, height and size of the node and the corridor are not prescribed, but depend on the nodal hierarchy and the accumulated land uses and civic functions. E.g. Major corridors can be varying in width from 500-1 500m and metropolitan	Nodes: Metropolitan nodes at Cape Town CBD, Bellville and sub-metropolitan nodes at Claremont, Wynberg, Mitchells Plain and Khayelitsha and emerging metropolitan nodes at Somerset-West and Philippi. Corridor: Voortrekker Road/ Van Riebeeck Road (CBD to Bellville CBD), Southern suburbs Main Road to Muizenberg, R27/ Marine Drive/ Koeberg Road and Blaauwberg Road, Phase 2A/ Govan Mbeki (between Claremont/ Wynberg and Metro South-East), AZ Berman (to Mitchells Plain CBD), Bonga/ Walter Sisulu (to Khayelitsha CBD), Blue Downs-Symphony Way Corridor.	100 - 375 du/ha (nett) 4-15 storeys

	DESCRIPTION OF THE SPATIAL AREA/STRUCTURE	TARGETED LOCATIONS/AREAS	DENSITY GUIDELINE 30
District and local urban nodes in addition to existing and indicative transport-accessible precincts (TAPs)	DESCRIPTION OF THE SPATIAL AREA/STRUCTURE At district and local nodes as well as existing and incipient TAPs. Focus intensification in these nodes to realise a medium to high intensity, mix and clustering of urban activities or land uses at points of high accessibility, exposure, convenience and urban opportunity. Along supportive urban development corridors which may include supporting integrated public	TARGETED LOCATIONS/AREAS Supportive corridors: Jan Smuts Drive/ Strandfontein, Spine Road extension, Retreat Road/ Fifth Avenue, Klipfontein Road, Giel Basson Extension/ Jan van Riebeeck/ 35th Avenue, Hindle Road, Durban to Wellington to Botfontein Roads, Birkshire Boulevard (to be established), Marine Drive and Otto du Plessis, Somerset-West Main Road to Strand.	DENSITY GUIDELINE ³⁰ 75 – 175du/ha (nett) 3-8 storeys
	transport routes (trunks). Should consist of strips and nodally focused mixed land uses at medium to high density optimising the access benefits associated with a location at or near to intersections, trunk or feeder rail or bus stations. Depends on the retaining of linked access to other higher-medium/ district order nodes on the system, therefore enhancing network connectivity.	District and local nodes to be confirmed via district plans	

6 IMPLEMENTATION

The integrity and impact of the MSDF will be determined by consistent decision-making supporting the agreed long-term urban structure and form (what growth and where?) and managed in terms of prioritising development based on the spatial transformation agenda and approach (when and how?) (Diagram 23).



Diagram 22: MSDF content framework

SPLUMA requires an Implementation Plan consisting of policies and guidelines which directs how the strategies will be realised. The policies associated with this MSDF are set out in Technical Supplement A, together with the principles and process of directing the metropolitan-wide spatial transformation. Reference is also made in legislation to the requirements of a Capital Investment/ Expenditure Framework (CIF/CEF) that expresses the phasing of development in space.

The alignment between the MSDF, IDP and budget is critical to ensure that financial resources as reflected in the annual budget, bring to fruition the realisation of programmes and projects in the IDP. In addition, the Built Environment Performance Plan (BEPP) depicts and presents an annually configured three-year capital response.

Spatial targeting is a departure point in the BEPP, and implies that the City, province and state-owned entities will focus investment in corridors and nodes which are connected with public transport.

The BEPP has become an integral part of the municipal package of strategic targeting and communication. On an annual basis it is required to articulate the City's investment rationale and institutional arrangements to address spatial and sectoral integration reflecting:

- the founding strategic principles and targets established in the Integrated Development Plan (IDP) and Spatial Development Framework (SDF);
- the annual City budget, inclusive of capital grants and Medium Term Revenue and Expenditure Framework (MTREF);
- the investment rationale of other state departments and entities;
- strategic themes emphasised in guidelines issued annually by National Treasury; and
- the planning rationale and financial strategy supportive of the City's spatial targeting initiatives which are at the heart of the City's spatial restructuring agenda and underpin a revised spatial narrative and logic.

The City's capital funding is sourced from four primary sources, namely capital grants, the Capital Replacement Reserve (CRR), the External Financing Fund (EFF) and revenue. Grant funding from National government represents a significant percentage of the total capital funding (as much as 50% in recent years). Historically, the quantum of capital budget per annum has reached R6 billion.

The Capital Expenditure Framework (CEF) is conceptually represented in Diagram 24. It is reflective of growth, development and investment priorities and City approaches to the alignment of grants, maintenance of assets and infrastructure networks, urban management in residential and commercial areas and regeneration and renewal initiatives.

These approaches directly and indirectly impact on the determination of the City's annual capital budget (i.e. both the capital and operational budget allocations).

The degree of alignment and impact on are revisited on an annual basis via the BEPP and other new processes and tools such as the Strategic Management Framework (SMF) and process. It is supported by the Project Portfolio Management System (PPM) and subsets of tools referred to later in this chapter. The other approaches are considered in Table 11.

Factors influencing capital investment planning



Spatial Transformation Areas: Urban Inner Core/Incremental Growth & Consolidation

Table 5: Factors Influencing Capital Expenditure Framework

Factors Influencing CEF	To address and / or support
Asset maintenance	The provision of utilities (water, sanitation, electrical and solid waste services) in line with approved master plans aligned to the Pragmatic Densification and the Comprehensive TOD land use scenarios developed to consider future growth projections. ³¹
Restructuring Zones (institutional rental stock focus)	The need for affordable rental accommodation in relation to the emerging economic and public transport networks. Typically, these would require a differentiated approach to residential densities and typologies supported by the Capital Restructuring Grant applicable to Restructuring Zones.
Urban Development Zone (regeneration focus)	 Private sector-led residential and commercial development in inner-city areas with developed public transport facilities by means of a tax incentive administered by SARS. The incentive is based on an accelerated depreciation allowance on the costs of buildings erected, added to, extended or improved within the UDZ as per the following criteria: erection, extension or improvement of or addition to an entire building; erection, extension, improvement or addition of a part of a building representing a floor area of at least 1 000m²; erection, extension or improvement of or addition to low-cost housing; and/or purchase of such a building or part of a building directly from a developer.
Urban Management (Special Rating Areas (SRAs) incorporating City Improvement Districts)	Ancillary service provision and management of public spaces in many metropolitan and sub-metropolitan nodes and industrial areas.
Urban Management Mayoral Urban Regeneration Programme (MURP) ³²	The development of a more comprehensive community action planning process premised on a strong social crime prevention approach. Work is progressing towards the realisation of a community policing programme and integrated neighbourhood safety programme based on the work piloted by MURP in areas presently suffering from severe gang activity.

This MSDF has significant implications for the public sector.

• The public sector is a primary developer in Cape Town in terms of delivering housing projects. In the past, many projects were located on the city's periphery due to the availability of affordable land. Commissioned research continues to demonstrate that the long-term cost of locating people on the periphery (for both individuals and the state) far outweighs the short-term benefits. Signalling this change in the City's approach to delivering human settlements is the rescindment of the Wolwerivier housing project and the City's recent statement of intent regarding affordable housing and social housing in Salt River and Woodstock as a precursor to a comprehensive inner city housing programme (Diagram 25).

³¹ The City completed a Medium Term Infrastructure Investment Framework (MTIIF) which gives a 20-year perspective (2032) and guidance to infrastructure planning requirements. Recommendations arising from this report will influence the revision of engineering infrastructure master plans to align with the findings for short-medium term planning, recognising that there are significant lead times in the acquisition of bulk infrastructure components (for example transformers serving the electricity network). Additionally, the MTIIF has introduced the analytical tools alluded to in this MSDF, namely the Fiscal Impact Tool and Cost Surface Models that allow the City to consider on a more quantitative evidence base, the costs of development - short, medium and long-term - to the City, other state partners and households. This will inform future infrastructure provision and decision-making relating to development proposals particularly in instances where these are not to aligned to spatially-targeted areas.

³² MURP areas include Athlone CBD, Bellville transport interchange and Voortrekker Road corridor, Bishop Lavis, Valhalla Park, Bonteheuwel, Gatesville CBD, Harare and Kuyasa transport interchanges, Macassar, Manenberg, Hanover Park, Mitchells Plan Town Centre, Nyanga/Gugulethu, Ocean View, Parow and Wesfleur business node (Atlantis).

- The densification of existing neighbourhoods will increase demands on existing social facilities and create additional demand in areas where there might not be sufficient land to build new social facilities according to current standards. Budget needs to be allocated to increase the capacity of existing facilities to meet increased demand. New facilities need to be designed to cater for more customers per catchment area and can no longer consist of single storey buildings with expansive parking lots and no access via public transport. Higher densities also require quality open spaces and a more creative approach to the co-management and operations of sports facilities and other public facilities.
- Existing infrastructure backlogs, in areas where densification is prioritised, need to be addressed as a matter of urgency.
- The City needs to communicate with community stakeholders and leaders to address assumptions and perceptions regarding the impact of incremental densification and affordable housing on property values.
- The City needs to recognise that the inward growth aspirations of the MSDF may increase land values and could impact on the affordability of housing for certain income groups. The approach to land assembly, specifically unlocking state-owned land and acquiring new land pockets to support both public and public / private affordable housing initiatives and mixed use development will determine the degree this risk can be mitigated.
- The West Coast growth corridor needs to be reconceptualised. Given the presence of the Saldanha Bay IDZ, it is important to recognise that certain land uses may still be supported (such as logistics), but that the City will not support land uses relating to residential development.

6.1 Activating and incentivising development in the Urban Inner Core

This MSDF has adapted the previous CTSDF and the BEPP spatial logic and in so doing has established an Urban Inner Core which comprises:

- the land use intensification corridors premised around the IPTN;
- all three Integration Zones (Blue Down / Symphony Way, Voortekker Road and Metro South-East);
- four of the five priority TOD projects (Athlone Power Station, Bellville, CBD/ Foreshore Freeway, and Philippi) and priority provincial TOD projects (Conradie, Two Rivers Urban Park);
- the full extent of Urban Development Zone (UDZ);
- The majority of Transit Accessible Precincts / PT Zones;
- The majority of the city's commercial and industrial nodes;
- Airport / ports and primary freight infrastructure; and
- The majority of very needy communities as identified in Socio-Economic Index.

The Urban Inner Core represents the priority development and investment focus for the City at a metropolitan scale. Where infrastructure needs to be upgraded and prioritised to support intensification efforts in support of spatial transformation, budget will be prioritised here. Incentives and regulatory reform will be focused on the Urban Inner Core (UIC) together with co-operation and collaboration with other spheres of government and the private sector to direct the capital budget timeously.

There is an acknowledgement that a number of the city's informal settlements are located outside the UIC and based on need priority, the UIC investment rationale is equally applicable to locations identified in the IDP for informal settlement upgrades.

A number of key City-led interventions are already being planned and implemented to support the Urban Inner Core and the city's spatial transformation objectives. Those initiated and prioritised in the term of the 2017-2021 IDP and highlighted in the City's BEPP submissions are illustrated in Diagram 25.

Given the priority development and investment status afforded to the Urban Inner Core, a suite of implementation approaches at a general, precinct and site-specific scale are required. These may include, but are not limited to:

- Priority infrastructure maintenance and replacement;
- Continued augmentation and expansion of the public transportation network in support of the Integrated Public Transport Network;
- Infrastructure Investment Programme and dedicated budget that prioritises and sequences infrastructure investment in engineering and social amenities to address current backlogs and meet the demands implied by land use projections;
- Land assembly initiatives in conjunction with the public and private sector to unlock key strategic underdeveloped and vacant greenfield and brownfield sites and buildings;
- Identification and facilitation / implementation of rental property schemes within the UIC to ensure a supply of accommodation to meet the demands of all income groups;
- Integrated urban management in cooperation with community-based organisations;
- Designation of the UIC as the City's priority and preferred (Restructuring Zone) location for allocation of Capital Restructuring Grant (RCG) funding to support social housing initiatives; and
- Considering the extension of the Urban Development Zone (UDZ) to the full extent of the Urban Inner Core.



Diagram 24: Activation of the Urban Inner Core: key implementation initiatives (2017/2021)

6.2 Specific actions arising from policy statements

Table 12 lists the future work tasks to support the spatial outcomes and objectives associated with the MSDF.

Table 6: Actions arising from policy statements

			SPAT (DIRE)	IAL TRANSFO	ORMATION A	AREA CTED)	
POLIC	Y	TOD ZONE/ PRIORITY AREAS	OTHER PT1/2 AREAS & CORRIDORS	REST OF THE URBAN INNER CORE	INCREMENTAL GROWTH CONSOLIDATION AREAS	DISCOURAGED GROWTH AREAS	PROTECTION AREAS
1	Revise and adapt master planning of utilities to consider the impact and requirements of this MSDF and to frame a prioritised Infrastructure Investment Programme to support the activation of the Urban Inner Core and the maintenance of the City's built footprint.	X	X	X	X		
1	 Prioritise, plan and implement TOD precincts in identified areas of land use intensification in alignment with the integrated public transport implementation plan, the BEPP, catalytic projects and intergovernmental pipeline projects: Identify and categorise qualifying TOD precincts based on criteria Propose, describe and get agreement for the appropriate implementation and incentive strategy Align and provide adequate details at precinct plan level in respect of metro level policies under development (i.e. inclusionary and/ or social housing) Prepare detailed local or precinct plans which stipulate: Parking provision NMT requirements Provision of public (open) space Desired land use densities and land use diversity /mix Desired inclusionary and social housing specifications Other urban design criteria and detailed land development rules (height, coverage, floor factor, building lines, setbacks, etc.) in accordance with the DMS and the Urban Design Policy Give guidance, information and support the implementation of the plans via: Land acquisition/ disposal/ concessions operational arrangements Establishment of institutional frameworks, implementation vehicle/ agent (SPV, partnership, etc.) 	X	X				

			SPAT (DIREC	IAL TRANSFO CTLY / INDIR	DRMATION A	AREA CTED)	
POLIC	Υ	TOD ZONE/ PRIORITY AREAS OTHER PT1/2 AREAS & CORRIDORS REST OF THE URBAN INNER CORE URBAN INNER CORE INNER CORE GROWTH AREAS		PROTECTION AREAS			
	 Selection of funding channels and sources Selection tools and mechanism to fast track implementation 						
1	 Review district plans to at least: Interpret at a district level, the reviewed MSDF vision, spatial transformation areas and objectives; Confirm cadastral extent and delineation of Urban Inner Core and Incremental Growth and Consolidation Areas; and Confirm designation and extent of district and local nodes. 	X	X	X	X		
1	Promote urban intensification and management in Integration Zones and produce the necessary local area planning documents, tools and instruments: Support initiatives in the Voortrekker Road, Metro South-East, Blue Downs Integration Zones and Phase 2A aimed at revitalising declining areas. Prioritise investment in public transport services and associate land use intensification or diversification according to the Comprehensive TOD land use model. Support initiatives in the Metro South-East Integration Zone aimed at diversifying land use to reduce the need to travel.	X	X				
2	Social Facility Optimisation Plans per sub-metropolitan area Planning for rationalisation and consolidation of social facilities as provided by the City, province and the private sector should be undertaken on a sub-metropolitan and district level. Use as base input the Investment Framework available from the 2032 Social Facility Planning which deals with backlogs as well as the anticipated future demand of social facilities. Develop district level guidelines to facilitate the provision and distribution of social facilities, recreational spaces and public institutions.	X	X	X	X		
3	Review the land use and transport models every five years with next revision 2018/19 for next cycle of 2022/23's IDP, SDF, CITP/ IPTN, IHSF. The planning horizon should at least be 2042	X	X	X	X		
3	Periodic review of the Medium Term Infrastructure Investment Framework to	X	X	X	X		
3	consider longer-term planning horizons (e.g. 2050). Review the housing plan and adopt it annually as a sector plan of the IDP and	X	X	X	X		

			SPAT (DIREC	IAL TRANSFO CTLY / INDIR	DRMATION A	REA CTED)	
POLIC	Υ	TOD ZONE/ PRIORITY AREAS PRIORITY AREAS OTHER PT1/2 AREAS & CORRIDORS INVER CORE INVER CORE INVER CORE INVER CORE INVER CORE INVER CORE DISCOURAGED GROWTH AREAS		PROTECTION AREAS			
	with spatial articulation where possible and practical in the MSDF/ IDP and/ or BEPP						
5	Land acquisition strategy to include a section for transit accessible/ well-located residential development. Reflect long-term identified land in reviewed MSDF and district SDFs.	X	X	X			
6	 Annually update the Informal Settlement Upgrading Programme inclusive of centralised annually-updated information sources and maps on backyarder and informal settlement areas. The plan should be incorporated into the three-year MTREF budget and progress and performance also communicated in the BEPP. Required for: Current and anticipated pressure on infrastructure (MTIIF review and utilities master planning); Prioritisation of infrastructure interventions and investments to increase capacity in areas where incremental densification is anticipated; Future servicing of areas and the positioning of dwellings and service connections on erven; essential parallel actions: Implementation of the Directives for the Planning, Design and Implementation of Human Settlement Project in Cape Town (April 2016); * Expand the understanding of the diverse formal and informal residential land markets. On the basis of that, continue to lobby for a more responsive and flexible housing policy and subsidy / grant regime that is grounded in the financial realities of low-income household 'bands'. 	X	X	X	X	X	X
8 & 9	Initiate, in association with the ECAMP updates, high level assessments and predictions on the future demand for industrial land within the context of the Atlantis Strategic Economic Zone declaration, the recently approved Frankendale General and Risk Industrial development and the potential pressure on inner existing industrial areas to rapidly migrate to mix use, repurposed conversions for residential use and unban regeneration trends.	X	X	X	X		
9	Support initiatives in the Voortrekker Road, Blue Downs and Metro South-East Integration Zone aimed at diversifying land use to reduce the need to travel which	X	X				

			SPATIAL TRANSFORMATION AREA (DIRECTLY / INDIRECTLY IMPACTED)					
POLICY		TOD ZONE/ PRIORITY AREAS	OTHER PT1/2 AREAS & CORRIDORS	REST OF THE URBAN INNER CORE	INCREMENTAL GROWTH CONSOLIDATION AREAS	DISCOURAGED GROWTH AREAS	PROTECTION AREAS	
	may include further precinct planning for prioritised areas in the corridor.							
10	Maintain updated information on undeveloped and partially developed land, and state-owned land on at least a three- to five-year basis as input to the revision of the land use models (next update 2018 for MSDF 2022/23) for planning up to the year 2042.	X	X	X	X	X		
18	 Identify underutilised opportunities to create special/ destination places and contribute to the development through the completion of precinct or local area planning tools e.g.: Coastal nodes and harbour areas Sites with historical value Formally protected areas and areas earmarked as future/ to be protected biodiversity areas 	X	X	X	X		X	
20	Promote and actively participate in generating the City's Resource Efficient and Resilient Development . This includes a clear articulation and listing of adaption and mitigation actions to be undertaken by the City, especially in the built environmental space inclusive of engineering infrastructure and other large infrastructure capital projects, with specific reference to local risks.	X	X	X	X	X	X	
20, 24- 27	 Support the finalisation of the coastal management by-law to regulate activities in the coastal environment. Finalise coastal overlay zones in the DMS to regulate land use and development in areas that are at risk of coastal hazards. The following will be required: Regularly updated and delineated flood risk areas to prevent and limit new development within 100-year floodlines and within the coastal environment and coastal flood risk zone. Maintenance of two flood risk map sets (major catchments with and without projected climate change implications) including indications of potential downstream impacts of developments to avoid transfer of risk *Identified critical infrastructure that is at risk of damage and disruption due to climate change. Engagement with and lobby of all relevant stakeholders on strategies for 			X	X		X	
		SPATIAL TRANSFORMATION AREA (DIRECTLY / INDIRECTLY IMPACTED)						
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POLIC	Y	TOD ZONE/ PRIORITY AREAS	OTHER PT1/2 AREAS & CORRIDORS	REST OF THE URBAN INNER CORE	INCREMENTAL GROWTH CONSOLIDATION AREAS	DISCOURAGED GROWTH AREAS	PROTECTION AREAS	
	 climate change adaptation. May include support to property developers and residents to reduce vulnerability to climate change on already developed locations by identifying these locations and advising on how this vulnerability can be minimised Continued city focus/ investment on identification of risks. These risks include wildfires, flooding, storm surge, and sea level rise. 							
21, 22	Collaborate (and lead if applicable) in initiatives relating to emergency planning and urban growth management surrounding Koeberg and the Cape Town International Airport (CTIA): e.g. City, in conjunction with Eskom Holdings SOC Limited and the PGWC, must update the Integrated Koeberg Nuclear Emergency Plan (KNEP)/ the RRR and the TEM as per legislated requirements including City and NNR approvals. Specific attention should be given to the regular review and update of RRR Procedure 7.2.38 (on urban growth management), to ensure that the processing and assessment of development applications within the KNPS emergency planning zone does not compromise the effective implementation of the KNEP/ RRR. For CTIA, the recently approved environmental authorisation will result in various requirements for localised planning and standard operating procedures relating to land use application processing which dually consider the impact and management of increase noise due to expanded airport use			X	X	X	X	
23, 26	Contribute to and provide support to the regular update and implementation of the Council adopted Bioregional Plan and the Green Infrastructure Plan / MSE Strandveld.	X	X	X	X	X	X	
25	Finalise the Coastal Economic Spatial Strategic Framework and ensure that the proposals are incorporated into the review of the district SDFs and the next rewrite of the MSDF. Prepare local spatial development frameworks for Silwerstroomstrand, Mnandi, Monwabisi and facilitate their implementation.						X	
33	Motivate for the continuation of Urban Development Zones under National Treasury Regulations and actively promote the incentive.	X	X	X				

		SPATIAL TRANSFORMATION AREA (DIRECTLY / INDIRECTLY IMPACTED)					
POLIC	Y	TOD ZONE/ PRIORITY AREAS	OTHER PT1/2 AREAS & CORRIDORS	REST OF THE URBAN INNER CORE	INCREMENTAL GROWTH CONSOLIDATION AREAS	DISCOURAGED GROWTH AREAS	PROTECTION AREAS
34	Ensure that the Greater Cape Metro Regional Strategic Investment Framework (2016) receives adequate internal exposure in the City and that the necessary institutional arrangements are put in place to ensure the implementation of the key actions.						
38	Support initiatives which will focus on the collection/ capturing of information about street parking and on-site parking provision (parking area in square metres as well as number and type of parking bays) on a continued basis, and the analysis of the data in respect of parking bay occupancy and turnover.	X	X	X	X		
41, 42	Assist where required to execute the Freight Management Strategy through critically assessing the NPA's Port Development Framework Plan and engaging with respect to the potential development of an intermodal facility.	X	X	X	X		

7 TERMS AND DEFINITIONS

TERM	DEFINITION
Affordable housing	Traditionally affordable housing refers to housing with prices or values below the overall open market value which targets below- average incomes. In this MSDF affordable housing refers to the household income brackets of R3 501 – R18 000 per month, and is inclusive of social, GAP, and inclusionary housing. It also refers to residential units valued at R500 000 or less.
Aquifer	Area identified as reflecting the physical extent of a water-bearing layer of soil, sand, gravel or rock that will yield significant usable quantities of water.
Backyard dwelling	Backyard dwellings refer to informal structures on formal, residential erven, regardless of ownership. These structures are used for habitation and may be positioned behind, in front or next to the primary dwelling.
Biodiversity	Biological wealth of a specified geographic region including the different marine, aquatic and terrestrial ecosystems, communities of organisms within these, and their component species, number and genetic variation.

Biodiversity network	The map of protected and critical biodiversity areas (including natural vegetation remnants and wetlands) for the city, based on the fine-scale systematic conservation plan, in accordance with the legal requirements.
Bioregion	A geographic region or area containing whole or nested ecosystems and that is characterised by its landforms, vegetation cover, human culture and history and declared by the Minister in terms of the National Environmental Management: Biodiversity Act, Act 10 of 2004 (NEMBA).
Bioregional plan	A legislated biodiversity plan, aimed at assisting with the management and conservation of South Africa's biological diversity, declared in terms of Chapter 3 of NEMBA. The aim of the plan is to provide a map of biodiversity priorities with accompanying land use decision making guidelines.
Business node	A business node is a concentration of economic activity which meets the two technical thresholds applied by the City's ECAMP Diagnostic Model: contiguous non-residential property with 1 000 work places and valued at no less than R50 million.
Civic precinct	Concentration of public facilities (e.g. schools, clinics, hospitals, parks, city hall, courthouses, post offices, etc.) located in close proximity.
Climate change	Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity (IPCC 4th Assessment).
Climate change adaptation	The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects (IPCC Glossary, 5th Report).
Coastal edge	Demarcated area around the coast, primarily to protect coastal resources, and to avoid hazards and financial risks pertaining to areas at risk from coastal processes. The coastal edge also represents the coastal management line as contemplated in section 25 of the Integrated Coastal Management Act, Act 36 of 2014.
Coastal node	Concentrated development at a specific coastal location.
Coastal processes	Processes including erosion and accretion, storm surges, sea-level rise, dune and estuary mouth migration and the Aeolian movement of sand.
Connective infrastructure	Network infrastructure and services which enhance the accessibility and growth potential of nodes, including public transport, broadband and bulk infrastructure.
Constrained land	Land in which development potential is constrained by locational and/or regulatory factors, including cemeteries, infrastructure, high potential agricultural land, flood plains, noise contours, parks, biodiversity areas, freeway and railway buffers, servitudes, bulk dams, nature reserves, water bodies and inaccessible pockets. It does not consider ownership or development rights which, in turn, relate to availability rather than Developability.
Critical Biodiversity Area	Critical Biodiversity Areas are terrestrial and aquatic features in the landscape that are critical for conserving biodiversity and maintaining ecosystem functioning, and that are required to meet biodiversity targets (for biodiversity patterns and ecological process features).
Critical Ecological	Natural and rural areas with biodiversity importance which are essential for management consolidation, connectivity and viability

Support Area	of biodiversity in CBAs and protected areas. These are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of CBAs and/or in delivering ecosystem services.
Cultural landscape	Sites, areas, places, settlements and urban and rural landscapes of historical significance, vistas and scenic beauty and places of spiritual, cultural and historic significance.
Densification	Increased use of space, both horizontally and vertically, within existing residential areas/properties and new developments, accompanied by an increased number of units and/or population threshold.
Developable land	Developable land is land falling inside the urban edge of 2016 which was neither developed nor constrained.
Development corridor	Development corridors are broad areas of high-intensity urban development focused predominantly on activity /development routes serviced by mass rapid public transport services (i.e. rail or BRT).
Ecological services	Services that indirectly accrue from the natural environment, and do not have direct market values, such as flood attenuation, natural drainage and erosion prevention, wastewater management through biological treatment, air quality management and filtration, carbon sequestration, and biodegradable waste disposal.
Ecological buffer	Strip of land adjacent to a watercourse, wetland or vlei, required for the protection and enhancement of aquatic and riparian ecosystem integrity and functioning.
Economic agglomeration	A concentration of businesses and people increases productivity both by putting upward pressure on the price of land, thus driving businesses to become more productive and people to become more skilled, and also through the agglomeration benefits to which close proximity of firms gives rise. Valuable agglomeration economies, which help to sustain Cape Town's prominent regional position, are crucially dependent on effective infrastructure.
Economic potential areas	Areas anchored by 'opportunity' or 'growth' business nodes which exhibit an above-average location potential, and typically characterised by economic agglomeration.
Fire Risk Lines	Two sources were combined to delineate Fire Risk Lines: the 'Wildland-Urban Interface' (WUI) - as per the GEF Fynbos Fire Project and defined as the risk level to communities where urban development areas intermingle with flammable wildlands. It represents itself in different risk levels to residents and their assets in terms of exposure to death or injury and damage from wildland fires. The line represents the life risk to residents and was methodologically delineated in a similar fashion from Gordon's Bay to Melkbosstrand on the outer edges of the built-up area. The line should be considered as indicative of locations where field fires are difficult and operationally complex and expensive to fight considering the locational context of the natural environment and operational constraints of practical firefighting. The WUI was supplemented on the Peninsula by the fire breaks of the Table Mountain National Park whilst no line exists for the Cape Flats coastal area.
Floodline	A line on a map depicting water levels likely to be reached by a flood having a specified recurrence interval.
Food security	A situation that exists when people have secure access to sufficient amounts of safe and nutritious food for normal growth, development and an active and healthy life. Food insecurity may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at the household level (IPCC 4th assessment).
Floor factor	The factor (expressed as a proportion of 1) which is prescribed for the calculation of maximum floor space of a building or buildings permissible on a land unit. If the floor factor is known, the maximum permissible floor space can be calculated by

	multiplying the floor factor by the area of the land unit.
Functional Area (for the purpose of the CITP)	The Functional Area for the purpose of the Comprehensive Integrated Transport Plan (CITP) is the area of the City, together with the areas of those other municipalities with whom the City has a transport planning relationship. This area has been agreed in the Western Cape Growth and Development Strategy and the Western Cape Land Transport Framework, and is defined in the CITP.
Functional Area (for the purpose of the GCMRSIF)	Functional area to be defined in terms of the Greater Cape Metropolitan Regional Spatial Implementation Framework
Gap housing	Housing for households with a monthly income of between R3 500 and R10 000, who fall outside the government housing subsidy income limit of R3 500 per month, and find it difficult to access housing in the private market.
Gross base density	The average number of dwelling units per hectare across large city district areas or the city as a whole, excluding land-extensive uses such as agricultural and rural land and large natural areas/nature reserves/parks.
Gross lettable area (GLA)	The area of a building designed for, or capable of, occupancy and/or control by tenants, measured from the centre line of joint partitions to the inside finished surface of the outside walls, and shall exclude the following: (a) all exclusions from the definition of floor space; (b) toilets; (c) lift shafts, service ducts, vertical penetrations of floors; (d) lift motor rooms and rooms for other mechanical equipment required for the proper functioning of the building; (e) areas reasonably used in connection with the cleaning, maintenance and care of the building, excluding dwelling units for caretakers, supervisors, cleaners or maintenance staff; and (f) interior parking and loading bays.
Growth node	A business node which exhibits above-average market performance and above-average location potential as measured by the City's ECAMP Diagnostic Model.
Heritage resource	Any place or object of cultural significance, according to the NHRA, unique, non-renewable and precious locations includes sites and landscapes of historical significance, areas of scenic beauty, and places of spiritual and/or cultural importance.
Inclusionary Housing	Policy directive and approach that seeks to leverage the development application process for new residential or commercial developments to secure the construction and perpetual availability of affordable housing in an integrated manner. (See also Affordable Housing)
Incremental densification	Small-scale densification that has a minimal impact on the urban fabric, e.g. subdivision or secondary dwelling units, but translates into higher densities over time.
Inward growth	Urban development that occurs within the existing urban footprint and infill development of developable land within the current urban periphery.
Land consumption	The rate of conversion from developable to developed land, premised on definition of each.
Land redistribution	Land redistribution to the landless poor, labour tenants, farm workers, and emerging farmers for residential and productive uses to increase livelihoods and improve quality of life.

Land reform	Encompasses three interrelated components, namely land restitution, land tenure and land redistribution.
Land use intensification	Refers to achieving a greater spectrum of mixed uses (commercial, industrial and residential) through the increased use of space, both horizontally and vertically, within existing areas or properties and new developments, accompanied by an increased number of units and/or population thresholds, in accessible, high opportunity locations.
Land unit	The hierarchy of plans specified in terms of the provisions in item 136 of the Development Management Scheme, and applies to areas generally referred to as special planning areas.
Location potential	Composite metric generated annually by the City's ECAMP Diagnostic Model to gauge the level of alignment between a business node's locational assets and constraints, and the generic requirements of the main non-residential property classes industrial, office and retail. It consists of agglomeration (scale, intensity and complexity of economic activity), room for growth, proximity to suppliers, markets and gateways, level of infrastructure constraint and congestion, incidence of business burglaries and robberies and access to workers and disposable income.
Marginalised areas	Areas characterised by predominantly low-income communities including significant informal settlements and/or other neighbourhoods classified as needy or very needy by the City's Socio-Economic Index.
Market failure	In economics, market failure is a situation in which the allocation of goods and services is not efficient. Externalities result from market failure. A market (e.g. land market) is said to have significant externalities when the true gains and losses associated with the consumption of a product (e.g. land) differs from the private cost. Externalised costs result in inefficient market outcomes. Most mainstream economists believe that there are circumstances in which it is possible for government to improve inefficient market outcomes. Poorly implemented attempts to correct market failure may lead to an inefficient allocation of resources, called government failure.
Market performance	Composite metric generated annually by the City's ECAMP Diagnostic Model to gauge the business node's level of economic performance, using a range of property market indicators including rentals, vacancy, building development and property churn.
Mixed land use	Area of existing or proposed horizontal and/or vertical integration of suitable and compatible residential and non-residential land uses within the same area or on the same parcel of land; implies contextually appropriate intensity of land uses that should facilitate efficient public transport and a vibrant local urban environment. Also referred to as land use diversity.
Mobility	The ease with which people can travel with minimal delay on a route.
Multifunctional	The combination of different yet compatible functions within one physical framework to serve a variety of social and community groups; allow for a wider range of facilities that reinforce one another in close proximity, offering greater access to potential users. Differentiation in activity may be physical (different activities on different floors or premises of the same building) or in time (using the same facility for different activities, but at different times).
Municipal financial sustainability	The financial ability to deliver services, develop and maintain the infrastructure required by its residents without unplanned increases in rates and taxes or a reduction in the level of services and the capacity to absorb financial shocks caused by natural, economic and other adversities without external financial assistance.
New development area	An area earmarked for future development.
Nodal development	Significant and concentrated development in terms of scale, location, impact, diversity and agglomeration of functions (facilities,

	services and economic activities).
Non-motorised transport	Transport modes that are not motorised, e.g. walking and cycling.
Opportunity node	A business node which exhibits above-average location potential but below-average market performance as measured by the City's ECAMP Diagnostic Model.
Package-of-plans	The hierarchy of plans specified in terms of the provisions in item 136 of the Development Management Scheme, and applies to areas generally referred to as special planning areas.
Potable water	Water intended to be used for drinking or domestic purposes, such as preparing food, and washing.
Public open space	Land which is designated as public open space, under the ownership of the City or other organ of state, with or without access control, and which is set aside for the public as an open space for recreation or outdoor sport, including a park, playground, public or urban square, picnic area, public garden, nature area including ancillary buildings, infrastructure and uses.
Public transport interchange	Supports the transfer of public transport users between modes (rail/bus/taxi) but also functions to support economic activity.
Resource efficiency	The rate at which finite and scarce resources are consumed relative to economic and population growth.
Risk activity	An undertaking where the material handled or the process carried out is liable to cause combustion with extreme rapidity, give rise to poisonous fumes, or cause explosions, and includes major hazardous installations and activities involving dangerous and hazardous substances that are controlled in terms of national legislation.
Sea-level rise	An increase in the mean level of the ocean. Eustatic sea-level rise is a change in global average sea level brought about by an increase in the volume of the world's oceans. Relative sea-level rise occurs where there is a local increase in the level of the ocean relative to the land, which might be due to ocean rise and/or land level subsidence. In areas subject to rapid land-level uplift, relative sea level can fall (IPCC 4th assessment).
Smallholdings	Extensive land units (ranging in size) typically located outside the urban fringe.
Spatial efficiency	The private and public benefit of urban development and attendant infrastructure, relative to its lifecycle cost.
Spatial transformation	The process of reversing the negative impacts of apartheid spatial planning (spatial fragmentation, inefficient urban form, racial segregation and ghettos of poverty etc.). Integrating communities and increasing opportunities to a greater number of people in highly connected areas are among the key outcomes of spatial transformation. Renouncing the creation of new low-income communities on the periphery of the city is also a key principle to avoid the need for these groups to spend a disproportionate amount of household income on transport and remain distant and dislocated from the socio-economic benefits and amenities associated with central urban locations.
Special place	A landmark or a location that forms a significant point or area of attraction which contributes to the unique identity of Cape Town
Storm surge	An abnormal rise of water generated by a storm, over and above the predicted astronomical tides (http://www.nhc.noaa.gov/surge/).

Strip development	Mixed-use development usually located along activity routes and activity streets and some developmental routes.
Subsidised housing	Housing supplied in terms of the national Department of Housing's housing subsidy scheme.
Transit-oriented development	Transit-oriented development (TOD) is a multifaceted and targeted strategic land development approach to improved urban efficiencies and sustainability by integrating and aligning land development and public transport services provision. It promotes inward growth and compact city form with an emphasis on building optimum relationships between urban form, development type, development intensity, development mix and public transport services to create a virtuous cycle of benefits over the long term as described in the City of Cape Town TOD Strategic Framework. Different TOD objectives, tools and outcomes are applicable at metropolitan, corridor, nodal, precinct and project scales.
Urban development	Buildings and infrastructure with a residential purpose as well as offices, shops, community facilities and other associated buildings, infrastructure and public open space necessary to provide for the proper functioning of urban areas and amenity and recreation. The term 'urban development' includes golf estates, vineyard estates with a residential component, equestrian estates with a residential component, rural living estates, eco-estates, gated communities and regional shopping centres. Urban development excludes noxious industry and generally excludes land for industrial purposes. However, service trades that are compatible with mixed-use development and that generate a low impact on surrounding urban uses may be permissible if the nature and type of industry is deemed to form an integral part of an area demarcated for urban development purposes.
Urban Development Zone	The Urban Development Zone is an area demarcated in accordance with the Income Tax Act, Act 58 of 1962 as amended by the Revenues Laws Amendment Act, Act 45 of 2003. In terms of this incentive, taxpayers who construct, improve or purchase a building or part of a building from a developer within this area will be allowed to claim a reduction in taxable income.
Urban Restructuring Zone	A well-located area where the national housing department's Capital Restructuring Grant subsidy, as defined in terms of the Social Housing Act, Act 16 of 2008, applies.
Urban footprint	The total spatial extent of existing urban development.
Urban management	Urban management involves the area-based involvement of and coordination with end users in the implementation, operation and maintenance of public facilities and services. In the local context, this may include the establishment of City Improvement Districts, Area Coordination Teams or Mayoral Urban Regeneration Programmes. In the long term successful urban management fosters a culture of joint accountability between the City and local stakeholders, reducing the potential of tension usually associated with top-down service delivery.
Water-sensitive urban design	Minimises disruption of the natural water cycle by reducing runoff, attenuating flooding, and treating runoff before discharge into the receiving waters, whilst at the same time increasing the amenity value of water systems, and reducing the cost of water infrastructure.
Zoning scheme	A scheme comprising of the development management scheme, zoning map and the zoning register. The zoning scheme applies to all land in the geographic area of the City.

ANNEXURE A: LIST OF HISTORICAL SDF AMENDMENTS

			CUMULATIVE RECORD OF AMENDMENTS	
Reference Date of an		ndment decision		
Number	Municipal Systems Act	LUPO 4(7)	Property Description	Details of amendment
MSA DECISIO	NS June 2011 - Marc	ch 2014		
	Not required	Not required	SE corner of PHA. Erven 579-582, 587-591, 637-641, 652-654, 657- 658, Rem erven 651, and Ptn of Rem 648, 650 Schaapkraal Rapicorp.	Amendment to Guide Plan
		Not required	Farm 940-7 Dassenberg	Amendment to Guide Plan
		Not required	5131 Masiphumelele	Amendment to Guide Plan
		Not required	Ptns 1-5,7 & 8 Farm 10373 Glen Dirk, Southern	Amendment to Guide Plan on 12 June 2012. Agriculture to urban development
		28-Nov-12	Garden Cities: 7, 8 15, 19 Farm 168 Joosentenberg Vlakte and Ptns 3 &4 Paarl Farm 724	Amendment to Guide Plan. Agriculture to urban development
	07-Feb-12	28-Jan-13	Erf 5541 Eersterivier	Amendment to urban edge and SPC to urban development
	05-Dec-12	Jan-14	Wescape	Amendments to urban edge and SPC: Core 1 and Buffer 2 to urban development (subject to conditions)
	Feb-13	24-Jan-14	Erf 1160, Ptn 1 of erf 1153 and ptn 1 of CF 1160 Sarepta, Bellville	Amendment to SPC: Urban development to industrial
	Feb-13	20-Feb-14	35069 & 3418 Kaymor, Cilmore Str, Bellville.	Amendment to SPC: Urban development to industrial
	29/ 30 May 2013	21-Nov-13	466, 467 and 468 Philippi	Amendment to SPC: Industrial to urban development
	29 May 2013	28-Oct-13	Rem farm 1511 Baronetcy Estate, Parow	Amendment to urban edge and SPC to urban development
	30 May 2013	20-Dec-13	Technical amendments to CTSDF	Various published earlier
	31-Jul-13	Refused by DEA&DP. January 2014	38 erven in SW corner of PHA: 539, 541-545, 554-558, 572, 574,575, 578, 605-607, 609-617, 622,626, 628, 630, 632, 634, 662, 664, 1932 and 1933 Philippi / Schaapkraal (one application) MSP	PGWC refused LUPO application. Note that both MSA and LUPO approvals are required to go ahead. (Stand alone and therefore amendments to General structure plan do not refer)
	31-Jul-13	Not required by DEA&DP in terms of amendments to General Structure Plan provisions - letter dated 18 Feb 2014.	Ptn of erf 39170 D'Aria (refers to approx 4.4 ha to be subdivided off)	Amendments to urban edge and SPC: High potential and unique agricultural land to urban development. Composite application (subdivision and rezoning)
	28-Aug-13	Not required	21977, 21985-21988 Khayelitsha	Amendment to SPC: Industrial to urban development

MSA DECISIONS April 2013 - March 2015					
	Date of amen	dment decision	Property Description	Details of amendment	
Reference Number	Municipal Systems Act	LUPO 4(7): On 22 Ju had been withdraw	ly 2014, the Western Cape Department of Environmental Affairs & De n as a structure plan in terms of LUPO and that its LUPO status has fal	evelopment Planning (DEA&DP) informed the City that the CTSDF len away.	
	24-Apr-14	Not required	Ptns 18 Farm Uitkamp 189, Vissershok rd, Durbanville	Amendment to SPC: From High Potential and Unique Agricultural land to Urban Development. Amendment of the urban edge.	
	23-Jul-14	Not required	Ptn 1 of Farm 241, Langverwacht (Galencia)	Spatial Planning Category designation change from Core 1 to Urban Development.	
	25 July 2012 approved by Council. 12 November 2014 SPELUM approval for rezoning to subdivisional area and consent uses.	Not required	Rem Cape Farm Lighteburg 175, Ptn 1 of Farm Lichtenburg 175, Rem Farm 123 Eikenhof, Rem of ptn 1 of Cape Farm Louwenhof 123 (Farmika), Rem ptn 2 of Cape Farm 123, Cape Farm 1446 (Bella Riva)	Amendment to SPC: From Buffer 2 to Urban Development. Amendment of the urban edge.	
	25-Sep-14	Not required	Ptn 15 of Stellenbosch Farm 653, Faure (Vergenoegd)	Amendment to SPC: From Core 1 and Buffer 2 to Urban Development and Core 1. Amendment of the urban edge.	
	28-Jan-15	Not required	Erf 182 Skaapkraal	Amendment to SPC: From Rural to Urban Development. Amendment of the urban edge.	
	na	na	The Biodiversity Network information has been updated in Jan 201	5.	
	na	na	Coastal Edge amendments included the Zandvlei and Rietvlei estu Section 25(1)(a)(i) – (iii) of the ICM Act states that: An MEC must in (a) Establish or change coastal set-back lines – I. to protect coasta the coastal protection zone; and III. to preserve the aesthetic valu indicated to the City that estuaries are included in the above deso Based on Provinces request, the Environmental Resource Manage Zandvlei and Rietvlei.	uaries as part of the coastal zone. regulations published in the Gazette - al public property, private property and public safety; II. to protect es of the coastal zone. Using this section, the Provincial authorities criptions. ment Department amended the line accordingly to include the	
MSA DECISIO	NS April 2013 - Marc	h 2016 Including earli	er ommissions		
	Date of amendme	nt decision	Property Description	Details of amendment	
Reference Number	Municipal Systems Act	LUPO 4(7): On 22 Ju had been withdraw	ly 2014, the Western Cape Department of Environmental Affairs & De n as a structure plan in terms of LUPO and that its LUPO status has fal	evelopment Planning (DEA&DP) informed the City that the CTSDF len away.	
	23-Jul-14	Not required	Erf 5144 Ocean View	Amendment to SPC: From Core 2 to Urban Development. Amendment of the urban edge.	
	31-Jul-13	Not required	38 erven in SW corner of PHA: 539, 541-545, 554-558, 572, 574,575, 578, 605-607, 609-617, 622,626, 628, 630, 632, 634, 662, 664, 1932 and 1933 Philippi / Schaapkraal (one application) MSP	Provincial government obtained legal clarity confirming that the MSA decision now sufficient to result in amendment urban edge and SPC: from Agricultural Area of Significant Value to Urban Development.	
	20-Aug-14	12-Feb-12	Erf 10373 Constantia Glen Dirk Farm	Technical correction to update SDF in terms of earlier decision. Amendment to SPC: from Agriculture to Urban Development.	
	29-Jul-15	Not required	10905 Tokai	Amendment to SPC: From High Potential and Unique Agricultural land to Urban Development. Amendment of the Urban Edge	

MSA DECISIONS July 2013 - March 2018 Including earlier Ommissions					
	Date of amendm	ent decision	Property Description	Details of amendment	
Reference Number	Municipal Systems Act	LUPO 4(7): On 22 J had been withdraw	luly 2014, the Western Cape Department of Environmental Affairs & D wn as a structure plan in terms of LUPO and that its LUPO status has fa	evelopment Planning (DEA&DP) informed the City that the CTSDF llen away.	
	26-Oct-17	Not required	Remainder Stellenbosch farms 839,843,862, 1052, 1100 and 1369 (Proposed Casa Maris Eco-Estate)	Amendment to SPC: From Core 1 and Buffer 2 to Urban Development and Open Space. Amendment of the urban edge to include 253.16 ha of land.	
	26-Oct-16	Not required	Remainder erf 61, Simon's Town, Glen Road, Glencairn	Amendment to SPC: From Rural to Urban Development. Amendment of the Urban Edge	
	24-Oct-17	Not required	Erf 6851 Eerste River and Stellenbosch Farms 643, 644 & 644/1	Amendment to the SPC: From Industrial to Urban Development. Through the motivation for a deviation from the CTSDF based on site specific circumstances to permit residential, mixed and community uses in lieu of industrial.	
	26-Oct-16	Not required	The Remainder of Portion 7 of Farm 664, Zandvliet, Main Road, Firgrove	Amendment to SPC: From Agriculture to industrial. Amendment of the Urban Edge.	
	03-Dec-14	01-Mar-13	Erf 3447 Hout Bay, Bayview Road	Technical Correction Rezoning from Rural to Subdivisional area for the purposes of 9 single residential, 1 general residential and 1 open space erven.	
	18-May-12	21-July-14	Port 5 of Cape Farm 1387, Chapman's Peak Noordhoek	Technical Correction from Core to Urban Development. At the time of the application to Urban Development, the Provincial Government was still administrating the final policy amendments of the CTSDF under Sec 4(6)	
	na	na	Erf 1526 Tamboerskloof	Technical Correction from Core 1 to Urban Development. The property had a GR2 Zoning implying that the designated land use should be urban development. However, a Core 1 Bionet designation signalled the possible availability of conservation worthy vegetation. Two Environmental Authorisations were received early 2018 and the Core 1 biodiversity designation can now be removed subject to conditions of EA.	
	26-Oct-16	Not required	Portion 33 of CF 29 Driefontein at Honeyvale Rd, Dassenberg	Amendment to Policy on the minimum subdivision size in smallholding areas. Departure from erf size of 20 Ha to permit erf less than 7 Ha as per the Klein Dassenberg Small holding Area Development Framework.	
	23-Jul-13	Not required	Erf 1502 Pella	Pro-active amendment to urban edge as part of negotiated purchase for conservation of Atlantis fynbos.	

Technical Supplement A: MSDF policy statements

Spatial strategy 1: Building an inclusive, integrated, vibrant city

The sub-strategies and land use policy guidelines that will be used to build an inclusive integrated and vibrant city are outlined below.

ENCOURAGE INTEGRATED SETTLEMENT PATTERNS					
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES			
Policy 1	The City will strive to:	P1.1 Support a mix of land uses and higher-			
Support the intensification and diversification of land use in areas supportive of transit-oriented development	 facilitate a greater mix of land uses and intensity of people (workers and residents), prioritising the Urban Inner Core and; 	density residential development (compliant with area-specific policy frameworks) in appropriate locations in support of TOD (see Table 10 for differentiated density auidelines).			
	 provide access to economic opportunities, public institutions, social facilities and public transport; 				
	 encourage developments that provide a range of housing options to different housing markets; 				
	 locate economic activities closer to low-income residential areas; 				
	 locate residential opportunities in closer proximity to work opportunities to balance movement patterns that impact on network and household efficiencies and costs and 				
	 optimise existing infrastructure for efficiency and the reduction of carbon emissions. 				

ENCOURAGE INTEGRATED SETTLEMENT PATTERNS					
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES			
Policy 2 Ensure that development proposals provide an adequate and equitable distribution of social facilities, recreational space and public institutions	 The City and other spheres of government and bodies responsible for the provision of social facilities, recreational spaces and public institutions should: ensure that adequate provision is made for land reservation to 	P2.1 Compatible social facilities, recreational spaces and public institutions of a similar scale/threshold, travel mode and distance should be clustered together in civic precincts to reinforce one another, increase their convenience of use, and increase safety and security operational arrangements.			
Diagram A1) accommodate social facilities, recreational spaces and public institutions when commenting on	P2.2 Encourage the multi-functional use of social facilities, places for cultural practices, recreational spaces and public institutions.				
	 create a balance in the provision and capital planning between addressing critical backlogs, and addressing the needs of new development areas; 	P2.3 The requirement to provide open space is guided by the City's Summary Guidelines and Standards 2014 and is reflected in the Diagram A1 which guides the provision, distribution and design of social facilities and recreational spaces.			
	 prepare medium-term plans and budgets for the acquisition of land and the development of 	P2.4 Encourage the planning, development and management of integrated, multi-functional community facilities by the City.			
	 facilities; provide fewer high-order facilities where resources are too scarce to accommodate all 	P2.5 Ensure adequate provision is made for cemetery space, addressing burial demand as well as encouraging alternatives to inground burial.			
	 requirements; experiment with different solutions that offer operational sustainability; 	P2.6 Ensure that public spaces of metropolitan and regional value are served by public transport. Public spaces for local use should be accessible through high quality NMT, and			
	 spatially distribute social facilities, recreational spaces and public institutions according to a hierarchy of types documented in the 2032 Social Facility Planning document (CSIR, 2014); 	be well-located for accessibility to children, the elderly, and people with disabilities (refer to the Urban Design Policy).			
	 draw up contractually-bound arrangements with the community to manage, protect and encourage ownership of the land once released. 				

Sub-metropolitan level of public space and social facility planning

The plans, policies and guidelines related to the provision and location of social facilities, recreational spaces and public institutions should be reviewed as part of the district spatial development frameworks and take note of the summary guidelines and Standards for Planning of the City of Cape Town Social Facilities and Recreational Spaces (3rd Revision) 2014.

These stipulate clear locations, the scale and the scope requirements of agglomerated public spaces and facilities on sub-metropolitan and district-significant level, highlighting the location of preferred civic precincts and the nature and scale of public recreational spaces to be developed and maintained over the long term as connected to the metropolitan open space as well as the public transport system.

The Parks Policy directs the nature, scope and standards for the distribution and provision of public open space (POS) and recreational space. Design guidelines enhance the quality and performance of recreational open space, as well as maintenance responsibilities to guide the City's interactions with developers.



Diagram A1: Relationship between recreational space and minimum municipal provision



Map A1: Social Facilities Investment Framework (2032)

TRANSFORM THE APARTHEID CITY					
POLICY STATEMENT	WHAT THIS MEANS/ REQUIRES		CY GUIDELINES		
Policy 3	This implies that the City should:	P3.1	Support inclusionary housing in well-located areas.		
Redress existing imbalances in the distribution of different types of residential development, and	 Define, map and monitor inequality across the city and measure the impact of projects against target; 	P3.2	Support the development of high density, rental housing in Urban Restructuring Zones, Integration		
outcomes in future decision-making	Focus on infill opportunities, state land in support of economic and transit-		Zones, and Transit Accessible Precincts.		
	 oriented opportunities; Increase options for inclusive residential development at the coast 	P3.3	Prioritise affordable housing in transit-oriented areas and areas of economic potential.		
	with a focus on emerging coastal nodes;	P3.4	Ensure all new formal City- provided housing structures are double storay and for somi		
	 Diversify human settlement tenure and typology, combining market-driven, 		detached.		
	gap and subsidised human settlements;	P3.5	The cost-benefit evaluation preceding the acquisition of		
	 Test both the immediate capital and long-term operating costs of development borne by the City, state partners and end-users using the City's fiscal impact and spatial costing tools; 		potential housing sites is to include a due diligence assessment by means of the City's fiscal impact and cost surface tools.		
	 Increase mobility between areas of need and areas of economic potential; 				
	 Target strategically located, underutilised public and SOE-owned land to assist directly in land assembly; and 				
	 Increase access to well-located affordable accommodation. 				

TRANSFORM THE APARTHEID CITY					
POLICY STATEMENT	WHAT THIS MEANS/ REQUIRES	POLICY GUIDELINES			
Policy 4 Transform marginalised areas and informal settlements into economically and socially integrated neighbourhoods	 This implies the City will: promote non-residential land uses in areas of social need; 	P4.1 Support the upgrade of existing informal settlements that are located on land suited to urban development with financial and technical assistance and prioritising investment in basic service infrastructure for these areas.			
	 improve the public, natural and cultural environment; 	P4.2 Implement the <u>Directives for the Planning, Design and</u> <u>Implementation of Human Settlement Projects in</u> <u>Cape Town</u> (April 2016).			
	ensure access to essential social services, and address critical	P4.3 Where prevailing densities prevent the upgrading of an area, support the de-densification to alternative land where residents could be settled.			
	 maintain, improve and expand the level of infrastructure, services and facilities on an 	P4.4 Plan for economic activity and sustainable livelihoods wherever possible in the layout of new townships by zoning land appropriately and in response to the opportunities and constraints of a particular site.			
	 where informal settlements are 	P4.5 Plan for micro enterprises and informal traders around higher order activity generators (urban nodes, public institutions and public transport interchanges) which attract high levels of pedestrian traffic.			
	unsuitable for development, support the identification and development of alternative land.	P4.6 Respond proactively to informality by focusing on interventions within the public environment including formalisation of movement routes, the provision of public facilities, the management of informal trade and the provision of basic infrastructure and services in a manner that creates social gathering places or places to trade.			
		P4.7 Prioritise public health and safety measures around areas where informal trading is common and within informal settlements by upgrading the public environment to mitigate natural hazards and manmade risks, by ensuring adequate access for emergency services, regular fire breaks and public lighting in high crime areas.			
	P4.8 Remove unnecessary regulatory red-tape that stifles entrepreneurial efforts and SMME development by proactively increasing the scope of land use rights along appropriate activity routes and streets or structuring routes by utilising overlay zones in appropriate areas.				
		P4.9 Develop guidelines for the incremental provision of social services in informal settlements			

TRANSFORM THE APARTHEID CITY				
POLICY STATEMENT	WHAT THIS MEANS/ REQUIRES	POLI	CY GUIDELINES	
Policy 5 Encourage public/ private partnerships to develop	Identify publicly-owned land that can be used for housing projects, which will be executed in partnership with the private sector. Projects should provide for socio-economically integrated communities in a ratio of income distribution similar to	P5.1	Consider a package of mixed land use rights to leverage the provision of affordable/gap housing in private developments.	
integrated human settlements and diversify housing delivery	that of the municipality as a whole. Housing should be made available on both a freehold and a rental basis.	P5.2	Strengthen partnerships with existing partners (e.g. Social Housing Institutions) and seek new opportunities for partnerships to support incremental, rental and gap subsidised housing.	
		P5.3	The City will develop a land assembly strategy to focus resources on strategically owned, underutilised state and City-owned land to secure citywide accommodation opportunities for lower income households and communities.	
Policy 6 Support incremental housing delivery methods and tenure in support of a single property market	Creative formal and incremental development options that accommodate informal development are needed. As a result, managed land settlement, site-and-service, starter housing and in situ upgrades of informal settlements will become more prevalent; The formalisation of backyard dwellings, where sustainable, will be facilitated and the likely development of second and third dwellings should be taken into account when servicing new areas and positioning houses on individual erven.	P6.1	Encourage the regularising of existing backyard dwellings and the development of new second and third dwellings in accordance with the provisions of the third dwelling overlay zone in designated areas. Ensure that bulk services are designed to deal with increased density when a township is established and when infrastructure is originally installed.	
		P6.3	Ensure that backbone bulk infrastructure is reinforced to deal with future incremental intensification in backyard prone areas.	

TRANSFORM THE APARTHEID CITY					
POLICY STATEMENT	WHAT THIS MEANS/ REQUIRES	POLICY GUIDELINES			
Policy 7 Respond to informality by proactively addressing current regulatory challenges.	Explore regulatory barriers to formalisation. Bridging the formal and informal land markets and development processes is fundamental to create the necessary conditions for households to improve their living conditions incrementally. Immediate improvement of living conditions in informal settlements via site-and-service and starter housing schemes is supported by the DMS via the Single Residential Zoning 2: Incremental Housing (SR2). ³³ Longer-term, the ability to access mortgage finance from private sector financial institutions will assist households to realise the formal market value of their properties. Plan for informality by shifting from top structures to incremental housing and proactive accommodation of backyarders.	 P7.1 Where housing cannot immediately be made available (or appropriate land for housing), the City will strive to: provide services to informal settlements and backyard dwellers (in-situ upgrading); provide material for informal structures to be built; Partner with beneficiary communities and NGOs in the provision of materials such as materials for development of foundations for informal settlements within flood zones and steep hills (e.g. tyres); and develop skills to ensure more appropriate foundations and structures are developed, as well as layouts that ensure access roads are possible for provision of services. 			

³³ "The SR2 zoning facilitates upgrading and incremental housing from an informal settlement to a formal settlement. SR2 may apply to individual land units or to blocks containing an informal settlement. In recognition of the realities of poor and marginalised communities, development rules are not very restrictive and local employment generation is encouraged within this zoning. Once upgrading of an area has reached an appropriate stage, as determined by the City, it is contemplated that the area may be rezoned to SR1 or another appropriate zoning" (section 26 of the MPB-L).

ADDRESS SPATIAL ECONOMIC IMBALANCES				
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES		POLICY GUIDELINES	
Policy 8 Unlock employment- generating and livelihood opportunities within marginalised areas	The City will use public investment and public interventions to generate market opportunities for investment and job creation in marginalised areas. To be effective, a limited number of locations will be targeted for coordinated public intervention programmes comprising: increased security; area management and maintenance; 	P8.1	Support private sector investment and the clustering of public facilities, institutions, government and non- governmental organisation offices in marginalised areas.	
	 and infrastructural upgrades including upgrades to transport infrastructure. 			
Policy 9 Support private-sector development initiatives in Integration Zones and areas of economic potential that are easily accessible from marginalised areas	The City will encourage employment- generating opportunities in locations accessible to the Metro South-East, through the sale/lease of land, land use and procedural measures as well as facilitating partnerships with key land owners.	P9.1 P9.2 P9.3	Support mixed-use development on portions of the Belcon site that are not required for freight logistics, transfers and distribution-related uses, to ensure the optimum use of the Belcon site. Encourage the intensification of land uses and urban renewal in the Bellville CBD. Support the rationalisation of the Swartklip site, recognising its potential as both a strategically located site for non-residential development and as a biodiversity area that is managed and that could be used for offsets to unlock other areas for development in the Metro South-East. Recognise economic opportunities along Jakes Gerwel Drive/N7 south of the N1, while maintaining the mobility function of this route.	

ADDRESS SPATIAL ECONOMIC IMBALANCES				
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES		
Policy 10 Identify land for land reform and publicly-led housing delivery programmes	 The City will support land reform and housing delivery programmes by: maintaining up-to-date information on undeveloped and partially developed land, and land ownership; identifying land that can be investigated in the short to medium term for a range of publicly-led housing delivery programmes in district and select local area planning frameworks, based on the criteria outlined in Diagram 81; identifying land that the City should 'bank' for the delivery of housing in the medium to long term; and identifying commonages and land suited to a broad range of farming activities as a means of supporting agriculture-related land reform. 			

Facilitate a range of housing options and delivery approaches	 Be suited to the development of new settlements the upgrade and de-densification of existing informal settlements, high-density housing, rental accomodation, and the release of land to the homeless.
contain urban sprawl,and protect the urban edge	 Contribute to the development of a more compact city Maximise the use of existing infrstructure and service capacity
Facilitate urban integration, and promote the establishment of viable communities	 Be close to economic, socail and public transport opportunities Support a mutually beneficial mix of opportunities. Promote a relatively even spread of housing opportunities across the growth corridors and within the developed tootprint of the city
Take the beneficiaries economic and social well-being into account	 When identifying land and providing infrastructure and shelter for the homeless and poorly housed, it is important to take beneficiaries livelihood strategies and social support networks into account.
Be suited to housing development	 Encourage environmentally sustainable land development practices and processes. Not lead to the loss of , or have damaging impact on natural, cultural, scenic and built assets that merit longer term protection. Ensure healthy, safe living conditions

Diagram A2: Criteria to identify land for subsidised and gap housing and the pro-active acquisition of land

ADDRESS SPATIAL ECONOMIC IMBALANCES				
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY	GUIDELINES	
Policy 11 Promote quality urban design and contextual fit	Routine application of the Urban Development Policy (UDP) to inform the design of contextually appropriate, well-structured and aesthetically appealing settlements, and promote the existing or desired sense of place.	P11.1 P11.2 P11.3 P11.4	 Consider and apply urban design guidelines when assessing development applications and formulating development conditions designing public buildings and precincts. Mandatory application of the UDP is required in the following instances: proposals that deviate from the approved forward planning vision and spatial policies of the City at local area scale; new township establishments or where the application includes new subdivisions into more than 20 urban land units; where regeneration of a site exceeding one hectare is envisaged; proposals including the creation of new public space and/or public or community facilities; proposals adjacent to or including watercourses or wetlands or overlying important aquifer recharge areas; Site Development Plans are required for the following group of applications: shopping centres (from neighbourhood to district scale centres); commercial developments exceeding a bulk of 5,000m²; and sectional title developments of more than 10 units; and where a delegated official considers that an application has the potential to have a significant negative impact on the public realm. Utilise pre-consultation proceedings to embed and support the implementation and adherence to UDP (i.e. prior to applicant developing initial concept and submission). 	
			and informal) as a positive, mutually supportive design element.	

ENHANCE THE VALUE OF HERITAGE RESOURCES AND SCENIC ROUTES				
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY	GUIDELINES	
Policy 12 Identify, conserve and manage heritage resources, including cultural landscapes (See Map A2)	 on an ongoing basis identify, compile, map and grade heritage resources within the municipal area into an inventory. Such resources may include objects, structures, streetscapes, settlements, historic and symbolic sites, natural and cultural landscapes, and significant plantings. This register should be publicly available; protect, enhance and manage heritage resources (including buildings, areas and landscapes) of local significance (Grade III) in terms of the requirements of the NHRA (including sections 30 and 31); coordinate the management of heritage resources with policy and implementation strategies of the relevant heritage resources authorities at national, provincial and local levels; afford appropriate statutory protection to heritage resources, and administer and implement an effective system of heritage resource management, which is periodically audited and updated; enhance heritage resources through project interventions and incentives; and Implement Items 159-164 of the Municipal Planning By-Law (2015) Part 1: Heritage Protection Overlay Zoning (HPO). 	P12.1	 When making planning and development decisions that affect heritage resources: P8.1 consider the relevance of social and landscape contexts; P8.2 ensure that heritage resources are conserved in their authentic state as far as practically possible, to reflect their historical and cultural value; P8.3 acknowledge the significance of scale when making conservation-related decisions and evaluating heritage resources within broader contexts; P8.4 wherever appropriate, ensure that a place's character (tangible and intangible) is protected based on its context and scale (rather than protecting the character of individual sites and/or objects only); P8.5 where possible, ensure that new developments in historic precincts are of an appropriate scale and in an appropriate architectural 'language' (massing, articulation and texture); and P8.6 ensure that advertising signage, roadways, pavements, colonnades, landscaping and tree planting respect the character of historic buildings and precincts, as far as practically possible. Heritage resources should be optimised as an asset supporting economic and social development and a tool to integrate communities. 	
Ensure access to, and provide information about, public heritage resources	ine City will ensure that access and viewing points are appropriately marked and interpreted for public understanding promote and market public heritage resources.	r 13.1 W a vi a	pplications, encourage the creation of ews of heritage sites where no general ccess is provided.	

ENHANCE THE VALUE OF HERITAGE RESOURCES AND SCENIC ROUTES				
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES		
Policy 14 Create an enabling environment for urban regeneration that allows buildings and sites of historical and architectural significance to make a positive contribution to the economy and quality of urban life	The City will identify unique cultural and heritage areas and develop specific guidelines and provisions for the management of these precincts.	 P14.1 Encourage investment in the adaptive reuse of historical sites, facilitate integration between the conservation and adaptive reuse of heritage buildings, and promote urban regeneration strategies. P14.2 Discourage the demolition or inappropriate alteration of historical sites where there is a possibility that these can be retained and integrated into a new development without undermining the viability or inclusive potential of the development. 		
Policy 15 Celebrate Cape Town's diverse historical legacies through urban form, architectural design, interpretive / information signage and, where appropriate, artwork	 The City will: emphasise under- represented social, cultural, spatial or spiritual legacies, and those of which there is no remaining physical evidence, such as slavery; and identify, protect and commemorate artefacts, structures and places from the precolonial, colonial, postcolonial and struggle eras. Encourage meaningful post- apartheid era commemorative opportunities. 	P15.1 Encourage appropriate and accurate interpretation of heritage resources and recognise and develop places of memory, particularly associated with the struggle and under-represented heritage.		
Policy 16 Provide positive spaces for cultural and social ceremonies, life related and civic events	The City will identify and, where appropriate, provide land and/or facilities for cultural and social ceremonies and life-related events.	 P16.1Encourage the provision of positive spaces for cultural and social ceremonies, civic and life-related events, including initiation sites. P16.2Acknowledge and plan for cultural practices (e.g. initiation sites). 		

ENHANCE THE VALUE OF HERITAGE RESOURCES AND SCENIC ROUTES			
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES	
Policy 17 Carefully manage land uses and interventions along identified scenic routes, and	 The City will: enhance the scenic experience, wherever possible, by removing moveable obstructions and provide 	P17.1Land use management decisions should be guided by the design- related policies of the city and the Scenic Drive Network Management plan where	
in places of scenic and visual quality	 suitable NMT intrastructure where appropriate; ensure that safe access to and along scenic drives is enhanced; comply with the comprehensive set of guidelines for visual design; manage interventions with visual impact; and where appropriate, encourage adjoining municipalities to define and 	appropriate.	
	manage cross-border scenic routes within their administrative areas.		
Policy 18	The City must ensure that destination places are effectively integrated into the urban	P18.1Land use management decisions must protect and enhance existing	
Provide efficient access to destination places where	fabric by:	and potential destination places, including access to these places.	
potential exists, especially in or near areas of high social need	 developing unused or underused areas of social/cultural significance in an appropriate manner that will contribute towards creating and strengthening a sense of place; and ensuring effective land use management and economic systems are in place that will guide and enhance the urban character and tourist economy of an area. 	P18.2 Identified heritage places that are also potential destination places, must be appropriately protected and developed.	
	Identification of new destination places should be informed by the criteria in Table 2.1.		
	Prioritise the creation and improvement of multifunctional public spaces in previously disadvantaged areas and underserved areas.		



Map A2: Heritage resources



Map A3: Tourism assets

Spatial Strategy 2: Manage urban growth, and create a balance between urban development and environmental protection

The sub-strategies and land use policy guidelines that will be used to manage and promote urban growth and create a balance between urban development and environmental protection are outlined below.

ENCOURAGE A MORE COMPACT FORM OF DEVELOPMENT			
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES	
Policy 19 Promote appropriate land use intensity	 The City will support land use intensification in all areas of the city, but differentiated by context: higher levels of intensification (densification and diversification) will be encouraged within the Urban Inner Core. 	 19.1 The intensification of all types of land uses, not just residential land uses, should be encouraged, and a mix of land uses should be supported within the framework outlined in <i>Table 10</i>. 19.2 The determination of the appropriate location, height, scale, form and orientation of a higher-density development in a particular location should be guided by the followina: 	
	 Incremental intensification will be considered across the city, where appropriate and feasible in terms of infrastructure availability. Informal settlements and subsidised housing areas that are too densely settled to make their upgrade feasible may necessitate the relocation of some households to alternative sites. 	 P8.7 generic considerations related to the suitability of the area for land use intensification, such as surrounding land use character, access to public transport, proximity to places of employment, services and community/social facilities, proximity to public open space, and infrastructure availability (existing and planned); P8.8 the applicable policy frameworks, namely the CTSDF, District SDPs and local spatial plans, density plans, urban design and architectural guidelines; the spatial locations targeted for different types of densification; contextual informants related to the development application and its immediate surroundings, such as the natural environment, land use, built and heritage character, sense of place, infrastructure availability and capacity, and socio-economic considerations, should determine the densities appropriate to a specific location; and P8.9 the spatial outcome of a proposal. 19.3 Cape Town as a city is not defined by its urban or built skyline, and it is not intended for this to be the case in future. The mountain skylines and views of the sea are the defining elements that make Cape Town unique, and views of them (especially key views from public spaces) must continue to be protected from inappropriate built form through, for instance, the application of the Tall Buildings Policy. 19.4 A variety of eff and dwelling sizes should be promoted within any one area. Urban rather than suburban building typologies should be encouraged and plots should be required to guide the densification of larger properties, especially those greater than one hectare. 19.5 The Urban Design Policy must be consulted when preparing land development transport. 	
		plan may be required in instances where identified urban design objectives apply.	

FACILITATE URBAN DEVELOPMENT			
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES	
POLICY STATEMENT Policy 20 Enable resource- efficient development	 WHAT THIS MEANS/REQUIRES The City should: encourage the public and private sector to utilise sustainable practices and technologies that assist in reducing carbon emissions, reduce energy and water demand, promote public transport, non-motorised transport and support the recycling of water and waste materials; adopt an integrated approach to energy and water demand management; support the introduction and implementation of by-laws and policies on sustainable resource use; strengthen environmental partnerships with communities and the private sector to improve environmental conditions; communicate opportunities and benefits of sustainable living to communities and partners; capitalise on opportunities for embedded energy generation, co-generation etc. at large new infrastructure facilities; prioritise non-motorised transport options and public transport; and Harness advances in energy, water, transport and telecommunication to improve resource efficiency. 	 POLICY GUIDELINES 20.1 Promote green buildings in line with relevant guidelines. 20.2 Promote low carbon development i.e. small scale energy generation, accessible mass transit and higher densities in line with the TOD spatial framework, efficient urban form, accessible non-motorised transport networks, appropriate mix of land uses, inward growth and development. 20.3 Incorporate aquifer restoration and protection requirements into spatial planning, development and landscape design strategies and policies. 	
	the City's aquifers for long term sustainable use.		

APPROPRIATELY PROTECT THE CITIZENS OF CAPE TOWN FROM RISK AREAS			
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES	
Policy 21 Direct urban growth away from risk areas (Map 5a)	Risk areas are either already determined through proclamations/ law or specialist studies, or will be determined as part of the EIA processes or pre-submission consultation processes, where appropriate. Use the Traffic Evacuation Model under the Integrated Koeberg Nuclear Emergency Plan and the RRR (Radiological Release Plan) to guide decision making ceilings regarding land use diversity and density. To ensure the viability of the Koeberg Nuclear Emergency Plan (KNEP), all urban development within the KNPS Precautionary Action Zone (PAZ) (area within a 5 km radius of the Koeberg nuclear reactors) and Urgent Protective action planning Zone (UPZ) (area within a 5 km - 16km radius of the Koeberg nuclear reactors must conform to the restrictions referred to in the Development Management Scheme section 158 (Specific Conditions regarding the Koeberg Restriction Area Overlay Zoning).	 21.1No inappropriate urban development should be permitted in mining blasting zones, servitudes, heavy/ noxious industrial zones, solid waste disposal and wastewater treatment sites and transfer sites, in cemeteries or areas subject to regular flooding or flood risk, or related buffer areas. Existing developments in the above areas may require mitigation measures and limits on the further enhancement of development rights. 21.2All urban development that takes place in the vicinity of the CTIA and other airports within the metropolitan area must be within the framework of restrictions on the use of land in the noise contours of airports. (Map 5a indicates the noise contours for the planned single realigned runway). 21.3Future duelling of the planned single re-aligned runway has to be considered sensitively balancing economic benefits with noise impact on existing and potential informal or formal residential development as well as on a range of community facilities like clinics, schools and community halls. 21.4Avoid development at or close to an airport or airfield that is incompatible with any existing or potential future aviation rights. 21.6To ensure the viability of the Koeberg Nuclear Emergency Plan (KNEP), all urban development twithin the KNPS's 5 km exclusion zone (He PAZ). 21.6To ensure the viability of the Koeberg Nuclear reactors located at X =-52727.4000, Y = -3727966.6500, must conform to the restrictions referred to in the Development Management Scheme section 158 (Specific Conditions regarding the Koeberg Restriction Area Overlay Zoning). No new development is permissible within the PAZ (as defined above) other than development rights irreactors located to the siting, construction, operation and decommissioning of the KNPS or that is a directly related to the siting, construction, operation the restrictions referred to in the Development Management Scheme section 158 (Specific Conditions regarding the Koeberg Nuclear reactors located a	

	from the time that an evacuation order is given, as demonstrated by means of a traffic evacuation model approved by Council and the National Nuclear Regulator (NNR).
	New development within the UPZ (as defined above) may only be approved subject to demonstration that the proposed development will not compromise the adequacy of disaster management infrastructure required to ensure the effective implementation of the KNEP (version approved by the NNR). Specifically, within the UPZ area, an evacuation time of 16 hours of the projected population, within any 67,5° sector, must be demonstrated by means of a traffic (evacuation) model approved by Council and the NNR. The evacuation time must be measured from the time that the evacuation order is given. These development controls will be superseded by the National 'Regulations on Development in the Formal Emergency Planning Zone of the KNPS', when approved.
	Consideration should be given to Council report C 53/12/13 (4 December 2013) which contains evaluation criteria for applications and projects around Koeberg. This includes: a) Land use applications located in the PAZ (0 – 5 km radius from KNPS), should not be approved unless it is "place-bound" (related to the
	 functioning of Koeberg Nuclear Power Station). b) Exercise caution in the approval of applications which: increase transitory temporary visitors (i.e. tourist related uses) into the area; include special facilities like old age homes,
	accommodation for the disabled and schools which requires significant evacuation support in terms of transport provision commitment; and iii) Generate a 10% increase in the population
	of the subzone (e.g. UPZ NE or SE sectors). c) Applications within the urban edge but furthest away from the PAZ, are likely to be able to evacuate easier (depending on the available road network and capacities).
	 a) To evaluate development applications outside the urban edges require an amendment to the TEM Baseline. The NNR has to approve this and such applications should therefore not be supported. e) Public housing projects and the associated
	influx of a population of lower income groups, places a larger burden on the operational arrangements associated with disaster risk management in the form of the demand for public transport such as buses used for
	evacuation. This will require more stringent measures regarding the availability of public transport by private and public bus owners and operators.

APPROPRIATELY PROTECT THE CITIZENS OF CAPE TOWN FROM RISK AREAS			
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES	
Policy 22 Discourage urban growth in areas at risk from natural hazards/coastal processes which are expected to be amplified by climate change impacts (See Map 5.1a, b)	Areas vulnerable to climate change and natural hazards and risks, have been broadly defined through specialist studies, or will be determined by future specialist studies.	 22.1 Intensification of development in areas of known risk from natural hazard threat should be discouraged. 22.2 Where existing property in risk areas is identified, initiatives that enable adaptation and reduce risk must be encouraged. 22.3 Alternative service delivery mechanisms in risk areas should be investigated in order to reduce the impacts of known hazards. 22.4 The transfer of risk from a property to be developed to an already developed area or to an as yet undeveloped area that is not currently at risk should be avoided. 22.5 Develop land use management guidelines and regulations in line 	
		manage veld fire risks in areas shown in Map 5a	

APPROPRIATE MANAGEMENT OF DEVELOPMENT IMPACTS ON NATURAL RESOURCES AND CRITICAL BIODIVERSITY NETWORKS

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 23 Increase efforts to protect and enhance biodiversity networks at all levels of government The relationship between the PSDF bioregional spatial planning categories and the Bioregional Plan / biodiversity network is shown in Diagram G3 .	 The City will lead by example by protecting and enhancing its biodiversity (Map 5b) by: seeking to meet national biodiversity targets; seeking innovative solutions for achieving biodiversity conservation in critical biodiversity areas where development rights already exist; introducing a critical biodiversity network overlay zone through the CTZS, once approved; proclaiming valuable biodiversity areas as contract nature reserves, based on the following criteria: 20 priority areas adjacent to or linking existing statutory reserves; 21 areas of a sufficient size to be self-contained ecosystems or water catchments; and 22 critically important and threatened sites; supporting the consolidation of SANParks as custodian of the Peninsula mountain chain and eradication of alien and invasive fauna and flora; and expanding the Atlantis biodiversity incentive³⁴ scheme to include the Metro-South East in order to secure biodiversity assets and unlock development opportunities elsewhere. 	 23.1 Utilise the Bioregional Plan to assess the impact of development on critical biodiversity areas and endangered species, and make decisions related to the city's biodiversity network based on the development guidelines in the relevant District SDF, the Bioregional plan and up-to-date mapping of the city's biodiversity network. 23.2 Consolidate existing conservation areas and protected areas, especially where they provide buffering from climate change impacts. 23.3 Biodiversity areas shall be connected and existing linkages protected, maintained and improved. 23.4 Support operational requirements of biodiversity areas to ensure their ongoing utility in green infrastructure networks

³⁴ The Atlantis incentive scheme includes financial and non-financial incentives; e.g. fast tracking development rights. The incentive involves safeguarding biodiversity assets in exchange for development facilitation incentives and biodiversity offsets.



Diagram A3: Existing reserves and Critical Biodiversity Areas

CBAs	Description
Core 1	Statutory conservation areas (biodiversity areas that are formally protected and managed); critical biodiversity areas; conservation priority zones; critical, irreplaceable and restorable biodiversity sites; public conservation areas and private conservation areas.
Core 2	Ecological corridors; critical ecological support areas; significant coastal and dune protection zones; major river corridors and water bodies, excluding wastewater treatment works.
Buffer 1	Rural areas, game and livestock farming areas, and other natural vegetation areas that do not form part of the core areas, but are recognised as areas that could provide opportunities to establish biodiversity offsets. Essential utility service infrastructure may be accommodated in buffer 1 areas.
Buffer 2	Other ecological support areas, transformed game and livestock farming areas, and rural areas that do not form part of core 1 or core 2 areas. Essential utility service infrastructure including for renewables, cemeteries and areas zoned public open space may be accommodated in buffer 2 areas.

APPROPRIATELY MANAGE URBAN DEVELOPMENT IMPACTS ON NATURAL RESOURCES AND CRITICAL BIODIVERSITY NETWORKS

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
POLICY STATEMENT Policy 24 Reduce the impact of urban development on river systems, wetlands, aquifers, aquifer recharge areas and discharge areas	 WHAT THIS MEANS/REQUIRES The City will ensure that the water flow regimes and quality of river systems and wetlands, as well as their ability to support their natural flora and fauna, are not unduly compromised, by: identifying adequate flood lines and ecological buffers/setback lines to permit the full range of flow regimes and flood attenuation, and protect the integrity and functioning of adjacent aquatic ecosystems; 	 POLICY GUIDELINES 24.1 All land use management decisions should be guided by the development guidelines in the relevant district SDF. 24.2 Land use management decisions should take the following water sensitive urban design principles into account: maintain the natural hydrological behaviours of catchments; protect and restore water quality
	 identifying adequate measures to reduce impacts such as quality impairment and erosion to all receiving surface and groundwater systems; promoting the sustainable use and sourcing of water supply; mapping all aquifer recharge areas; policing of illegal water extraction; and taking measures to accommodate changes in climate that predict lower 	 of surface and groundwater systems; minimise demand on the potable water supply system; minimise sewage discharges into the natural environment; and integrate water with the landscape to enhance visual, social, cultural and ecological values.
	and higher temperatures.	24.3 Development should not unduly compromise the freshwater ecosystems, especially high productivity aquifers and their ability to be utilised as water sources.
		24.4 Incorporate aquifer restoration and protection requirements into spatial planning, development and landscape design strategies and policies.
APPROPRIATELY MANAGE URBAN DEVELOPMENT IMPACTS ON NATURAL RESOURCES AND CRITICAL BIODIVERSITY NETWORKS

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
POLICY STATEMENT Policy 25 Promote risk averse and sustainable urban development along the coast and in accordance with the coastal edge (Map 5a,b,d).	WHAT THIS MEANS/REQUIRES In accordance with the ICMA (No. 36 of 2014), the City's Integrated Coastal Management Policy, Coastal Management Programme, draft Coastal Management By-law and draft Coastal Overlay Zone will support the management of coastal development in a way that limits the exposure of development to coastal processes, protects the ecological integrity of the coastal environment and makes responsible use of the economic and social benefits of the coastal space.	 POLICY GUIDELINES 25.1 No urban development should be encouraged beyond the coastal edge unless site-specific circumstances exist. 25.2 All land use management decisions should be guided by the principles of the Integrated Coastal Management Policy, in alignment with the development guidelines in the relevant district SDF and other relevant regulatory mechanisms such as the proposed Coastal Overlay Zone
	The coastal edge will be used to protect natural assets by curbing inappropriate urban development outside these edges. Exceptions are made in accordance with Table 5.4 titled Development Directives	 containing coastal provisions. 25.3 When assessing development applications along the coast the areas potentially affected by climate change, sea-level rise, and adjacent to river outlets should be taken into account. 25.4 Promote nodal rather than continuous strip development as per the configuration of the Coastal Edge. 25.5 Use applicable coastal and land use guidelines to assess all land-based activities associated with aquaculture. 25.6 All coastal development applications falling within the Environmental Management Overlay areas must be assessed against sea level rise in addition to storm surge run-up determinations for those regions. 25.7 Development applications will be assessed against additional coastal provisions determined within the Coastal Overlay Zones for those regions.

APPROPRIATELY MANAGE URBAN DEVELOPMENT IMPACTS ON NATURAL RESOURCES AND CRITICAL BIODIVERSITY NETWORKS

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 26 Protect valuable agricultural areas, viable farmed areas and horticultural areas from urban encroachment, and support urban agriculture (Map5c)	 To promote food security, the City should therefore: Protect high potential and unique agricultural land³⁵. Act as a facilitator to create the enabling environment for urban agricultural development. In addition to this, the City plays a vital role in the provision of land for urban agricultural use including construction of infrastructure and earth works. The Urban Agriculture policy makes allowances for the City to identify land in all urban areas suitable for urban agriculture. The land parcels identified will be made available through disposals, leases and commonage land. Recognise that urban agriculture will take place at different scales namely, homebased, community-based, micro farmers, and small emerging farmers. Include urban agriculture in land use management and physical planning in order to give urban agriculture formal status. Dual approval is required to sub-divide and develop agricultural land if the land was cultivated or irrigated over the past 10 years and classified as 'agricultural land' or Land of Agricultural Significance. Provincial government needs to independently approve land development on agricultural Areas of Significance. LUPA (Sec. 45) stipulates the municipality's responsibility to forward applications to Province or comment with regard to land use applications located outside the City's planned outer urban expansion limit and rezoning applications on agriculturally or conservation zoned land. 	 26.1 All land use management decisions should be guided by the development guidelines in the relevant district SDF³⁶. 26.2 Discourage the further subdivision of land in the Philippi Horticultural Area below what is permitted by the zoning and no further township development should be considered, unless such subdivisions or development proposals are in line with the recommendations of the draft Schaapkraal study as it relates to the western side of the Philippi Horticultural Area. 26.3 Discourage development that undermines agricultural activity in the Philippi Horticultural Area and Constantia, Lourensford and Durbanville, West Coast and Bottelary Hills winelands/cultural landscapes. 26.4 Expand urban agriculture, particularly in areas where this can link to other economic activities, and provide livelihoods to vulnerable communities and provide for direct household consumption; and 26.5 Proactively prepare and implement action/management plans that prevent urban encroachment and unlawful land use in agricultural areas, minimise negative impacts of urban development on farmed land and manage use of water and other natural resources. 26.6 Given the City's current water crisis, urban agricultural operations should comply with the Water Services Development Plan which should in future incorporate water supplies for urban agriculture and related activities

³⁵ For the purposes of this review, previously identified 'high-potential and unique agricultural areas' and 'agricultural areas of significance' were collapsed by the Department of Agriculture after considering the 2012 CTSDF information together with 2014 Crop Survey Data. Agricultural land considered as AAS should include soils rated as 'medium' and 'high' potential (typical of Soil Reports). It also includes land described in section 53(1-(3) of the Western Cape Land Use Planning Act, Act 3 of 2014.

AAS acknowledges the co-existence possibilities with cultural and heritage attributes typically developed within the rules of the DMS for tourism business purposes and essential utility service infrastructure which may have to be accommodated via servitude arrangements. ³⁶ District SDF's are developed with detailed local content, until such time they are reviewed, the District SDF's must be checked for consistency with the MSDF.

APPROPRIATELY MANAGE URBAN DEVELOPMENT IMPACTS ON NATURAL RESOURCES AND CRITICAL BIODIVERSITY NETWORKS

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 27 Adopt a proactive planning approach to mining resource management	 The City should: proactively manage current and future mining areas to ensure the preservation of its minerals for future extraction; and assist the Department of Mineral Resources to close down all illegal mining operations. 	 27.1 Protect important mining resource areas, such as rock and stone mining, as well as specific mineral deposits and surrounding their buffer zones to permit future extraction. Only uses related to the extraction of materials and farming should be considered in the extraction areas. 27.2 All land use authorisations in mineral extraction areas should be informed by the development guidelines in the relevant district SDP.
Policy 28 Support appropriate development and activities in rural areas, and in and around unique and culturally significant rural settlements	Protect and enhance rural settlements, such as Pella, Mamre, Philadelphia and Klipheuwel. Support the development of economic activities that counteract the 'dormitory' nature of these settlements, such as heritage tourism, ecotourism, intensive agricultural opportunities adjacent to the settlements (including land reform and commonage options), and agroindustry.	 28.1 Appropriate development in rural areas includes development associated with farming activities, such as worker housing, sheds, wineries, market gardening tunnels and, in certain areas, agro-industrial activities (such as chicken batteries) and small-scale farming. The limits to the nature, scope and scale of these developments are stipulated in the DMS and the Rural Land Use Planning and Management Guidelines. more general development related to rural landscapes, such as tourism, nurseries, mining and recreational activities (equestrian, shooting, mountain and quad biking, landing strips and cycle routes); and essential municipal infrastructure, such as wastewater treatment works, solid waste disposal sites, power generation sites, water treatment sites and cemeteries. The siting of this infrastructure should be carefully considered, and impact on rural landscapes should be minimised. 28.2 Critical land use and built form considerations are developments' prominence, potential negative visual impact on the rural landscape, service requirements, vehicular traffic generation and the scale, form and location of each development in its landscape context.
Policy 29 Rationalise and proactively manage smallholdings	Maintain the character of existing smallholding areas Find creative ways to use rates and service charges to support rural activities within smallholding areas	 29.1 Do not establish any more smallholdings. 29.2 Prevent the intrusion of nonconforming land uses. 29.3 The minimum subdivision size in smallholding areas must adhere to zoning, district SDPs and local plans.

Spatial Strategy 3: Plan for employment and improve access to economic opportunities

The sub-strategies and land use policies that are used to plan for employment and improve access to economic opportunities are outlined below.

PROMOTE INCLUSIVE SHARED ECONOMIC GROWTH AND DEVELOPMENT		
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 30 Support investors through improved information, cross- sectoral planning and the removal of red tape	 The City will improve investor certainty and lower the cost of information by: Ensuring credible, high quality spatial information and analytical support informs the City's policy development processes, with a specific emphasis on investment promotion and business development initiatives Crowding in private sector investment by sending clear signals to the private sector of the City's spatial priorities and corresponding investment pipeline. Establishing strategic and informationsharing partnerships with private sector representative bodies and investment promotion agencies Removing regulatory impediments to economic survival and promoting small business development in areas of need. The City will stimulate innovation and collaboration by: Leveraging the economic value of City data by embedding the open data philosophy across departments, fostering data-sharing partnerships with both the private sector and scientific community. Promoting digital connectivity by improving access to fast, reliable and affordable broadband. The City will target and monitor area-based interventions by: application of a coherent and transparent spatial logic the use of measurable criteria and credible spatial data in monitoring spatial performance. 	 30.1 Ensure that there is alignment of the City's financial, land use, economic, infrastructure, transport and energy models and decision-making tools. 30.2 Provide clear signals regarding the City's infrastructure investment plans through effective communication on the Built Environment Performance Plan. 30.3 Encourage the streamlined application of policies and by-laws applicable to business and consider regulatory impacts in the development of new policies/ by-laws

PROMOTE INCLUSIVE SHARED ECONOMIC GROWTH AND DEVELOPMENT		
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 31 Introduce land use policies and mechanisms that will support the development of small businesses (both informal and formal)	 The City will support the development of small businesses by: P8.10 developing policy and design guidelines for large commercial developments that support the development of small businesses; P8.11 ensuring that sufficient, well-located and appropriately designed formal and informal trading facilities are provided in activity areas as well as other suitable public assembly points, such as transport interchanges, public spaces, parking areas and road reserves (where appropriate); P8.12 ensuring the availability of an appropriate range of well-priced City-owned land (through lease or sale) for informal and small business use; and P8.13 Unlocking industrial development close to areas of socio-economic need through non-financial incentives. 	 31.1 Encourage and incentivise the establishment and growth of formal small businesses and the incremental and voluntary formalisation of existing informal businesses through appropriate application of land use management. 31.2 Encourage large commercial developments to: P8.14 consider a mixed package of land use rights to leverage the provision of informal trading space and facilities in private developments; and P8.15 establish a functional and accessible, pedestrian-friendly interface between formal and informal activities.

PROMOTE INCLUSIVE SHARED ECONOMIC GROWTH AND DEVELOPMENT		
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 32 Strengthen and improve access to existing business nodes through place-based and connective interventions	 The City will maximise the spatial efficiency and economic benefits of proximity by: Using context-sensitive planning tools and funding models to ensure the timeous provision of connective infrastructure (i.e. public transport, broadband, bulk reticulation) to support spatially efficient, job-generating inward investment. Foster local initiative and raise the attractiveness and amenity of the inner city by extending enhanced area- based urban management beyond the current extent. Ensure access to employment by enhancing public transport to areas of economic potential, with a special emphasis on the inner city business nodes. Reinforce public transport infrastructure linking 'leading' and 'lagging' nodes through connective infrastructure. Inhibit the spatial dispersion of employment and economic energy to new nodes beyond the City's urban footprint by reinforcing the economic competitiveness of existing, well-located business nodes. Extend area-based urban management to underperforming inner city nodes to support equitable intensification. 	 32.1 Unlock the underlying economic potential of well-located but under-performing inner city business nodes (opportunity nodes) by: Improving local coordination of urban management services through area coordinating teams Shoring up commercial nodes by encouraging conversion of functionally obsolete building stock to affordable housing through a combination of UDZ incentives, Restructuring Zones and social housing. 32.2 Support continued job-generating inward investment in well-performing nodes (growth nodes) by: Partnering with the private sector to co-finance growth-enabling connective infrastructure Partnering with property owners and community stakeholders to manage the business environment through City Improvement Districts Partnering with investment promotion agencies to drive place marketing and stage events. 32.3 Reposition declining nodes through local initiatives intended to: evaluate location assets and constraints create an alternative vision for the node Support the functional repositioning towards mixed use activity nodes through residential intensification and spatial clustering of public services.

PROMOTE INCLUSIVE SHARED ECONOMIC GROWTH AND DEVELOPMENT		
POLICY STATEMENT WHAT THIS MEANS/REQUIRES P	POLICY GUIDELINES	
Policy 33 The City will facilitate the effective use of three available financial incentives: 3 Encourage uptake of available incentives to encourage economic investment a special economic zone (SE2) • Manufacturing Investment Incentives Scheme. • • The City should: • Maximise employment benefits of urban agglomeration by supporting inward investment in well-located growth nodes. • Improve competitiveness of industrial nodes within the Urban Inner Core through grant-funded infrastructure and incentives. • 3 • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • •	 33.1 The City will facilitate investment in the UDZs by: Promoting the proclaimed Urban Development Zones in line with national policy; Investigating methods of fast-tracking development applications located in UDZs; Directing appropriate investment towards UDZ areas; Monitoring the use of UDZs once national government confirms its intention to extend the Urban Development Zone beyond 2021 (and with a view to considering the expansion of the UDZ to include the full extent of the Urban Inner Core). 33.2 The City will encourage investment in the Atlantis SEZ by facilitating the establishment of the SEZ Providing facilitation services through the Atlantis Investment Facilitation Office (which also provides facilitation services for investment outside of the SEZ) Investigating methods of fast-tracking development applications located in UDZs Directing appropriate investment towards UDZ areas Monitoring the use of UDZs 33.3 The City will facilitate investment in key areas of the City through the implementation of the Manufacturing Investment Incentives Policy (MIIP) which provides a suite of incentives to new investment and the expansion of existing in job creation. 33.4 Investigate financial and regulatory incentives in the Urban Inner Core 	

PROMOTE INCLUSIVE SHARED ECONOMIC GROWTH AND DEVELOPMENT		
POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 34	Enhance the economic competitiveness of the city-region by engaging with special	34.1 Make effective use of processes associated with the BEPP to promote
Promote regional economic planning	 purpose vehicles, PGWC, neighbouring municipalities, parastatals and civic organisations on issues of cross-border significance including: coordinating major regional transport and economic infrastructure; protecting regional assets including agricultural and, cultural landscapes, tourism attractions and biodiversity areas; marketing and area promotion; and lobbying national government on regional issues, including infrastructural investment. 	integrated planning for the region.

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 35 Maintain, improve and expand an integrated public transport service informed by the transport network	 The City should continue the citywide roll-out of high quality public transport, comprising: a rail service that provides a high-volume transit service; a road-based public transport service comprising: BRT trunk routes/corridors; BRT feeder routes to collect and distribute passengers not within walking distance of rail and BRT stations. Supporting infrastructure to be implemented incrementally and 	 35.1Regulate land uses in support of the IPTN: managing the demand for travel through voluntary, regulatory and pricing mechanisms; routing public transport services according to the public transport route alignment spatial planning principles; ensuring safe and convenient movement between modes at transport interchanges; promoting the provision of park-and-ride and bicycle storage facilities linked to public transport interchanges; and introducing and maintaining quality landscaped public spaces and facilities in IPTN reserves and on adjacent land. 35.2Encourage land use intensification in the following areas: along identified development corridors;
	 simultaneously with the corridor construction programme include: Public transport facility improvements for current bus and minibus taxi operations 	 at identified urban nodes, key intersections, stations and modal interchanges, especially where opportunities for commercial and other employment-generating land uses exist; and in line with the TOD Strategic Framework, other relevant and applicable policies, the DMS and the District SDPs.
	 Non-motorised transport facilities for access to public transport, Travel demand management (TDM) measures, 	35.3 Implement reductions in parking requirements in areas well served by public transport by means of demarcation as public transport (PT) zones in line with the development management scheme, applicable policies and the District SDPs.
	 Roll-out of integrated ticketing for transfers between rail, BRT, conventional bus and minibus taxi modes. 	 36.4 The City should lobby for the prioritisation of the following rail investments: The Blue Downs rail link from Nolungile Station (Khayelitsha) to Kuilsrivier Station, with three new rail stations, namely, Mfuleni, Blue Downs and Wimbledon; an improved passenger service on the Kraaifontein-Malmesbury railway line; Joostenburg North and South stations; new or upgraded rail transfer facilities at Bloekombos, Macassar, Somerset West, Nomzamo and Retreat.

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 36 Ensure that new urban development is supported by appropriate public transport infrastructure and services	 The City must ensure that: urban growth is managed proactively and urban development occurs in unison with public transport services/improvements so that new urban development does not precede an adequate, operational public transport service; and the provision of and access to public transport is adequately taken into consideration in the assessment of development applications. 	 36.1 When assessing development applications, the City must consider: the immediate future availability of adequate public transport services and ensure that adequate provision is made for public transport routes and facilities in the layout. the ability of development layouts to facilitate public transport provision, and encourage road structures that provide logical and accessible public transport routes. the form and scale of land use responds appropriately (in terms of density and land use mix) to existing and proposed public transport routes. the location and design of stations which should allow for future extension to accommodate additional capacity and ancillary functions, such as retail and/or social facilities, where appropriate.
Policy 37 Include walking and cycling as essential components of land use planning	The City will make walking and cycling an attractive modal choice by ensuring that safe and well- maintained NMT infrastructure and facilities are provided based on a defined NMT network.	 37.1 When assessing development applications, consideration should firstly be given to the current level of availability of NMT as a motivation for densification; and secondly the provision of NMT infrastructure should be considered as an essential component of the IPTN, and prioritised in the following locations: along routes with high pedestrian and cycle volumes; around public transport interchanges and public facilities, such as schools, clinics, hospitals and parks; along secondary arterials, along BRT routes, in civic precincts, and in urban nodes; and Where there are sufficiently high pedestrian volumes to warrant the closure of roads, and the creation of pedestrian zones on a permanent or temporary basis. 37.2 Align NMT corridors with: high intensity recreation and tourism strips to support recreation and tourism along key routes/ corridors linking destination places which are in close proximity to one another, particularly along popular coastal strips; Informal trading areas focussing on fresh produce, other consumables and local crafts to support the livelihood of regulated informal business.

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 38 Review parking policies to encourage use of the most context-specific and appropriate modal travel choice	 The City's parking policies will be reviewed as required to: address the standards/ requirements, provision, management, control, enforcement and pricing of parking by aligning the parking mechanisms of minimum parking requirements, managed parking, park-and-ride facilities, the Parking By-Law and the pricing of parking. implement measures to systematically reduce private vehicle dependency and to promote public transport; and manage parking supply by introducing parking ratios based on the available modes of public transport (proximity, frequency, quality), spatial planning objectives (nodes and corridors) and socio-economic characteristics (car ownership levels). 	 38.1 Deviations from standard parking requirements prescribed in the DMS should be guided by the City's Parking Policy. 38.2 Implement reductions in parking requirements in urban nodes, mixed use areas and development corridors deemed to be well-served by public transport in accordance and alignment with the City's Parking Policy, the DMS, the District SDPs and other applicable policies. 38.3 Encourage building design that provides a landscaped/active street level interface in instances where the provision of ground floor parking cannot be avoided. 38.4 Make use of underutilised parking areas as park-and-ride facilities where these are located in close proximity to public transport services. 38.5 Encourage the design of parking areas (inside and outside of buildings) to be sufficiently flexible to allow for its conversion to alternative uses over time. 38.6 Recover the value that City- provided onstreet and off-street parking generates through parking tariffs linked to travel demand management 38.7 In the CBD, development corridors, metropolitan and sub-metropolitan nodes, building floor space used for parking, except in basement levels, should be subtracted from the permissible GLA. 38.8 Encourage shared parking in peripheral CBD locations linked to BRT feeder services.

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 39 Reinforce and enhance metropolitan development corridors anchored by the Integrated Public Transport Network (IPTN)	 The City will support the development of metropolitan development corridors by: investigating land use, procedural and financial incentives; unlocking the development potential of vacant and partially developed land through proactive rezoning and / or instituting processes required to remove restrictive conditions of title; prioritising coordinated investment in public transport infrastructure and operational capacity commensurate with the desired land use densities; and increasing investor and property owner confidence in well-located, but declining areas through: improved urban management; prioritising public investment in infrastructure, transport and the public environment; identifying, designing and developing essential infrastructure and social amenities; and creating an interlinked public open space system and enhancing the network of parks. 	 39.1 Support the intensification of desired land uses in appropriate locations along metropolitan development corridors in line with the TOD Strategic Framework, the DMS, the District SDPs and other applicable policies. 39.2 Appropriately support trip attracting and trip generating land uses along development corridors to encourage bidirectional/ multidirectional movement patterns. 39.3 Implement reductions in parking requirements at and around identified stations in line with the DMS, the District SDPs and other applicable policies. 39.4 Consider value capture mechanisms in the planning phase of land development to (partly) retrieve capital expended in an area and ensure sustainable operations and service delivery 39.5 Consider and investigate alternative funding sources for development contributions (DCs) including the use of grant funding and other means to reduce the impact of DCs for housing delivery.

POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 40 Encourage medium-density and higher-density forms of urban development to locate on or adjacent to bus, rail or intermodal stations, as well as along development corridors and in urban nodes	The City will support the development of routes and streets which support different types of land use activities and intensities. The intended land use activity and intensity, as well as the road class should be considered in land use planning and development in recognition of:	P.40.1 Encourage mixed land use intensification on or adjacent to secondary arterials and BRT routes and around nodes, high order stations and modal interchanges in line with the TOD Strategic Framework, DMS, the District SDPs and other applicable policies.
well as along development corridors and in urban nodes	 recognition of: the higher levels of accessibility provided by secondary arterials and roads which accommodate BRT routes (specifically around stations); the availability of NMT; the land use distribution, mix and intensity along particular routes; and the structural positioning of routes within the urban fabric and the perceived long term potential and general desirability for development along a particular route. The City will encourage economic activity to locate in established economic areas, especially in identified nodes. The City will however, support lower intensity, appropriate employment-generating activities in predominantly residential areas in line with the provisions of the DMS. 	 policies. P40.2 Consider and implement reductions in parking requirements in line with the TOD Strategic Framework, the DMS, the District SDPs and other applicable policies. P40.3 Discourage large non-residential developments that are not located on or immediately adjacent to roads/ routes which can provide sufficient, appropriate and convenient access, and outside of established or proposed urban nodes. P40.4. In new development areas, the urban block layout within 400m of the IPTN must facilitate NMT movement to the IPTN route. Where the intensity of development conflicts with access requirements of the class of road, road access management plans may be required, or the access provisions reviewed, in order to create roadside environments that support the principles and objectives of TOD. P40.5 On routes where no public transport is currently provided or planned, encourage an appropriate level of development and more intense mixed land uses to locate adjacent to roads commensurate with the function, capacity, access requirements and class of the road. This refers to all road classes as per the Cape Town Road Network Hierarchical Classification
		 (freeways, primary arterials, secondary arterials and expressways). P40.6 Opportunities along these roads/ routes can further be extended/ linked to parallel streets and side roads in line with applicable policies, the DMS, District SDPs, and applicable local plans. This will contribute towards establishing the thresholds required for the sustainable provision and operation of public transport. P40.7 The process of land use intensification along identified road classes must be evaluated at a more detailed local

	level of planning to inform land use management decision-making and the processing of development applications – to consider, for example, access requirements, additional traffic impacts, parking requirements and the level of service provided by public transport services.
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POLICY STATEMENT	WHAT THIS MEANS/REQUIRES	POLICY GUIDELINES
Policy 41 Support the complementary development of the area surrounding CTIA airport.	 Support to medium-term aviation planning will be guided by the following considerations: Enhanced connectivity between the CTIA, the Metro South-East and the Bellville metropolitan node. Facilitation of agglomeration of economic activity around the CTIA. Policy decisions supported by legislative frameworks to manage the impact of noise and the sensitive location of high risk land uses like residential, health facilities and schools. Long-term aviation planning (30+ years) will be guided by the following considerations: An integrated system of airports to be developed to serve Cape Town's commercial and general aviation requirements; Balance the long-term expansion vision of the CTIA with a dual re-aligned runway with the land side implications imposed on large numbers of residential units in current noise contours. Note that the recently approved re-aligned runway already impacts heavily on large numbers of social facilities and residential units in formal and informal environments. 	 41.1 The CTIA will continue to provide the national and international aviation function to a limit that is determined by its manageable impact on surrounding land uses (noise impacts) and the capacity of land-side support systems (road infrastructure, public transport infrastructure and service provision, utility services and stormwater management). 41.2 Promote the development of economic activities in the CTIA catchment area through appropriate land use planning frameworks and infrastructure development 41.3 The City and ACSA will continue to engage (especially in the review of the CTIA Master Plan) to ensure that the envisioned future role of CTIA is flexible enough to cater for the City's prerogative and vision to upgrade informal settlements as well as construct infill housing on land in close proximity to the airport. 41.4 The City will continue to engage ACSA while the latter undertakes detailed investigations regarding the long term accommodation of the general aviation function (from Fisantekraal and other general aviation sites in the greater Cape Town metropolitan area) and the suitability of the current medium-term arrangement of accommodation at CTIA in between scheduled movement.

POLICY STATEMENT WHAT THIS MEANS/REQUIRES		POLICY GUIDELINES	
Policy 42 Support the optimisation of ports and harbours as important coastal access points and economic drivers	 The City will: Engage the National Ports Authority (NPA) about its long- term plans for the development of the Cape Town and Saldanha ports; Periodically work with the NPA to update and review the Port Development Framework Plan; Engage relevant authorities about the management of, and long-term planning for, harbours and ports to collaborate on joint planning required to integrate land use, port, freight, rail and pipeline planning over the medium- to long-term; Engage with the departments of Public Works and Agriculture Forestry and Fisheries to optimise the social and economic development of Kalk Bay, Hout Bay and Gordon's Bay harbours; Encourage the increased use of rail for the transport of freight into and out of the Port of Cape Town to relieve the congestion and inefficiencies associated with road-based freight; Identify and retain City-owned sidings, and revitalise the use of branch lines through liaison with Transnet Freight Rail (IFR); Identify sites and routes (both existing and potential), which could be critical for the movement of freight; and Engage with Transnet with respect to long-term planning for strategically-owned sites, including, the Transnet marshalling yards (Belcon), Culemborg, and Kraaicon. 	 42.1 The Port Development Framework Plan should contain a balanced approach between the City and NPA's vision for growth and development aspirations and operational requirements for land-side development as well as the equitable sharing of the impact costs. Particular attention should be given to the longer term urban development options for the Culemborg. Port Gateway Precinct and Belcon sites considering their strategic, intermodal location. 42.2 Ensure that future development around the port of Cape Town, Belcon and 'Kraaicon' sites is managed appropriately to avoid unnecessarily compromising freight logistics and distribution, but simultaneously recognising and facilitating the City's overall strategic objectives. 42.3 Ensure that the future development of the port and its operations do not compromise other commercial, leisure and tourism uses of Cape Town's marine environment around and adjacent to the port. 42.5 Promote the development of economic activities in and around the port and harbours through appropriate land use planning frameworks and infrastructure development. 42.6 Minimise the environmental impact of the port and its future development. 42.7 The City, PGWC, NPA and neighbouring municipalities should regularly review the Freight balance between the ports of Cape Town and Saldanha. 42.8 The City and Transnet should regularly review the Freight Management Strategy and focus on the optimisation of well-located land such as Belcon for intermodal freight facilities with a metropolitan and functional region relevance. 	



Map A4: Transport Network - Public Transport and Land use Informants

Technical Supplement B: Unique areas Unique Cases refer to areas where the Spatial Transformation Area categorisation requires further elaboration at a metropolitan-scale as the prevailing rationale and approach may differ from the that immediate STA categorisation.

This annexure is prepared to provide further guidance and clarification on land use and investment rationale in these areas.

Criteria for the identification of unique cases are as follows:

- A unique case needs to relate to an area that is of a sufficient scale to be of metropolitan relevance;
- A motivation needs to be provided articulating why the spatial transformation area categorisation is not sufficient for providing guidance for these areas; and
- Motivations for unique cases should refer to issues, needs, challenges or opportunities that have city-wide relevance (i.e. not used to resolve localised land use contestations).

The determination of the metropolitan significance of an issue, need, challenge or opportunity is at the sole discretion of the City of Cape Town. Property owners or developers cannot apply for such categorisations.

How are unique cases different from exceptions?

Exceptions relate to areas where a localised policy position has been established and confirmed (in Table 8) in favour of a particular development outcome subject to certain conditionalities including:

- Further work is required to accurately delineate areas reflecting a policy position;
- Delineation is not realistic due to the nature of the policy position and the rate of change (i.e. all informal settlements identified for upgrading in the IDP are deemed to be Urban Inner Core);
- The type of development supported is prescribed (such as employment generating land uses).

Philippi Horticultural Area (PHA) (Approx. 2 100ha in extent – STA)

The PHA is unique in that it includes the Philippi Farming Area (PFA) and plays a significant role in supporting food security at a metropolitan scale. The need to protect the City's aquifer recharge areas is also be a significant informant for the PHA given that development in this area directly impacts on the Cape Flats aquifer.

The PFA is also under formal and informal development threat and without formal SPC within a protection category, is at risk. Although the PFA is also protected in terms of agricultural legislation, it is included in the definition of the Critical Natural Areas (CNA), given the complexities described below.

Having a farming area within the urban footprint is unique and elevates the status of the PFA beyond that of an area of agricultural significance. Its location in close proximity to residents enables the PHA to play a role in building resilience within the city from a food security perspective. The area has value as an aquifer recharge area and thus critical from a water resilience perspective. The SDF is currently the only statutory document that can recognise this resilience role.

Recent development applications, court applications, highly variable and continuously changing local area circumstances, incomplete data, and broader urban issues make the designation of the PHA problematic.

The volume of public comments received on the designation of the PHA in the draft SDF map as an Incremental Growth and Consolidation Area (IGA) area, from a broad range of stakeholders, further highlights the fact that the PHA matter is of metropolitan relevance.

The approach to the PHA is to distinguish between three discrete areas where differentiated policy recommendations apply. Within each of these three areas, a distinction is made between areas of certainty (where policy statements are fixed and backed up by evidence) and areas of uncertainty (where further investigation or work is required):

• The Philippi Farming Area

This is where the proposed future for horticulture and farming has been and remains unanimously agreed to. This area is shown as a CNA on Map 5.1d.

Further investigation and work is required with regard to the northern area (marked C on Diagram 88) which is currently included in the PFA on the basis of inadequate evidence-based information, but could be amended to IGA, subject to further investigation. Provisional reference is made to the PFA which has a newly defined extent, but engagement with the broader PHA community should be undertaken to obtain input on a name ('breadbasket', 'farming economy area' or 'Cape flats farming economy area' could also be considered).

• Southernmost area

This is inclusive of the Rapicorp/Oaklands and MSP/UVest areas. These areas are shown as IGA on Map 5.1d based on the land use rights that have been granted.

At the time of approval of this MSDF review, this area is subject to a court case. Notwithstanding past decisions it is now considered as core farming area and the ideal future designation should be CNA. Should the court set aside the decision on the relevant land use application, these areas should be considered for inclusion in the Philippi Farming Area.

• Remainder area

This area is inclusive of Highlands Estate, as well as a far western area between Knowle Park and the Lotus River canal). This is shown as an IGA on Map 5.1d in accordance with the proposed urban areas in the draft Schaapkraal study.

The roll-out of the planned IRT in this area could justify a future amendment to the north-western area abutting Strandfontein Road to IGA or Urban Inner Core (UIC).

NOTE:

A key informant for consideration is the spatial planning work culminating in a draft report (with map) with proposals for the PHA in preparation for a report to Council which was prepared in 2013.

The current WCPG Department of Agriculture PHA study is understood to be a comprehensive analysis of the agricultural potential. It may influence future recommendations and revisions to this Unique Cases classification and associated SPC categorisation.

Guidelines for the PHA



Diagram B1: Boundary of the PHA unique area showing designations



Diagram B2: Areas of the PHA requiring different approaches

Swartklip (approx. 510ha in extent)

The site has been classified as Urban Inner Core (UIC) and concurrently flagged as a Unique Case recognising that further, more detailed planning work is required to resolve the contestations between the built and natural environment described below. The Swartklip site is located within the Metro South-East, an area characterised by high levels of unemployment, housing backlogs and poverty. It is located between the communities of Khayelitsha and Mitchells Plain and acts as an effective spatial buffer between the two. It is also a vulnerable site, a site susceptible to land invasion and other negative urban management aspects if the site is not managed and developed in a sustainable and efficient manner.

The majority of the surrounding locale is classified as UIC and is accorded priority investment status to support a diverse and dense development pattern (as envisaged by the MSDF's overarching TOD rationale). The site has significant potential to unlock a mix of land uses including residential, employment-generating commercial, light industrial and commercial activities and social amenities. This has potential direct and indirect benefits for the neighbouring communities and could alleviate the substantial socio-economic challenges of the area.

At a metropolitan-scale the STAs only reflect Core 1 sites of greater than 50 hectares. The site also has an inherent environmental character: Core 1 illustrated in the biodiversity plan map 5.1b). If utilised for biodiversity offsets it could unlock land elsewhere in the Metro South-East and city more broadly for other housing opportunities. Accordingly, Swartklip is a highly strategic site from both a built and natural environmental perspective. Each of these approaches (or a combination of both) will require significant investment to maximize opportunities to support spatial transformation that at least integrates the communities of Khayelitsha and Mitchells Plain and more broadly the region.

More detailed and localised planning is required to resolve the contestations and optimise the opportunities afforded to the site not within the immediate remit of the MSDF review.

Atlantis (approx. 2 200ha in extent)

Atlantis is profoundly dislocated from the urban footprint of the city. Located 60 kms from the CBD it is a legacy of apartheid planning and development. The City is committed to spatially and economically transforming this marginalised area which is acknowledged in the Socio-Economic Index as a community in need. Long travel times and costs to residents to access economic opportunities beyond its own industrial land uses compounds high unemployment rates and associated socio-economic challenges. Accordingly, the prioritised investment rationale that is associated with the Urban Inner Core (UIC) is applicable within Atlantis.

It is also strategically located between the City, Saldanha and Malmesbury. The R307 / R27 / N7 provide a road axis between Atlantis, the CBD / port of Cape Town and the industrial / port activities of Saldanha and the agricultural activities of Malmesbury. The MyCiTi T1 route supplements conventional commuter bus services to the CBD and the urban areas to the south of the city.

The City will continue working with the Western Cape Provincial Government, the Department of Trade and Industry and other relevant public and private interests to enhance the profile and confidence in the Atlantis Industrial Zone as an investment destination, with a focus on manufacturing. Efforts continue to declare Atlantis Industrial Zone as a Special Economic Zone (SEZ).

Paardevlei

Paardevlei is approximately 700ha in extent. Although dislocated and removed from the immediate Urban Inner Core (UIC), the site location and scale is strategically important given its proximity to the southern confluence of the Blue Downs and Metro South-East Integration Zones and, from a regional perspective, the urban linkages and urban / rural interface between Somerset West and Stellenbosch.

The location has been identified in the TOD C land use modelling as an area where land use density and diversity should be optimised.

The site has been the subject of various applications and developments including the Commercial Triangle (the land around Somerset Mall between the N2, De Beers Avenue and Broadway Boulevard), The Interchange (the industrial development between the N2 and Old Paardevlei Road), Schonenberg and Somerset Ridge (the residential estates between the N2 and Somerset Main Road), Mall Motor City (between the N2 and the T2), and the De Velde Residential Estate (on the site of the old De Beers football ground adjacent to De Beers Avenue).

The site has the potential to unlock private sector investment that can provide employment opportunities adjacent to Metro South-East and the affordable accommodation opportunities that prevail in the area. Accordingly, the City has purchased the site to support mixed use development and affordable accommodation in this location of the city.

Strategic choices are being considered on how to develop the greenfield site recognising inherent infrastructure and development constraints. The intensity and quantum of spending to initiate and support the initiative would necessitate it being considered in the same investment category as the UIC.

Technical Supplement C: Land use intensification

1 Location

Land is the resource which accommodates the activities of people in space. These activities include live (consume), work (produce) and play (experience). Travel is implied in order to link these activities in space and allow interaction.

Land use describes the type of activities that are found on a particular land unit. Buildings, associated amenities, and purpose-made structures or facilities are the physical manifestation of these activities which occur at fixed locations in space.

The location of a particular land unit, therefore, places a certain amount of land that is used for specific purposes relative to other amounts of land used for similar, dissimilar or mixed purposes. Relative location, by implication, affects the proximity of a particular land use to other activities and facilities. Such proximity to other land uses can positively or negative affect the use value of the property and in turn the market value of the property (i.e. based on the willing buyer, willing seller principle).

The relative location of land use creates a demand for travel over varying distances in order for people to partake in different activities.

Land development

Land use is driven by complex investment and location decision processes by households and different actors in the business and public sectors.

These processes are based on supply and demand of resources (in this case, land) and the allocation of funds to develop (create, enhance, add/ extend) and acquire (transfer) its end product (buildings). Some of the aspects that play a role in the land development process are illustrated in Diagram 63.



Diagram C1: Land development concept

Participants in the development process are end users, developers, investors and government, all of whom have different requirements. The development process itself can be either formal or informal in nature.

• Land use

A certain amount of space is allocated to different functions (activities) depending on those factors identified in Diagram 63.

Urban land use can broadly be classified as residential or non-residential in nature, although these land use types may also coexist on a land unit; in which case it would exist in a particular ratio. Diagram E2 illustrates the association between land parcels/ buildings and these land use classes, as well as the measurement units used to count and analyse it.



Diagram C2: Units of measure in respect of residential and non-residential land use and building types

The sub-elements of residential and non-residential land use have different characteristics. In the case of residential land use (dwellings), these relate to those attributes associated with the dwelling itself, e.g. location, type, number of bedrooms, price and quality; the users demographic attributes of age, gender, occupation and income; and the household (a group of persons), e.g. household size and car ownership. In the case of non-residential land use the attributes relate to the type of economic activity and civic land use for the purpose of public service delivery and social facilities.

Land use can be expressed as a combination of two of its inherent aspects, namely:

- density the number of elements contained in a defined amount of space; and
- diversity a ratio of the different elements contained in the same defined amount of space.
- Land use: density

Density measures the number of items of a particular type in a defined observation area. As such it can also be interpreted as an occupancy rate. Depending on the variable items and area used, density yields different results.

Selecting the most appropriate scale means selecting an appropriate spatial unit of analysis, as illustrated in Diagram 65.



Diagram C3: Urban scale ranges (dot size not representative, but indicative of comparative scale).

Table 21 indicates the various ways to measure and express density, and also indicates for each density type the most appropriate (i.e. smallest) scale at which it would be appropriate.

Density measure/ type		Measurement unit (count item)	Spatial unit of analysis (zone/ area)	
Res	idential density			
•	Population density	Persons (resident population)	Suburb (census suburb) Building (habitable floor area)	
•	Household density	Households	Suburb (census suburb)	
•	Dwelling unit density (gross)	Dwellings	Suburb (census suburb) – may exclude certain land uses, e.g. roads or open space	
•	Dwelling unit density (net)		Land unit/ suburb/ precinct/ district (land used for residential purposes only)	
Em	ployment density			
•	Worker density	Workers Workers per 100m ² GLA	Land unit/ suburb/ precinct/ district	
Buil	ding density	•		
•	Floor factor	Building floor area	Land unit	
Spe	ecialised density variants			
•	Person density	Residents plus workers	Suburb	
•	Gross base density	Dwellings	Suburb – excludes land extensive land uses as meant in the Cape Town Densification Policy, 2012	
•	Occupancy density	Persons	Building floor area	
•	Urban agglomeration density	Built-up area	Metro or city region	
Transport-specific				
•	Roads density	Kilometres of roads	Various (micro to intermediate)	
•	Cycle path network density	Kilometres of cycle paths	Various (micro to intermediate)	
•	Vehicles density	Registered vehicles	Various (micro to intermediate)	

Table C1: Measurement units and spatial units of analysis used when measuring density.

Densification is actively encouraged through the City's Densification Policy (2012). Three types of density are implied in this context:

- Resident population density: an increase in the number of units and/or population per spatial unit;
- Employment density: an increase in the number of job opportunities or workers; and/ or
- Building density: through the increased use of space (both horizontally and vertically) within existing areas or properties and new developments.

In order to achieve greater density, therefore, implies that the overall number of workers and/or residents should increase by virtue of increasing density of non-residential and/or residential land uses in addition to increased building density (i.e. higher floor area ratios) to accommodate the additional activities.

• Land use: diversity

Land use diversity is commonly referred to as mixed land use. It refers to the horizontal and/or vertical integration of suitable and compatible residential and non-residential land uses within the same area or on the same land unit.

Diversity measures the presence of different land uses in relation to each another. It can be expressed as a ratio (e.g. residential habitable floor area: non-residential gross lettable floor area, or number of residents: number of workers) or as a percentage (residential and non-residential), and can be calculated at different scales. Density and diversity are interrelated and cannot be described separately from each other. A hundred square metres of residential space may have different occupancy rates (household size) depending on a variety of factors, e.g. income, size and type of dwelling. Similarly, the same amount of non-residential space may have different occupancy rates due to, for example, the type of activity (e.g. office, retail or industrial) and the rent per square metre. This illustrates that, depending on how diversity is measured, e.g. ratio of persons or ratio of floor area per land use category, density influences diversity.

Increasing diversity in corridors, nodes and other strategic areas within the City implies that dominant residential areas with high numbers of residents and dwelling units (trip generators) require more non-residential/ employment opportunities or job related land uses (trip attractors) and vice-versa.

Diagram C4 conceptually indicates the changes required to realise land use intensification in spatially targeted and prioritised corridors and nodes at a metropolitan level in support of TOD and the densification policy.



Analysis uses 2015 base land use data



Generally, areas with a predominantly residential or employment character should over time, be encouraged to diversify, and add more of the 'opposite' land use (e.g. in the case of residential areas, add more non-residential land uses or change the existing mix to improve land use diversity, and vice versa).

To improve density, more residential and/or non-residential land use should be added by increasing the building floor area to accommodate higher number of workers or residents. Depending on comparative densities (i.e. floor area per resident versus that required for a worker), densification may actually be achieved through diversification without adding additional floor area. This, again, confirms that density and diversity in respect of land use are two sides of the same coin and that changes in the one dimension may bring about changes in the other.

Diagram C5 illustrates the intensity profiles for a number of areas reflecting the differentiation in building, worker and resident densities and diversity. These profiles can be generated for any area in the city and used as the basis for detailed land use planning associated with TOD implementation.

Building density (FAR) | Residential Density (DUs & Res. Population/ Residents) | Employment Density (Workers)



Diagram C5: Examples of land use intensity profiles for different areas in the city.

The profile indicates both the density and diversity dimension of land use. By considering different types of density (residential dwelling units, residential population, employment/ workers and building density), a more comprehensive profile is constructed of a particular area, which may aid in determining the best method/s to densify and/ or diversify land use in that area or between different areas.

Land use intensity: current

Both density and diversity must be considered when analysing land use. In this document, land use intensity refers to the combined effect of density and diversity as it relates to a land unit used for a combination of purposes to serve a specific land use or a combination of land uses.

Land use intensity is analysed in order to understand the potential for accommodating growth within the existing city footprint with the aim of promoting a more compact city. The scale of the area analysed has an impact on the density result returned. For instance, the building density on a single land unit will be higher than that of larger areas such as a precinct or development corridor, i.e. density is firstly influenced by the scale at which it is taken, and secondly by the aggregate collection of land parcels included and its land use.

Land use intensity is directly and/ or indirectly affected by land supply considerations.

Diagrams C6, C7 and C8 show current (2015) areas of high density by land use class, as well as current areas of high intensity (i.e. high density, mixed use). Diagram C6 indicates areas with high residential densities, while Diagram 69 indicates locations with the highest worker densities. Diagram C8 shows areas with a combination of high density and high diversity, i.e. examples of what is typically regarded as high density, mixed use areas.



Diagram C6: Areas with a current residential density greater than 100 persons per hectare.



Diagram C7: Areas with a current non-residential density greater than 40 persons (workers) per ha.



Diagram C8: Areas with a current person density greater than 100 persons (residents plus workers)per ha

A diversity ratio of workers to residents of between 0.5:1.0 and 1.5:1.0, is indicative of higher density, mixed use areas (CTOD Land Use Scenario: Base year data (2015))

Land use intensity for different areas within the City can also be represented as a scatterplot chart (Diagram C9), where the different areas are indicated as black dots. Density, measured here in number of persons (workers and residents), is indicated on the vertical axis of the chart. The scale has been normalised with the upper value of one representing a person density of more than 200 persons per hectare. Diversity, measured as the ratio of residents to workers, is indicated on the horizontal axis, where a 1:1 ratio is regarded as good, with a balance of workers and residents.

The chart shows that areas, such as Constantia and Sunset Beach, located in the yellow zone (indicating a predominately residential land use area) have a low density compared to areas such as Delft and Nyanga where some of the highest densities occur. In the red zone of the Diagram (indicating areas with a higher ratio of workers to residents) the highest employment density is in the Bellville and Cape Town CBDs at between 100 and 200+ persons per hectare, and the lowest employment density in the Salt River area at the lower end of the Intensity scale at below 50 persons per hectare.

The chart further indicates that most areas reflect a low diversity, as areas predominantly appear in the residential range of 0.0-0.5, e.g. Delft, Nyanga, Lansdowne, Parow North, Constantia, and Sunset Beach. There are fewer areas in the range 1.5-2 workers per resident, which are predominantly employment-generating areas, e.g. Cape Town CBD, Bellville CBD, Montague Gardens, Airport City and Salt River. A limited number of areas are located within the 0.5-1.5 range indicative of mixed use. Examples of areas with good diversity include parts of Milnerton, Gardens and Woodstock.

The blue zone indicates areas, e.g. Woodstock and Mowbray, where a good mix of workers and residents is found (i.e. a diversified area with a ratio of between 0.5 and 1.5 workers per resident), as well as densities at the higher end of the range (i.e. 100 to 200+ persons/ha).



Analysis uses 2015 base land use data

Diagram C9: Land use intensity (Population density and diversity) reflected by area

Land use intensity: potential

Building density, expressed as a floor factor (FF), is a useful method to compare the permissible FF, given the zoning and development rules related to a land unit, to the actual (measured or estimated) FF in order to roughly calculate the 'residual potential' of a land unit, i.e. its potential to accommodate additional buildings given the rights bestowed upon it by its zoning and given its current level of development.

By considering land use potential from a land use intensity perspective (density and diversity), the development potential of undeveloped, partially developed and fully developed land can be assessed and compared.

Given that buildings accommodate people (in their capacity as workers and/ or residents), the residual development potential could be used to accommodate more workers and/ or residents depending on the bundle of land uses permitted under the assigned zoning of the land unit.

Diagram C10 illustrates the permissible development potential that zoning bestows on land and is expressed in terms of density (measured in terms of floor factor) and diversity (based on the percentage floor area dedicated to residential and non-residential land uses) in terms of its zoning on the left and the actual development realised, based on empirical evidence, on the right.



Diagram C10: Land use diversity (density and diversity)

The diagram on the left shows permissible land use intensity (density and diversity) in terms of the Development Management Scheme (DMS); and the diagram on the right shows actual land use intensity for selected zonings on a citywide scale based on measurements.
These diagrams indicate that, in Cape Town as a whole, land is developed at lower densities and that a good land use mix is not evident at land unit level. It also illustrates that mixed land use can be achieved under different zonings and not only the ones explicitly called Mixed Use. The unit of measurement, again, is of importance as greater diversity of land use will be present the larger the spatial area of measurement. Consider, for example, land use mix of an individual property versus that of the larger precinct. While the mix at land unit level may lean toward one end of the spectrum, the mix in the precinct could be more mixed.

The difference between the densities (measured in floor factor) on the two graphs in Diagram C10 can be explained in terms of the supply and demand factors outlined earlier.

The possible impact that parking requirements may have on the floor factor that is achieved, have been addressed by means of the introduction of parking reductions in areas well-served by public transport, called PT zones. More areas will be considered for designation as PT zones in support of the development of an integrated public transport network. The concepts of density and diversity are fundamental in understanding the interaction between land use and transportation.

The Municipal Planning By-Law incorporating the Development Management Scheme (DMS), is able to facilitate the contemplated improvement of land use intensity. In many cases, the latent/ unused land use rights are sufficient and already allow for further intensification without amending existing land use permissions or deviating from development rules/ requirements. The diagram reflects the degree to which higher density and/ or higher diversity within some of the zoning categories are already possible on a metropolitan scale of assessment. Obviously, what is possible to achieve will differ on a site specific basis due to specificities at that scale. No regulatory reform is, therefore, required in respect of land use management in order to facilitate intensification in pursuing TOD.

Diagrams C11 – C13 provide a conceptual spatial direction and differentiation of areas illustrating the emphasis on diversity (mixed use) and density (the distribution of residents (residential units) and employees/ workers (employment areas)) within the existing city structure from a public transport optimisation perspective. The Comprehensive TOD land use scenario has indicated that different levels of diversity (i.e. different ratios of residential and non-residential land use) are required in certain areas to optimise and support the planned public transport system.

The TOD SF also introduced a TOD toolkit identifying mechanisms to achieve TOD at different scales, i.e. metropolitan level, corridor, nodal and precinct levels. The purpose is to institute TOD at a high level, highlight the significance of implementation and expedite the selection of appropriate tools to implement TOD at the different scales of planning.

Diagram C14 indicates a high-level summary of the current land use split between residential and nonresidential land uses in a transport zone context. The size of the circle indicates the number of residential units (yellow) or jobs (red). This can be compared to Diagram C15 which indicates an ideal balance of residential and non-residential land uses, based on the intention to optimise the land use pattern in support of the IPTN.



Diagram C11: Areas of land use intensification indicating where densification will optimise the existing movement pattern



Diagram C12: Areas of land use intensification indicating where the addition of more residential land use will optimise the existing movement pattern



Diagram C13: Areas of land use intensification indicating where more employment-generating land use (non-residential) will optimise the existing movement pattern



Diagram C14: Current (2015) residential and non-residential land use

Diagram C14 indicates that at present the largest concentration of job opportunities is located in the CBD area while the largest concentration of residential land uses is found in the Metro South-East. Only a few transport zones contain both residential and non-residential land uses (i.e. mixed land use). This is most notable in the CBD, along Main Road (southern suburbs), along Voortrekker Road and in parts of Blaauwberg.



Diagram C15: Future optimised/ ideal land use (beyond 2032) in terms of the C TOD scenario

Technical Supplement D: Regulatory Requirements and Informants

Legal remit of the MSDF

Section 35 of the Municipal Systems Act, Act 32 of 2000 (MSA) states that a Spatial Development Framework, an integral component of the Council-approved IDP, serves as the principal strategic planning instrument to guide and inform long-term planning and development in the municipality.

The MSDF cannot however remove or bestow land use or building rights to property or exempt property owners / citizens from their rights and obligations in terms of the DMS or any other legislation.

The provisions of SPLUMA and the MPB-L have created a regulatory environment within which land development decisions are administered and advice rendered and have strengthened the role of the MSDF in land development decision-making.

In terms of section 22 of SPLUMA:

"22. (1) A Municipal Planning Tribunal or any other authority required or mandated to make a land development decision in terms of this Act or any other law relating to land development, may not make a decision which is inconsistent with a municipal spatial development framework.

(2) Subject to section 42, a Municipal Planning Tribunal or any other authority required or mandated to make a land development decision, may depart from the provisions of a municipal spatial development framework only if site-specific circumstances justify a departure from the provisions of such municipal spatial development framework."

The MPB-L, in section 99, outlines the criteria for deciding an application. In terms of the strategy and policy environment, current practice in the assessment of applications, gives consideration to:

- the City's Integrated Development Plan (IDP) and supporting development strategies (e.g. Economic Growth and Social Development Strategies, Environmental Strategy);
- the Cape Town Municipal Spatial Development Framework (MSDF) as per MPB-L s99(1)(b);
- relevant District Spatial Development Framework (SDF) or Local SDF as per MPB-L s99(2)(a);
- approved (planning) policy, if applicable (e.g. Transit-Oriented Development Strategic Framework; Densification Policy, Urban Design Policy) as per s99(2)(c)
- other impact considerations including, but not limited to economic and social impact, compatibility of uses and scale, external engineering services and heritage/ biophysical environment s99(3) (various).

The MPB-L emphasises the MSDF as the principal policy tool for evaluating applications for new or enhanced land use rights. Section 9 of the MPB-L further states:

"9. (1) ... the City may deviate from the provisions of the municipal spatial development framework only if site specific circumstances justify the deviation.

(2) In determining whether the site specific circumstances exist, the City must have regard to the development application that has been submitted and any other relevant considerations."

Consistency principles and post-2012 amendments

The MSDF will be implemented in accordance with the consistency principle that applies to the plans and policies of different spheres of government. In terms of the consistency principle, lower-order spatial plans and policies must be consistent with higher-order spatial plans and policies.

Should the provisions of spatial plans of a lower order in the hierarchy (including district and local spatial development frameworks and other existing local-scale structure plans) be deemed to be inconsistent with the MSDF, the MSDF will take precedence. The City's local scale plans are cadastrally defined, whereas the spatial planning categories in the MSDF are no longer cadastrally defined. District plans may be used to interpret the MSDF on a local, cadastral scale in cases where the spatial designations between both documents are aligned. District plans may not be used to interpret the MSDF on a local, cadastral scale in Cases where the MSDF on a local, cadastral scale in cases where the MSDF on a local scale in cases where the MSDF on a local scale in cases where the MSDF on a local scale in cases where the model of th

A register of amendments to the statutory components of the CTSDF since approval in May 2012 is reflected in Annexure A of the CTSDF. This is updated annually via the legislated IDP Review process.

A policy-driven land use system to advance spatial transformation

Municipal planning operates within a legislative framework that provides guidelines and directives to municipalities on how and what to consider when developing a land use system (LUS). The Municipal Systems Act, Act 32 of 2000 (MSA) specifically requires from a municipality when drafting its MSDF, that it must include basic guidelines for such a land use system.

Although the MSA does not provide specific direction on what must be considered when drafting basic guidelines, it has to be accepted that in setting such basic guidelines the focus should be on giving effect to the development and land use guidelines set in the MSDF.

SPLUMA sets principles to be considered when developing and reviewing the MSDF and a land use scheme (the complementary components of an LUS). These principles will be central in reviews of the City's land use scheme.

Conventional 'single use zoning' land use schemes have not achieved the spatial transformation objectives outlined in the City's policy and strategy or the overarching SPLUMA principles. A compliant land use scheme needs to provide for a relevant, responsive, flexible and policy-driven approach to land use management, in which a broader range of instruments and policies set the guidelines against which land use decision making takes place. It is necessary to put in place a land use system that is flexible and promotes consistent and predictable decision-making so as to achieve the City's policy and strategic objectives. Accordingly, the City's updated LUS will:

- integrate existing, separate and diverse land use management systems, tools, policies and approaches into a single, harmonious system with a clear hierarchy of plans;
- achieve a closer link between zoning control, spatial planning and development principles and objectives;
- put in place policies and guidelines to guide predictable and informed discretionary decision-making within the regulatory framework;
- give effect to the principle of spatial transformation as highlighted in SPLUMA;
- give effect to the City's spatial development objectives and more specifically the transit-oriented development principles;
- be based on standardised and uniform business processes, procedures and systems, to ensure legal compliance and administrative efficiency;
- be user-friendly and easily accessible to City officials and external users; and
- include mechanisms to monitor compliance with policies, and the prioritisation of public investment;
- build on the digital application management system to create efficiency and facilitate detailed analysis of spatial and land use trends.

The City has developed and implemented a consolidated zoning scheme - the Development Management Scheme - as a component of the Municipal Planning By-law of 2015 (MPB-L). Although it is generally consistent with SPLUMA principles, it will continue to be enhanced to give effect to the City's latest development objectives and principles. In this regard, and in line with a resolution from Council, the DMS will be reviewed and updated on an annual basis to remain in line with the latest development objectives and principles.

Inter-governmental policy context and institutional arrangements

Effective and credible spatial planning depends heavily on cooperative governance and requires bottom-up and top-down iterative interactions across the spheres of government. There are many areas of joint responsibility between the different spheres of government and the prevailing legislative framework demands coherence, stability and predictability between the spheres notwithstanding the constitutional competencies of each sphere.

Diagram D1 illustrates the relationship between the different government spheres' spatial planning law and strategy development.



Diagram D1: Policy context across the spheres of government

A composite diagram of the three spheres of government's planning and resource frameworks is illustrated in Diagram D2.



Diagram D2: Conceptual intergovernmental planning and resource framework

Table D1: The content of the MSDF

CONTENT		REQUIREMENTS	LEGISLATIVE REFERENCES	EXTENT OF CHANGE FROM 2012 DOCUMENT (BY CHAPTER)	POLICIES / STRATEGIES / PLANS ADOPTED (POST-2012) NATIONALLY, PROVINCIALLY, CITY (TO BE INCORPORATED)	CHAPTER
•	Strategy and policy context Drivers of development Trends Spatial implications	Include key drivers of urban growth (urbanisation, natural/ cultural environmental resource capacity, the economy); spatial growth scenarios and implications as well as spatial structuring elements.	MPB-L sec 10 MSA sec 34 LUPA sec 10(2)(3) SPLUMA sec 21	Update statistics and variables in light of changing circumstances	 National Development Plan, 2030 (2013) Integrated Urban Development Framework (2016) 	Chapter 2
•	Spatial building blocks	Include policy and strategies for resilience and adaptability; City within a region; Biophysical assets; Transport Network; land use intensification areas; urban growth management; special places and the Spatial Conceptual Framework.	MSA sec 34 MSA sec 26 SPLUMA sec 21	Update only where new policies and strategies are approved and represent a significant change	 Land use scenarios Various updates of Engineering Infrastructure Master Plans (2013-2015) Comprehensive Integrated Transport Plan 2013-2018 Transit-Oriented Development Strategic Framework TOD comprehensive land- use modelling Integrated Human Settlements Plan (2013 and 2014): Implementation plan in process Economic Growth Strategy Social Development Strategy Environmental Strategy Bioregional Plan 	Chapter 3, 4, 5
•	Spatial strategies Policy statements and development guidelines	Include strategies indicative of: 1. Plan for employment and improvement of access to economic opportunities; 2. Plan for management of urban growth, and creation of a balance between urban development and environmental protection; and 3. Plan for building an inclusive, integrated vibrant city.	MSA sec 34 MPB-L sec 3, sec 10	Update only where new relevant policies and strategies are approved and represent a significant change to previous policy statements	As above	Chapter 4,5, 6 and Tech Supplement

CONTENT	REQUIREMENTS	LEGISLATIVE REFERENCES	EXTENT OF CHANGE FROM 2012 DOCUMENT (BY CHAPTER)	POLICIES / STRATEGIES / PLANS ADOPTED (POST-2012) NATIONALLY, PROVINCIALLY, CITY (TO BE INCORPORATED)	CHAPTER
 Vision Spatial development goals Guiding spatial principles 	Include spatial planning categories; transport infrastructure; major land extensive precautionary areas; development edges and conceptual designations.	MPB-L sec 3, sec 10	Concept maps to include information from new trends and policy directions, give direction to next five years, reflect IDP.	As above	Chapters, 3, 4 and 5
 Implementation approach Capital Expenditure Framework 	Describe actions for putting the building blocks of policy-driven land use management system into place; tasks arising out of policy and prioritisation thereof; and the 15-year Growth Management Plan.	MPB-L sec 3, sec 10 SPLUMA sec 21 (n): Determine a Capital Expenditure Framework for the municipality's development programmes, depicted spatially; and include an implementation plan.		As above BEPP and associated guidelines	Chapters 1, 4,5 and 6

Table D2: Legislation informing the MSDF Review

ACT	PROVISIONS / OVERVIEW
The Constitution of the Republic of South Africa, 1996	The Constitution sets out the rights and duties of the citizens of South Africa and defines the structure and the responsibilities of the spheres of government, including local government. Section 153(a) and (b) compel municipalities to structure and manage administration, budgeting and planning processes to give priority to the basic needs of the community and to promote social and economic development. Additionally municipalities must participate in national and provincial development programmes.
Division of Revenue Act (annual)	Requires the City to annually prepare a Built Environment Performance Plan indicative of the intent and envisaged impact of capital grants and operational grant funding allocated via National Treasury. The BEPP has progressively required the designation of Integration Zones, Catalytic Projects and Informal Settlement Upgrading Programmes and the development of performance indicators (to illustrate progress in relation to short, medium and long-term transformation goals).
The National Environmental Management Act, Act 107 of 1998	NEMA requires that its principles be applied by municipalities and used to guide Environmental Impact Assessments (EIAs) and prepare Environmental Management Frameworks (EMFs). The key principles require environmentally, socially and economically sustainable development, the protection of natural resources and the maintenance of natural systems, equitable access to resources and environmental management that puts people and their needs first.
	NEMA requires that the City supports international agreements. This is of particular importance as Cape Town has two World Heritage Sites, an extensive coastline and is situated within the Cape Floral Kingdom.

ACT	PROVISIONS / OVERVIEW
The National Environmental Management Biodiversity Act, Act 10 of 2004	 The Biodiversity Act seeks to provide for the management and conservation of biological diversity within South Africa. To do this it introduced several new planning tools to assist with the management and conservation of South Africa's biological diversity. These include the declaration of 'bioregions' and the publication of 'bioregional plans'. These are provided for in Chapter 3 of the Biodiversity Act. Section 48(2) of the Biodiversity Act stipulates that any organ of state must prepare an Environmental Implementation Plan or Environmental Management Plan in terms of section 11 of NEMA. In addition, a municipality, which must adopt an IDP in terms of the MSA, must: align its plan with any applicable bioregional plan; incorporate into that plan those provisions of a bioregional plan may be implemented by the organ of state or municipality. The Biodiversity Act also provides other mechanisms for managing and conserving biodiversity, such as the listing of ecosystems that are threatened or in need of protection to ensure their survival in the wild.
The National Heritage Resources Act, Act 25 of 1999	The NHRA and the Provincial Heritage regulations (PN 336, October 2002; PN 298, August 2003) allow municipalities to formulate by-laws for the management of local heritage resources or other higher-order heritage resources where a responsibility may be delegated. There are numerous sections in the NHRA that state clearly what a municipality shall, must, or may do to protect valuable heritage resources. This includes an obligation to identify or audit heritage resources and heritage areas across the metropolitan area at the time of preparing a spatial plan, and have provision in a City by-law or zoning scheme for the protection and management of the heritage sites. The City manages an ongoing Heritage Inventory and has formulated a Heritage Overlay Zone in terms of the proposed Integrated Zoning Scheme.
The National Environmental Management Protected Areas Act, Act 57 of 2003	NEMPA provides for the declaration and management of protected areas. Further, it provides for co-operative governance in the declaration and management of protected areas to establish and support a national system of protected areas in support of managed and conserved biodiversity. In Cape Town's context this affects the management of protected areas, World Heritage Sites (Robben Island and Cape Floral Region Protected Areas) and Marine Protected Areas.
The National Land Transport Act, Act 5 of 2009	The NLTA informs the preparation of the City's annual Comprehensive Integrated Transport Plan (CITP), which in turn provides input from a transport and roads perspective for the City's IDP and MSDF. A key focus area of the NLTA is the integration of land development and land use with transport planning (section 31). The NLTA also provides the institutional structure within which the responsibilities of national, provincial and local government are defined. According to the NLTA, the City, in its capacity as a planning authority, is responsible for a host of functions relating to the preparation of transport policy and plans, financial planning and the implementation and management of intermodal transport networks.
Constitution of the Transport and Urban Development Authority for Cape Town By-Law, 2016	This by-law is an amendment to the Transport for Cape Town (TCT) Constitution By-Law, No 7208 of 2013. The TDA By-Law establishes a transport and urban development authority as a governance structure and further sets out the mandate to facilitate integrated transport and urban development for the benefit of citizens and visitors to Cape Town.

Guiding principles

Chapter 8 of the National Development Plan – 2030 (NDP) "Transforming Human Settlement and the National Space Economy" re-emphasised the need for and importance of coherent and aligned spatial planning across all spheres of government. These plans need to directly respond to the entrenched spatial geographic patterns that continue to exacerbate social inequality and economic inefficiencies in both urban and rural South Africa. Further, they need to unlock development potential and inform infrastructure investment and prioritisation by playing a key role in co-ordinating the efforts and resources of different state agencies and sectors and naturally, the private sector.

The NDP states that "planning in South Africa will be guided by normative principles to create spaces that are liveable, equitable, sustainable, resilient and efficient and support economic opportunities and social cohesion". These principles for spatial development articulated in the NDP and newly enacted spatial planning legislation are premised on spatial justice, spatial sustainability, spatial resilience, spatial quality, spatial efficiency and good administration. The NDP defines these as follows:

- "Spatial justice: The historic policy of confining particular groups to limited space, as in ghettoization and segregation, and the unfair allocation of public resources between areas, must be reversed to ensure that the needs of the poor are addressed first rather than last.
- Spatial sustainability: Sustainable patterns of consumption and production should be supported, and ways of living promoted that do not damage the natural environment.
- Spatial resilience: Vulnerability to environmental degradation, resource scarcity and climatic shocks must be reduced. Ecological systems should be protected and replenished.
- Spatial quality: The aesthetic and functional features of housing and the built environment need to be improved to create liveable, vibrant and valued places that allow for access and inclusion of people with disabilities.
- Spatial efficiency: Productive activity and jobs should be supported, and burdens on business minimised. Efficient commuting patterns and circulation of goods and services should be encouraged, with regulatory procedures that do not impose unnecessary costs on development."³⁷

These principles are regulated in SPLUMA's Chapter 2: Development Principles sections 7 (a), (b), (c), (d) and included a fifth principle, section 7 (e) namely:

• Good Administration: Cooperation amongst state institutions combined with an integrated and ethical approach to land use management and development that pro-actively uses state assets and resources to advance service delivery, address poverty and progressively realise the constitutional rights of citizens and the above principles.

³⁷ National Development Plan – 2030 published by the National Planning Commission 2013.

Technical Supplement E: Provincial planning informants The Provincial Spatial Development Framework (PSDF) 2014 and imminent Greater Cape Metropolitan Regional Spatial Implementation Framework (GCMRSIF) are important provincial and regional directives that the MSDF is required to consider. The Provincial Land Transport Framework also informed the MSDF review.

The GCMRSIF conceptually indicates relevant regional spatial and aspatial management concerns that transcend the City boundary including:

- Ecological services: biodiversity areas, catchments, ecological corridors and buffers, scenic areas and routes, air quality, coastal resources;
- Utility infrastructure: water, sanitation, energy, waste, information and communication technology (ICT);
- Transport³⁸ and freight infrastructure: sea, air and inland ports, road and rail networks, public transport, non-motorised transport and intermodal facilities; and
- Disaster and risk management in respect of climate change and risk-of-harm areas.

Coordinated planning, budgeting and management of the region's infrastructure development and water, energy and biodiversity resources are critical. In addition, greater coordination is required to enhance the region's tourism assets, cultural and natural character, and the economic/ functional positioning of cities and towns in relation to each other.

The GCMRSIF has developed a regional spatial perspective and the basis of an institutional framework to assist in managing crucial spatial and aspatial aspects. These are illustrated in Diagrams E1 and E2 (sourced from the GCMRSIF). One of the analyses completed through the process was an assessment of cross-planning issues, which are illustrated in Diagram E3 and Table E1 (sourced from the GCMRSIF).



³⁸ Note that the GCMRSIF's functional area differs from the functional area of Cape Town's Comprehensive Integrated Transport Plan.

Diagram E1: GCMRSIF spatial synthesis



Diagram E2: Transversal regional spatial and aspatial management issues



Diagram E3: Cross-border spatial planning issues

Table E1: Cross-border planning issues

URBAN GROWTH ISSUE	MANAGEMENT REQUIREMENT			
1. Chatsworth-Riverlands-Atlantis-Mamre-Kalbaskraal				
The rural settlements of Kalkbaskraal, Chatsworth and Riverlands, located on the metro-periphery and in proximity to the regional centres of Atlantis and Malmesbury, are subject to urban growth pressures. Uncontrolled growth of peripheral dormitory settlements here detracts from the performance of the region's economic centres as well as its rural areas.	 The RSIF proposes concentrating and consolidating urban growth within the regional centres of Malmesbury and Atlantis, retaining the character and functionality of surrounding rural settlements, and protecting their agricultural (i.e. Groenrivier-Malmesbury N7 intensive agricultural corridor) and natural hinterlands. Proactive management of urban growth pressures is required in the sub-region as a collaborative initiative between the City of Cape Town and Swartland Municipalities. Accordingly, it is recommended that a sub-regional growth management spatial framework is jointly 			

URBAN GROWTH ISSUE	MANAGEMENT REQUIREMENT
	prepared by the City of Cape Town and Swartland Municipality.
2. Velddrif – Saldanha	
While Velddrif has traditionally served as a residential area for those working in Saldanha- Vredenburg, the upgrading and expansion of the port and the development of the SBIDZ, will significantly increase urban development pressure in Velddrif and environs.	 Uncontrolled urban growth pressures will threaten sensitive natural environments to the west (i.e. west bank of the Berg River Estuary, Flaminka Vlei and the coastal area between Laingville and the Berg River mouth), to the east (i.e. the coastline between Laaiplek and Dwarskersbos) and the upper Berg River estuary south of Velddrif. As part of the parallel GCRSIF study that is underway it is recommended that Saldanha Bay and Berg River municipalities collaborate in jointly planning for and managing urban growth pressures arising from the development of Saldanha/Vredenburg as an industrial regional centre.
3. De Nova	
Uncertainty regarding the future function and development of provincial land (De Nova) located off Old Paarl Road (R101) in the Stellenbosch municipal area, directly abutting the Stellenbosch-CCT municipal boundary east of Bloekombos. Historically the land was farmed but it is subject to escalating urban development pressures.	 There is increasing urban growth pressure in the north-eastern metro-corridor. As the Du Nova land is in close proximity to the Paarl-Cape Town commuter railway line, the R101 and N1, it is subject to escalating development pressure. In making a decision on its future consideration needs to be given to its past use for intensive agriculture, especially as favourable soil types and access to the Stellenbosch (Theewaterskloof) Irrigation Scheme underscore its agricultural significance. Its location abutting the City of Cape Town-Stellenbosch municipal boundary, and in close proximity to the Bloekombos settlement, necessitates that the two municipalities collaborate in assessing the optimum and sustainable use of the De Nova land. Such assessment needs to be informed by amongst others, the clarification of the land's agricultural potential to determine the extent, if any, to which agriculture can contribute to its future utilisation (e.g. community food security).
4. Klapmuts	
Both Stellenbosch and Drakenstein municipalities have identified Klapmuts as a prospective sub-regional urban node along the N1. Residential and industrial development opportunities have been identified north and south of the N1, and the area has also been identified as having potential to serve as a regional freight logistics hub.	 To take develop proposals forward the following needs to be considered: Existing infrastructure (i.e. N1, R101, R44 and the Paarl-Bellville railway line and station) which dictate the location of certain transport, modal change or break-of-bulk land uses. Existing development footprint of Klapmuts as well as potential development land parcels including land north of the N1 and the N1-R101-railway line corridor east of Klapmuts, the latter extending up to Paarl South Industria and including a proposed green logistics hub. Potential for an inland port and agri-processing, packaging and dispatch platform. Avoiding daily movement across the N1 between place of work and residence or social facilities. Achieving an appropriate metro gateway.

URBAN GROWTH ISSUE	MANAGEMENT REQUIREMENT
	Addressing the Klapmuts development issue clearly requires a collaborative sub-regional growth management spatial framework between the Stellenbosch and Drakenstein municipalities in order to avoid unsustainable 'twin developments'.
5. Simondium / Groot Drakenstein	
The threat of ribbon-development along the DR45 between Simondium and Groot Drakenstein impacts on both the scenic tourism route and significant heritage and agricultural working landscapes.	 The close proximity of Simondium and Groot Drakenstein either side of the Drakenstein and Stellenbosch municipal boundary requires co- ordination of their respective municipal urban upgrading programmes in order to ensure the following: Limiting ribbon development along the DR45 and restricting settlement footprint along such route. Containing growth of the settlements through infill, densification and strict management urban edges. Appropriate development abutting the DR45. Appropriate usage of underdeveloped tracts of land between the two settlements (e.g. Bien Donne provincial land) in order to retain/ reinforce the natural, heritage and agricultural working landscapes. Achieving co-ordination between the two urban upgrade programmes and management of non- urban land between the two settlements requires that an inter-municipal planning forum be established between the Drakenstein and Stellenbosch municipalities.
6. Zevenwacht/ Bottelary Hills	
There is a threat to the visual amenity of the Bottelary Hills within the eastern visual envelope of the metro area.	 Increased demand for residential development extending northwards from Polkadraai Road (M12) to Bottelary Road (M23) including Zevendal, Zewenwacht, Klein Zevenwacht and Haasendal given the following: Metropolitan access via the Stellenbosch Arterial/ Polkadraai Road (M12), as well as east-west linkages (e.g. Saxdowns Road) Up-slope localities (e.g. Langverwacht Road) enjoying panoramic views of the Peninsula. Close proximity to world-renowned vineyards and wineries (Zevenwacht, Hazendal). Such urban growth is eroding the visual amenity of the Bottelary Hills, impacting on the agricultural working landscape and prompting demand for developments within adjacent areas in the Stellenbosch municipal area enjoying similar locational advantages. Accordingly, cross-border urban growth management collaboration is required jointly by CCT and the Stellenbosch Municipality to ensure maintaining the visual, natural and agricultural integrity of the Bottelary Hills.
7. Faure	
There is a development threat to 'winelands' in the Faure Hills.	Residential development within the CCT municipal boundary between Faure and Firgrove including Croydon Vineyard Estate, Croydon Olive Estate,

URBAN GROWTH ISSUE	MANAGEMENT REQUIREMENT
	 Kelderhof Country Estate and the currently under construction Sitari Fields is prompting demand for similar residential developments to the north of the CCT municipal boundary and urban edge within the Faure Hills. The location of such demand within the Stellenbosch municipal area is motivated by developers given the following: Convenient linkages to bulk services within the downslope CCT developments. Access to potable water given the nearby Faure water-works and reservoir. Being highly accessible given the proximity of the N2 and R102. Panoramic views of False Bay and the Peninsula. Being within a viticulture area with access to renowned wineries (e.g. Vergenoegd) and within close proximity to Dreamworld. Such development outside the CCT urban edge will impact directly on the 'winelands' within the Stellenbosch municipal area. Accordingly, a collaborative urban edge/ municipal boundary assessment jointly undertaken by CCT and Stellenbosch Municipality is required to soften the CCT urban edge, especially where such edge coincides with the municipal boundary and directly abuts vineyards. This would serve to lessen the threat to the adjacent viticulture areas and address the misperception of developers regarding extending the urban edge within the Faure Hills to benefit from its locational advantages.
8. Stellenbosch/Helderberg	
Settlement model roll-out threat to agricultural working and heritage landscapes between Stellenbosch and Helderberg.	 Settlement types, their roll-out and management within the Stellenbosch-Helderberg rural interface area demonstrates the following settlement policy disparities: A CCT settlement policy underpinned by strict settlement growth management (i.e. containment) and limited non-agricultural and new settlement development in its rural area. A Stellenbosch Municipality settlement policy focussing on 'inter-connected nodes' with existing rural and urban settlement transformation through densification and extension. The roll-out of the 'inter-connected node settlement model within the Stellenbosch-Helderberg interface rural area raises concern in the following respect: Various urban settlement forms, architectural styles and land use components not compatible with the existing heritage and agricultural working landscape (e.g. James Town/ De Zalze node). Promotion of ribbon development along the R44 (e.g. James Town/ De Zalze node). Development or extension of inter-connected nodes in close proximity to the CCT urban edge (e.g. Raithby, De Wynlanden Estate) with such developments prompting similar development demand outside the CCT urban edge. Ensuring the integrity of heritage and agricultural

URBAN GROWTH ISSUE	MANAGEMENT REQUIREMENT
	working landscapes that comprise the Stellenbosch- Helderberg rural interface requires a joint CCT- Stellenbosch Municipality collaborative planning forum to achieve synergy between the disparate settlement policies.

The PSDF logic is underpinned by the following themes (Table E2, Diagram E4):

- Capitalise and build on the Western Cape's comparative strengths (gateway status, knowledge economy, lifestyle offering) and leverage the sustainable use of its unique spatial assets;
- Consolidate existing and emerging regional economic nodes as they offer the best prospect of generating jobs and stimulating innovation;
- Connect urban and rural markets and consumers, fragmented settlements and critical biodiversity areas (freight logistics, public transport, broadband, priority climate change ecological corridors etc.); and
- Cluster economic infrastructure and facilities along public transport routes (to maximise the coverage of these public investments) and respond to unique regional identities.

The PSDF acknowledges the economic and spatial primacy of Cape Town within a provincial and regional context. A synthesis of the provincial space economy led to a number of policy directives including:

- Reinforce the Cape metro region as the province's economic engine;
- Build 'land assembly' capacity in the urban space-economies and apply new land policy instruments (land banking, land value capture, etc.);
- Incentivise mixed land use and economic diversification in urban and rural land markets;
- Regenerate and revitalise existing economic nodes in the urban space-economy (CBDs, township business centres, modal interchanges, fishing harbours, etc.);
- Prioritise public transport investment and higher order facilities in district centres; and
- Stabilise small towns, invest in off-grid infrastructure technologies, and use the roll-out of ICT infrastructure to connect and economically empower across space.

The Provincial Land Transport Framework (2013) establishes a long term vision for transport in the Western Cape. The PLTF's targets are that by 2050 the transport system in the Western Cape will have:

- Fully integrated rapid public transport networks (IRPTNs) in the higher-order urban centres of the province;
- Fully integrated public transport networks (IPTNs) in the rural regions of the province;
- A safe public transport system;
- A well-maintained road network;
- A sustainable, efficient, high speed, long distance rail network (public and freight transport) with links to the Northern Cape, Gauteng and the Eastern Cape;
- An efficient international airport that links the rest of the world to the choice gateway of the African continent;
- International-standard ports and logistics systems; and
- A transport system that is resilient to peak oil.

Table E2: Cross-border planning issues

SCALE	DESCRIPTION	PSDF SPATIAL LOGIC			
JUALE		1. CAPITALISE	2. CONSOLIDATE	3. CONNECT	4. CLUSTER
REGIONAL GROWTH NODES	Primary urban concentrations and areas of growth - Cape Town region, George region, Saldanha Bay region	Capitalise on Provincial assets (Iconic landscapes, rural and coastal lifestyle, knowledge economy, agriculture, events)	Prioritise consolidated investment in economically vibrant areas	Connect regional economic infrastructure (regional transport, freight logistics, energy, broadband)	Align high- level planning and investment prioritisation (BRT Systems, human settlement pilots)
REGIONALISM	Rural regions defined by agricultural and water system, cultural and landscape character, local conditions and function	Celebrate unique regional identities and experiences (Karoo, Winelands, West Coast, Garden Route, Agulhas Plain, Overberg)	Balance development and resource protection through close management of natural, cultural landscape and agricultural assets in relation to growth pressures	Strengthen regional ecological connectivity Build economic linkages regionally between rural and urban areas	Coordinate regional planning based on response to local conditions and function
INTER- SETTLEMENT SYSTEM	Hierarchy and functional linkages between regional centres and smaller surrounding towns	Capitalise on unique cultural landscapes, heritage assets, character areas and typologies	Promote hierarchical social service delivery patterns based on regional role of settlement (regional centres vs small towns)	Focus on sub-regional public transport systems Ensure for connected rural-urban social service systems and networks	Regionally align clustering of primary health, educational and other social facilities
SETTLEMENT FORM AND STRUCTURE	Physical and socio-economic manifestation of activity within a town and /or neighbourhood	Capitalise and preserve unique local built form and natural typologies, character and heritage	Promote urban rather than suburban model: avoid further fragmentation of townships. Consolidate social services, mixed uses, density	Focus on creating connections to economic and social opportunity to promote spatial and socio- economic integration	Cluster all social facilities and complementary activities Promote multipurpose and mixed use activity



Diagram E4: PSDF conceptual spatial development



Diagram E5: Provincial economic infrastructure



Diagram E6: Space-economy synthesised and consolidated framework

Technical Supplement F: City-approved policies and strategies endorsed since 2012 The MSDF is tasked with facilitating the alignment – in spatial terms – of the City's sector strategies to guide the prioritisation of public investment in a coordinated manner and to promote private investment that supports this investment and strategic direction. The City has recently approved a number of strategies and implementation plans that directly and indirectly influence the narrative of the MSDF including:

- The City Development Strategy (CDS)- providing the broad long-term vision and strategic framework- and subsequent Economic Growth and Social Development Strategies (EGDS and SDS) - articulating the institution-specific objectives and commitments to achieve economic growth and social development;
- Integrated Human Settlements Framework (IHSF) defining the projected housing needs towards 2032 and directing the approach towards alleviating the existing backlog and projected needs;
- Integrated Public Transport Network (IPTN) defining the basis for an integrated and interoperable road and rail-based public transport system;
- Bioregional Plan incorporating the Biodiversity Network and management guidelines and aligned to the 2017 Western Cape Biodiversity Spatial Plan and Implementation Strategy;
- Transit Oriented Development (TOD) Strategic Framework defining tools and mechanisms at different scales to support the progressive realisation of TOD for city transformation and a more effective, efficient public transportation system; and
- Integration Zones planning and investment strategies for the Voortekker Road, Metro South-East and Blue Downs corridors.

RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS
City Development Strategy (CDS)	The City Development Strategy is a guide and action plan for achieving a better quality of life in Cape Town. Its purpose is to align the vision and plans of the City of Cape Town with the vision and goals contained in the National Development Plan and Provincial One Cape 2040 plans. The strategy moves towards implementation through catalytic/ game changer projects.	A highly skilled, innovation driven, resource- efficient, connected, high-opportunity and collaborative society. Underlying themes are: Enterprising Cape: an inclusive and resilient economy, connected and interconnected; Green Cape: an eco-friendly city region; Educated Cape: educated and informed people; Living Cape: people lead healthy and vibrant lives and basic services delivery is optimised; Leading Cape: Engaging leadership, responsible citizenry; innovative financial mechanisms Connecting Cape: Building and celebrating Cape Town's spirit
Integrated Development Plan (IDP)	The IDP is the City's principal strategic planning instrument, from which various other strategic documents will flow. It informs planning and development in the City and guides the municipality's planning and budgeting over the course of the five-year political term. The IDP includes five key focus areas that inform all of the City's plans and policies, and reflects the objectives, strategies and development priorities underpinning each focus area.	The opportunity city: creating an economically enabling environment in which investment can grow and jobs can be created. The IDP encourages development of key sectors (see EGS) and growth of smaller enterprises. It is also focused on investment in growth-enabling infrastructure including the implementation of an effective public transport system The safe city: reflects on safety broadly, including personal safety in relation to the public environment and the management of the risk of disaster including fires and floods. The caring city: is doing everything it can to provide for citizens, enabling them to access opportunities. This means looking after all Cape Town's people especially those who are most in need of assistance as well as the environment in which they live. A key focus is on creating integrated human settlements by building communities, not just houses. This approach will

Table F1: City-approved policies and strategies endorsed since 2012

RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS
		be informed by a densification policy that seeks to limit the creation of communities that are far removed from opportunities, instead bringing people closer to economic and social centres. The inclusive city : a key objective is to provide facilities that make citizens feel at home, focusing on equitable provision of community facilities. The well-run city : The Cape Town Municipal Spatial Development Framework is the long-term spatial planning component of the IDP.
Economic Growth Strategy (EGS)	 Positions Cape Town within broader global, national and regional economic trends. Two trends prevail namely the rapid shift in investment and commercial activity towards the urban centres of the East and South (which is resulting in high rates of economic growth, particularly in mid-sized cities); and Structural changes in the domestic economy, particularly in the Western Cape, towards the tertiary sector. The EGS outlines how the City responds to these challenges and opportunities. From a planning perspective the following initiatives have been introduced in support of the EGS: Simplifying and streamlining the application process (increasingly using online platforms); Adoption of a single zoning scheme (Cape Town Zoning Scheme) replacing individual schemes; and The completion of a Planning Policy Audit and Rationalisation Initiative with over 300 planning policies repealed. 	 The EGS is structured around five high-level objectives: Building an enabling institutional and regulatory environment (being a globally competitive city); Planning, building and maintaining infrastructure that supports economic growth (basic services, transport and ICT infrastructure etc.); Building an inclusive economy through job creation, skills development and small business support; Promoting and marketing business and investment to leverage trade and sector development; and Ensuring that the growth path is environmentally sustainable in the long-term.
Social Development Strategy (SDS)	The SDS recognises that social development interventions impact on the ability of individuals and communities to engage in economic activity. Conversely, economic growth is central to social development. The SDS adopts a collaborative approach to social development whereby each directorate has a role in facilitating social development.	 The five high-level objectives of the SDS are: Maximising income-generating opportunities for people who are excluded or at risk of exclusion. Building and promoting safe households and communities. Supporting the most vulnerable through enhancing access to infrastructure and services. Promoting and fostering social integration. Mobilising resources for social development.
Human	programmes to address the	strategy for the City of Cape Town inform include:

RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS
Settlements Framework	expected number/ future demand for 'different types of opportunities' (i.e. housing/ living circumstances) for various user groups. The provision of a large number of expected opportunities is based on a partnership between various players (e.g. the private sector which represents every property owner leasing out a property), as well as the state and the municipality involved in formal and informal opportunity creation.	 The regularisation and progressive upgrading of all informal settlements with ongoing improvement of services, public space and tenure provided, while households formalise their top structures. Densities must be sufficient to minimise the need to relocate households. The supply of new housing opportunities should grow through increasing delivery by households of rental units and subdivisions. This should be undertaken by encouraging and supporting the development of second dwellings through regularising existing backyard dwellings and opening up new designated areas for formal backyard rental units. Encouraging and supporting further household densification in designated areas by providing incentives and expediting subdivisions of existing residential properties for the building of additional housing for sale and second dwellings for rental on their properties. Opening up new areas for housing development within and adjacent to existing developed areas. The emphasis should be on high densities and starter units that support incremental completion of houses over an indefinite period. The City should prioritise development of super blocks by third parties or site and service for household occupation and incremental building of houses themselves over an indefinite period. The development of higher density affordable apartment unit investment should be supported, undertaken by social housing institutions and private developers. This form of development should be undertaken predominantly around the transport corridors and priority nodes. The conversion of non-residential properties for affordable residential rental should also be encouraged. A focused programme should enable low-income households to participate in the housing market in Cape Town. This should include addressing the backlog of title deeds to subsidised properties, enabling the secondary housing transaction process and addressing the home ownership-related credit worthiness o
Cape Town Densification Policy	The policy recognises that densification is not an end in itself, but a means to improve the sustainability of the city as well as the vitality of urban precincts. It is a relative indicator of the	 The outcomes associated with densification and the policy include: A reduction in the consumption of valuable/non-renewable resources A more sustainable and viable public transport system A more equitable city supporting economic
	intensity of development and the	opportunities service provision

RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS			
	population thresholds that could support economic activity, public transport services etc.	 Enhancement of settlement patterns and choice of housing typologies Improved opportunities for urban place- making and safety. 			
Draft Comprehensive Integrated Transport Plan 2017-2022 (CITP)	The CITP describes the strategy to deliver, operate and fund integrated, intermodal and interoperable transport and its related infrastructure (road, stormwater, bridge and rail networks), facilities and systems within the City.	 Summary of strategic objectives: An efficient and viable relationship between land use supporting infrastructure and transport for the sustainable development of the city. Integrated, intermodal, interoperable, responsive and car-competitive public transport for the benefit of the community. An economically viable transport system balancing service provision with demand through transparent regulation. Services delivered in an accountable, investment-oriented and performance-driven manner, ensuring quality and unified standards. A costed, viable and financially accountable transport management system and network that makes use of all potential sources of funding. Consolidated and improved public transport law enforcement functions to facilitate safety and security on the public transport network and related facilities for the benefit of all. Comprehensive communication and stakeholder management. 			
Bioregional Plan	The Bioregional Plan makes provision for integrated management of wetlands, rivers, coastal areas and terrestrial vegetation remnants. It comprises a biodiversity profile for the bioregion, the Biodiversity Network and Management Guidelines. The Cape Town Biodiversity Network is a spatial plan that shows terrestrial and aquatic features that are critical for conserving biodiversity and maintaining ecosystem functioning. These are classified and spatially indicated as Critical Biodiversity Areas (CBAs) and Critical Ecological Support Areas (CESAs) respectively. It serves as the statutory reference for biodiversity priority areas in the CCT and is aligned with the National Spatial Biodiversity Assessment (Driver et al, 2005) and the National Biodiversity Framework (NBF).	 Create an integrated, cost-effective approach to environmental management and conservation within the City. Informs and guides planning and natural resource management by a wide range of sectors whose policies and decisions impact on biodiversity. Ensures that the National Environmental Management Act (NEMA) principles are applied within the CCT in an effective and equitable manner, in order to avoid loss and degradation of natural habitat in CBAs. Ensures that the City's ecosystems remain intact and continue to deliver high quality and sustained environmental goods and services and to provide opportunities to the local community such as recreation, tourism and environmental education and job creation; and Increasing and securing long-term sustainability of these ecosystem goods and services, as well as mitigating the impact of climate change by improving biotic adaptation to it. 			
Integrated Public	The approved IPTN provides the future public transport network plan	The IPTN identifies the required public transport network to serve the existing and future mobility			

RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS
Transportation Network	towards 2032, specifically the trunk route network, for Cape Town. Designated feeder routes are indicative and will be designed in greater detail through the concept planning of each trunk corridor. The IPTN was developed with the goal of providing an integrated public transport network that efficiently meets the access and mobility needs of the citizens of Cape Town. This IPTN will form the system planning premise for public transport corridor identification and associated projects and for any public transport related agreements with affected stakeholders, and also forms the basis of detailed operational, implementation and business plans.	and access needs of the citizens of Cape Town and provides strategic direction to guide public transport implementation in Cape Town. The approved IPTN 2032 was developed on the basis of the Pragmatic Transit Oriented Development (PTOD) land use scenario, however, the Council recommendation is that a more aggressive TOD land use scenario be developed to further support the efficient and affordable provision of public transport, namely the TOD Comprehensive scenario.
Transit Oriented Development Strategic Framework ³⁹	The TOD SF is an institutional strategy to identify the tools and mechanisms to be employed by various role players who collectively impact on development to support a more progressive transition towards a more sustainable, compact and equitable urban form as depicted by the TOD Comprehensive (TOD C) land use scenario (Diagram C1). The TOD SF acknowledges differentiated scales of implementation of TOD principles and opportunities to influence and achieve TOD outcomes at metropolitan, corridor, nodal and precinct scales. TOD C was developed to optimise trip generations from future land uses embracing TOD as an approach to development (based on a 2032 time horizon). It	 TOD in the City of Cape Town context is defined as a long-term development strategy to address spatial inequality, improve public transport affordability, and arrest sprawl, which is driven by the integration of sustainable public transport and land uses. Principles embedded in the TOD SF are defined below: Affordability – reduce the cost of public transport to commuters and the cost of providing public transport to the city. Accessibility – facilitate equal access to social and economic activity through strategic urban development and the provision of safe public transport. Efficiency – provide an environment and level of service that reduces trip lengths and dependence on private vehicles. Intensification (both land use diversification and densification) to manage the desired form, composition and location of urban development conducive to affordable,

³⁹ Cape Town's Council minutes record note it was resolved that:

[&]quot; (a) the Cape Town Transit-Oriented Development (TOD) Strategic Framework be approved as the basis for promoting TOD by the City of Cape Town and accordingly that:

⁽i) the principles, objectives and vision of Transit-Oriented Development (TOD) for Cape Town as encapsulated in the TOD Strategic Framework for the City of Cape Town is approved as one of the primary informants for the review of the City of Cape Town strategic and built environment plans;

⁽ii) the TOD Comprehensive Land Use Scenario in the TOD Strategic Framework is adopted as the desired end-state for TOD in the City of Cape Town and is used to guide TOD interventions that support the principle and objectives of the TOD Strategic Framework;

⁽iii) the TOD Comprehensive Land Use Scenario is used as one of the primary strategic informants to the review of the City of Cape Town Spatial Development Framework which is the primary tool of the City to guide land use planning decisions and inform public led investment;

⁽iv) the TOD Programmes articulated in the TOD Strategic Framework are adopted as the basis for guiding the implementation and alignment of public and private investment, programmes, projects and initiatives toward the objectives of TOD".

RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS			
	 considered an optimum mix and intensity of trip-generating land uses (or residential development) and trip-attracting land uses (i.e. commercial and public facilities) along public transport corridors. At a metropolitan level, it requires the maximisation of residential opportunities in and around the CBD; the maximisation of work opportunities and services in the Metro South-East; and a better mix of residential and work/services opportunities in the Atlantis and Somerset West areas, to reduce dependencies on the central area of the city. It optimises those future trip generations embracing the principles of the TOD SF and integrating transport and land use planning based on assumptions including: Household income and land value would not impact on the location of residential development; Development would be allocated to priority transit areas using existing maximum permissible/ deliverable rights, and then – if additional development is required – rezoning/ amendment of land use rights will be applied; Parking requirements would be adjusted according to the provisions of Public Transport (PT) zones; and Land use intensity and mix would be allocated according to the provisions of Public Transport (PT) zones; and Land use intensity and mix would be allocated according to the provisions of Public Transport (PT) zones; and Land use intensity and mix would be allocated according to the provisions of Public Transport (PT) zones; and Land use intensity and mix would be allocated according to the provisions of Public Transport (PT) zones; and 	 accessible and efficient public transport. This implies that: New development in the city will be strategically located around public transport; will have an appropriate mix of land uses; and will be inclusive in well-located areas; The high quality of public space will serve to promote the use of public transport and non- motorised transport modes; The City will leverage its strategically located land holdings and partner the private sector to lead by example to achieve transit- oriented development; The progressive realisation of transit-oriented urban growth and development will contribute towards the City's goal of spatial transformation and other transformation priorities and outcomes. 			
Environmental Strategy	The City's Environmental Strategy (CES) provides an integrated perspective on sustainable, resource efficient growth in the context of the City's Economic Growth Strategy	 The four high-level strategic focus areas are: Natural systems planning and management, focusing on the management of natural resources and ecosystems, including biodiversity, open spaces, river and wetland 			

RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS				
	 (EGS) and Social Development Strategy (SDS). The Environmental Strategy recognises: the constitutional right to a safe and healthy environment; that the economic and social development of the city relies on biophysical assets and the servicing of the city is dependent on finite natural resources; and that the success of development objectives may be undermined by pollution, wasteful use of resources or exposure to natural hazards. 	 systems, and the coast. Resource management and efficiency, focusing on the effective management of the city's natural resources (e.g. water). Environmental quality management, focusing on the prevention and control of environmental degradation and enhancement of environmental quality. Heritage management, focusing on the effective management of the city's cultural and visual heritage. 				
Energy 2040	Energy 2040 informs the sustainable	The City has set 5-, 15- ar	nd 25-ye	ar targe	ts for	
	energy action plan into the tuture	reducing carbon emissio	<u>ns as to</u>	15	25	
	emissions and promoting efficient		year	year	year	
	and sustainable use of energy.	Electricity efficiency	-3,7%	-7,7%	-9,3%	
		Transport efficiency	-3,2%	-7,2%	-11,2%	
		Cleaner electricity	-6,2%	-13,9%	-15,9%	
		reduction (from business as usual)	-13%	-29%	-37%	
		Tons of CO ² /USD million GDP	820	600	490	
		Tons of CO2/capita5,45,3-*The energy and carbon emissions targets are conditional on the Energy 2040 modelling assumptions remaining constant			- ts are g	
Urban Agriculture Policy	Food security refers to all people, at all times, having physical and economic access to sufficient, safe and nutritious food to meet their daily dietary needs and food preferences for an active and healthy life (FAO, 1996; FAO, 2003). This definition identifies four key aspects necessary for food security to be achieved, namely: 1) the supply of food and food production; 2) economic and physical access to food; 3) the utilisation of food; and 4) the stability of the above. The Urban Agriculture Policy was developed to create an integrated and holistic approach to the meaningful and effective development of urban agriculture in the city to address the aspects described above.	 Enable the poorest households to utilise urban agriculture as an element of their survival strategy for household food security Enable people to create commercially sustainable economic opportunities through urban agriculture (jobs and income) Enable previously disadvantaged people to participate in the land redistribution for agricultural development programme (redress imbalances) Facilitate human resources development (technical, business and social skills training) 				
RELEVANT POLICIES AND STRATEGIES	INTENT AND PURPOSE	SUMMARY OF STRATEGIC OBJECTIVES OR GOALS				
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	The City has focused the policy on the agricultural activities of the poorest residents of the city on the basis that it can play a significant role in poverty and food insecurity alleviation.					

1. Metropolitan

Planning/Interventions at this scale centre around policy and long term visioning to establish the broader principles and objectives of TOD.

2. Corridor

Integrated transport and land use planning at a corridor scale is required to give context to local area and precinct planning initiatives. This will promote land development along selected transit corridors, where the combination of transport investment and development would optimise the utilisation of transport.

4. Precinct

At the lowest level, the Precinct Plan must ensure appropriate urban design and placing of infrastructure and facilities, in support of both the higher order corridor and local destinations within the node or zone.

3. Nodal/Local Area

Urban nodes are characterised by the intensity, mix and clustering of activity or land use. Nodal planning attempts to consolidate and define the role of the node or zone in the context of the corridors. The aim is to determine the desired density and mix of land use within the study node or zone.



5. Projects and Programmes

Projects and Programmes are identified in the Nodal and Precinct planning stages. They are seen as practical mechanims to improve the quality and attractiveness of the urban environment in order to facilitate the contextual objectives of TOD at the appropriate scale.

Diagram F1: Differentiated scales of TOD

Technical Supplement G: Overview of drivers of urban change This technical supplement discusses key drivers of urban change, namely the population profile and projections; housing supply and demand; physical growth and form; and the economy. The supplement concludes by discussing the implications for spatial planning of drivers of urban change. Whilst every effort has been made to present the most recent data, the City's data is constantly updated and this may not be reflected here.

The technical supplement aims to present the latest research conducted by the City, spanning a period of 10 years, from 2005-2015⁴⁰. It aims to assist in ensuring that the policy presented in the MSDF is achievable and based on the best available evidence regarding the trends shaping Cape Town's future. Greater clarity on these drivers of urban change has direct implications for how the City prioritises and develops the foundations of sustainable growth: public transport, housing, the economy, land, infrastructure, fiscal health and resource efficiency.

Furthermore, each of these drivers of urban change relates to the IDP's five strategic focus areas and the corresponding 11 IDP priorities, as seen in the diagram below.



Diagram G1: Relationship between IDP focus areas and priorities.

⁴⁰ This study period was chosen as it reflects the local impact of the global economic downturn of 2008, the lasting spatial implications of which were not fully understood by 2012.

1. Population

The population trends outlined here relate specifically to the IDP's strategic focus areas of a Caring City and an Opportunity City. The priorities which further expand on these IDP focus areas are the City's commitments to building integrated communities, and promoting economic inclusion.

• Population growth

Cape Town is emerging from a second wave of rapid urbanisation, expanding by 62% during the last two decades. The 2016 StatsSA Community Survey estimates the population for Cape Town is approximately four million (Diagram 35) representing a 56.2% increase since 1996.



Diagram G2: Population Growth

• Population growth in the province

Cape Town's population growth of 56.8% over 20 years reflects a similar trend to the provincial population growth of 58.7%. However, Cape Town's population as a percentage within the Western Cape's population has decreased from 64.8% in 1996 to 63.8% in 2016, as can be seen in Diagram G3.



Diagram G3: Population of the Western Cape and Cape Town 1996–2016

The population is expected to reach 4.5 million in the early 2030s based on the City's base projection. Population growth rates are decelerating, from an average compound growth rate of 3.3% between 2000 and 2010 to an expected 1.5% between 2010 and 2020. The largest uncertainty in future growth projections is the nature and extent of in-migration, both internal and transnational. Diagram G4 illustrates different population growth scenarios as projected.

According to the 2016 Community Survey 379 469 residents (9.8%) were not living in the same place in March 2016 as in October 2011 and had moved in this period. Of the 379 469, 253 941 moved within Cape Town and 125 528 people moved into Cape Town.

There were also 58 650 people that were residents of Cape Town in October 2011 but were living in other parts of South Africa in March 2016. This implies a total increase of 66 878 people between October 2011 and March 2016 but does not take into account those people that left South Africa. This comprises about 1.7% of the March 2016 Cape Town population.

Between October 2011 and March 2016 the increase in the total population of Cape Town was 264 797 with just over 25% of this due to migration. If the high in-migration scenario as modelled for the Western Cape is downscaled to Cape Town, an additional 160 000 people is added to the base projection by 2040, from 4.63 million to nearly 4.8 million.



Diagram G4: Historical and projected population growth⁴¹

• Population structure

Cape Town's working age population (aged 15 to 64 years) has increased proportionately since 1996, while that of youth (aged 0 to 14 years) has decreased. This suggests a large proportion of the city's inhabitants are young people looking for employment opportunities. In addition, the majority of the City's migrants are low-income from rural areas and small towns. This socioeconomic trend creates significant expectation; from the economy, the provision of employment opportunities and from the local authority the provision of infrastructure, services, and access to land and housing.

Table 18 shows the makeup of Cape Town's population over a 10-year period. From the table it is clear that from 1996 to 2016, the percentage of the population aged 35 - 64 increased from 28% to 34.5%. During this time the percentage of the population aged 15 - 24 and 25 - 34 decreased by between 2% and 3% respectively. This demonstrates that Cape Town has an ageing population with 40% of the population currently aged 35 - 65 years old, according to the 2016 Community Survey.

⁴¹ City of Cape Town Mid-Year Population Estimates; PWC Population Projections.

Tahla	G1. Ada	of Cane	Town's	nonulation	from	1006_2016
IUDIE	GI. Aye	or Cupe	10 0011 2	population	nom	1990-2010

Canalaur	1996 Census		2001 Census		2011 Consus		2016 Community Survey		
Cape town	Number	*	Number	*	Number	*	Number	%	
0 to 4 years	241,256	9.4%	252,826	8.7%	370,297	9.9%	368,419	9.2%	
5 to 14 years	481,016	18.8%	518,200	17.9%	558,033	14.9%	673,840	16.8%	
15 to 24 years	486,637	19.0%	578,020	20.0%	686,857	18.4%	651,856	16.3%	
25 to 34 years	481,575	18.8%	533,785	18.4%	727,362	19.4%	680,104	17.0%	
35 to 64 years	717,332	28.0%	866,257	29.9%	1,189,990	31.8%	1,380,824	34.5%	
65 years and older	128,068	5.0%	144,156	5.0%	207,486	5.5%	249,749	6.2%	
Unknown	27,212	1.1%							
Total	2,563,096	100.0%	2,893,244	100.0%	3,740,025	100.0%	4,004,793	100.0%	

Cape Town's old-age dependency ratio is projected to rise from 9 persons to 16 persons per 100 working-age people by 2040 (Diagram 39), whereas the child dependency ratio will decline from 38 to 30 per 100 working-age people. An ageing population places pressure on economic growth and public finance, driving demand for public health care, long-term care services and state pensions. This trend relates to the IDP's focus are of creating a Caring City, as there will be a need to promote the economic inclusion of those dependent on the state.

The age distribution of the population of Cape Town between 1996 and 2016, shows a trend that suggests Cape Town has an ageing population. According to the 2016 Community Survey, the percentage of the population in Cape Town aged 35 and younger is decreasing, while the percentage of those aged 35 and older is increasing. This is further shown through the median age increasing from 26 in 1996 and 2001, to 28 in 2011, and 29 in the 2016 Community Survey. The age pyramid can be seen in Diagrams G5 and G6.



Diagram G5: Cape Town's population pyramid 2016



Diagram G6: Population pyramid⁴²

• Number of households

The number of households in Cape Town is increasing faster than the population, according to the 2016 Community Survey. In relation to this the size of households is declining. The increase in the number of households in Cape Town from 653 085 in 1996 to 1.26 million households in 2016 shows a 93.7% increase in the number of households over 20 years. This increase is shown in Table G2 and Diagram G7, taken from the 2016 Community Survey, below.



Table G2: Change in number of households in Cape Town 1996-2016

⁴² City of Cape Town Population Projections.

Cana Tawa	Change 1996 to 2016 20 years		Change 2 15	2001 to 2016 years	Change 2011 to 2016 5 years	
Cupe town	Number	% increase	Number	% Increase	Number	% increase
Total Population	1 441 698	56.2%	1 111 547	38.4%	264767	7.1%
Number of Households	611764	93.7%	487 456	62.7%	196274	18.4%

Diagram G7: Relative number of households⁴³

• Household size and formation

The city is experiencing a rapid increase in the number of households being formed. The rate of new household formation outpaces that of population growth. From 2011-2016 population has increased by 7.1% but the number of households has increased by 18.4%.

Cape Town households are becoming smaller. Over the last 20 years the average household size has gone from 3.92 people to 3.17. The household formation trends over the last 20 years, in Diagrams 41 and 42, show that from 1996 to 2016, the number of two-person households increased from 19% to almost 24%. Additionally, 48% of Cape Town households consist of one or two people. The rate of household formation is likely an effect of the increase in the younger, working age population. An increase in the number of households and the changing population structure is of particular relevance to the supply of housing in the City with both the number and type of housing affected.

Diagram G9 shows the make-up of households per racial category. From this it can be seen that the household formation of African headed households has increased slightly to between three and four people, however, the majority of African households are made up of one person per household. The race category with the highest number of people per household is coloured households with many consisting of four or more people. Despite this, there was a marked increase in two-person households in 2016 within the coloured household category. White headed households have fewer people per household than other race groups, with one- and two-person household sizes increasing consistently from 1996–2016. A similar trend is seen in Asian households between the same periods.

⁴³ StatsSA household figures 1996-2016



Diagram G8: Percentage of people per household in Cape Town 1996-2016





Households in Cape Town 1996 to 2016 1996 2001 2011 2016 30% 25% 20% 15% 10% 5% 0% Over 9 1 person 2 people 3 people 4 people 5 people 6 people 7 people 8 people 9 people people 1996 22.1% 19.2% 16.3% 14.0% 10.1% 7.0% 4.5% 2.8% 2.3% 1.7% 2001 22.3% 19.8% 16.8% 14.0% 10.3% 6.9% 4.2% 2.5% 1.4% 1.9% 2011 29.5% 20.0% 16.3% 13.4% 9.2% 5.5% 2.8% 1.5% 0.8% 1,1% 2016 26.4% 21.1% 18.2% 15.0% 9.3% 4.9% 2.5% 1.2% 0.6% 0.7%

% Number of People per Household for Black African Headed



% Number of People per Household for Asian Headed Households in



Diagram G9: Percentage of people per household per race in Cape Town 1996-2016

30%

• Social indicators

The Human Development Index (HDI) is a composite statistical index of life expectancy, education and income. The improvement of Cape Town's HDI from 0.69 in 2001 to 0.72 in 2011 and 0.75 in 2016⁴⁴ was supported by rising literacy and income per capita. This is significantly higher than the national HDI of 0.65 in 2016.

Encouragingly, life expectancy has shown an increasing trend. Using the Western Cape province's life expectancy figures as a proxy for Cape Town, there has been a steady increase in the average life expectancy of around 61,7 years in the period 2001-2006 to 66,6 years in 2011-2016, a five year increase in a decade⁴⁵. This is in part due to the Western Cape and Cape Town's active anti-retroviral treatment programmes for HIV/AIDS.

Literacy rates in Cape Town have improved from 85% in 2001 to 92% in 2011⁴⁶, and real GDP per capita from R65 477 in 2001 to R73 784 in 2016⁴⁷. According to Stats SA, literacy refers to the ability to read and write in at least one language. Historically literacy has been measured based on whether a person has completed Grade 7 or not (Stats SA, 2015). However, it has been noted that this is not a sufficient indicator of a person's literacy ability.

Surveys conducted by Stats SA since 2009 have asked respondents to indicate if they have 'no difficulty', 'some difficulty', 'a lot of difficulty' or are 'unable' to read (newspapers, magazines or books) in at least one language or write a letter in at least one language (Stats SA, 2015). Social indicators such as literacy rates are important in the Cape Town context as literacy rates can infer employability of an individual.

Despite an increase in literacy rates, there is still high youth unemployment in Cape Town. This suggests that other skills should be addressed in order to further increase the employability of young people. In relation to the IDP, this challenge reflects the City's goal of creating an Opportunity City with economic inclusion being a priority of this goal.

Safety and security

Statistics and trends relating to safety and security are included for their relevance to the IDP goal of creating a Safe City and safe communities.

South African Police Service (SAPS) data reveals that Cape Town had the highest overall crime rate in 2015/16 compared to other selected South African metros, measured at 8 285 per 100 000 of the population. This may be attributed to Cape Town's significantly high drug-related crime rate (1 551 per 100 000 population), coupled with relatively high property crime rates (3 691 per 100 000 population).

Of concern is the incidence of social and property crime, which has been on the rise in recent years. 64% of households in the Western Cape feel unsafe at night and 27% during the day: the highest in the country⁴⁸.

⁴⁴ IHS Markit, 2017.

⁴⁵ Statistics South Africa, Mid-year population estimates, 2016.

⁴⁶IHS Markit, 2017. ⁴⁷IIS Markit, 2017.

⁴⁸ Crime Statistics Series Volume II: Public perceptions about crime prevention and the criminal justice system, 2010-2013/14 Report, quoted in Municipal Economic Review and Outlook 2015.



Diagram G10: Perceptions of safety walking alone in the dark in Cape Town Source: VOCS 2014/15 Data, Stats SA

Diagram G10, indicates that the majority of black African people in Cape Town felt "very unsafe" (64.4%) walking alone in the dark in Cape Town. Overall, 53.3% of Cape Town households felt "very unsafe" walking alone in the dark in Cape Town.

As indicated in Diagram 44, 37.4% of Cape Town residents felt fairly safe walking around in their area during the day followed by 29.6% who felt very safe, 18% felt a bit unsafe, while 15% felt very unsafe during the day.



Diagram G11: Perceptions of safety walking alone during the day in Cape Town Source: VOCS 2014/15 Data, Stats SA

2. Housing

The demand for housing is driven aspects including household size, location and safety, aspects that are further influenced by income. The relationship between housing demand and supply from both the public and private sector relates to the City's focus areas of creating an Inclusive City which prioritises dense and transit-oriented growth and development, as well as building integrated communities.

Three features define the housing challenges of Cape Town. Firstly, a significant backlog in the supply of affordable units; secondly, housing projects are often built at densities that are too low to support city functions such as public transport; thirdly, many settlements are poorly located in terms of access to economic opportunities and social facilities.

The geographic distance between the areas of economic opportunity and overcrowded and underserviced residential areas increases the burden on poor households who have to travel the furthest to work, or seek work. By diverting up to 40% of disposable household income and time away from productive uses, such as income generation, education and parenting, the cost of transport directly inhibits upward socio-economic mobility and deepens household dependency⁴⁹. These features are common to many South African cities but tend to be more acute in Cape Town, where the cost of well-located land is particularly expensive.

• Housing demand

The overall demand for housing over the medium-term is estimated based on current backlogs and new household formation.

The size of the current housing backlog is based on the number of outstanding housing applications. The total number of housing applications registered on the City's housing database was 303 953 as of December 2015. Census 2011 indicated a backlog of approximately 345 000 households, of which 143 823 were in informal settlements, 74 957 in backyard shacks and the remainder in overcrowded or otherwise unacceptable housing conditions⁵⁰. Eradicating the existing backlog over a 20-year period equates to an annual production of 15 000 housing opportunities. Importantly, these do not include the large number of working households who do not qualify for state assistance but are unable to afford market housing.

New overall demand for housing is generated as a result of new household formation which is a function of population growth and changing household size. Average household size has been decreasing slowly, from 3,92 in 1996 to 3,72 in 2001, reaching 3,17 by 2016. Combined with population growth, these factors raise the demand for new housing. New overall demand for housing has increased from approximately 15 000 per year in 2005 to 20 000 in 2015. Therefore, approximately 35 000 housing opportunities will need to be supplied by the overall formal housing market annually to eradicate the official backlog over 20 years whilst meeting new demand.

• Housing supply

Housing supply can be divided into three submarkets: market, state-assisted and informal. Although Cape Town's housing market has over the last ten years generated between 15 000 and 20 000 units per year, the mix of supply has changed (Diagram G12). In 2005, two out of four houses were produced by the market, one produced by the state in the form of a top structure, and one generated informally. As of 2015, out of every four new houses generated, one is produced by the market, one by the state, and two informally (in either informal settlements or backyards).

⁴⁹ Cape Town 2016. Transport for Cape Town. Transport Development Indicators Report.

⁵⁰ Integrated Human Settlements Five Year Plan 2007



Diagram G12: Annual housing supply mix⁵¹

⁵¹ City of Cape Town Building Plans Data; StatsSA Census;

• Market housing

The formal housing sector was delivering 12 500-15 000 units per year before the 2008 economic downturn, of which approximately 60% was delivered by the market and the remainder through government housing programmes. This is marginally lower than the average annual supply of 16 000 between 1996 and 2007⁵². Given current credit constraints and the near-recessionary economic climate, the delivery rate by the market has decreased by a third to a new normal of between 7 000 and 10 000 units per year. Diagrams G13, G14 and G15 indicate the spatial pattern of market housing since 2005. Whereas low density residential developments continue to locate along the urban periphery, where land values are low (less than R1 000/m²), market-driven densification (as represented by new blocks of flats) is concentrated in well-managed, accessible areas where land values are very high (more than R2 500/m²).

Diagram G13 shows a significant amount of development taking place on the periphery of the city over the period 2005-2014. Diagram G14 illustrates building plan approval from 2015 to December 2017. From the first of these diagrams it is clear that there continues to be sprawling development towards the edge of the city. However, a concentration of residential units (flats) approved within the CBD is noticeable in spite of the highest land values attributable in this part of the city.



Diagram G13: Market housing and land values⁵³

⁵²StatsSA

⁵³ City of Cape Town (2016). Building plan completions and submissions, residential development applications received extracted from Development Application Management System. Land values estimated using regression applied to improved and vacant residential property values per neighbourhood as extracted from General Valuation 2015.



Diagram G14: Residential building plan approvals as at December 2017

• Affordable housing

Affordable housing refers to housing units within a neighbourhood where those earning less than the median income of the neighbourhood can afford to live in. These units can be rental units or units for purchase. The City of Cape Town has identified 11 affordable housing sites within the Woodstock and Salt River area. These will include three types of affordable housing: inclusionary housing projects, social housing projects and transitional housing projects. This commitment to affordable housing relates to the IDP's focus areas of an Opportunity and an Inclusive City, with a focus on dense and transit-oriented growth and development, as well as building integrated communities.

Notwithstanding the impact of steep land value gradients on the delivery of well-located affordable housing, this sector has seen renewed interest from investors. The affordable housing segment has in recent years outperformed the overall housing market, with house price growth of properties in the bottom quartile (i.e. less than R330 000, excluding RDP houses) nearly double that of the second highest quartile (R700 000-R1,135m) and four times greater than the highest quartile (more than R1,135m) between 2012 and 2015⁵⁴.

⁵⁴Eighty20 (2016) House Price Index: Cape Town.

This interest, particularly in rental accommodation, is driven in part by house price growth and supported by City policies such as reduced parking requirements and social housing initiatives. Recognising the significant unmet demand for affordable housing, developing further policy that encourages lending, unlocks equity and allows mobility up the housing ladder⁵⁵ will add value. Spatial policy that proactively identifies and facilitates the packaging and release of strategic land parcels for affordable housing development will be beneficial, as will policy that prioritises the regeneration of well-located but underperforming parts of the inner city through enhanced areabased urban management. This will encourage private sector investors to increase the supply of well-located medium- to high-density housing stock, thus placing downward pressure on rentals.

• Informal housing supply

Informal housing is generated in the form of informal dwellings in informal settlements, and backyarding. According to the 2011 Census, 144 000 of the 1 070 000 households in Cape Town lived in informal settlements. As of 2015, the City's working estimate is 191 510 households⁵⁶.

Whereas Statistics South Africa reported that 75 000 households lived in backyards in 2011, independent building counts have suggested that the true figure may be as much as double the official estimate⁵⁷. Backyarding occurs when a backyard dweller sets up home in an unused communal space, yard or forecourt of a main property, which may be City rental stock or a privately owned house. Backyarders are often relatives of the tenant or owner of the property who are responding to overcrowded conditions in the main property. Many backyarders are employed, earn up to R15 000 per month and fall into a gap – failing to qualify for state assistance or for a formal bond from private financial institutions⁵⁸.

• Backyarders and informal settlements

Table G3 shows the increase in dwelling type in Cape Town from 1996–2016. The number of formal dwellings increased from 79.1% in 1996 to 81.6% of the housing stock in 2016. Informal dwellings in backyards increased from 3.3% in 1996 to 7% in 2011, before decreasing to 6.1% of the housing stock in 2016. Similarly, there has been a steady decrease in Informal dwellings not in backyards from 15.8% in 1996 to 11.5% of the housing stock in 2016.

Cape Town:	1774		2001		2011		2016	
Dwelling Type of Household	Number of Housenalds	75	niumber of insusements	5	Number of Households	2	Number of Households	n
Formal dwelling	516,867	79.1%	599,803	77.2%	837,536	78.4%	1,032,497	81.6%
Informal dwelling in backyard	21,775	3.3%	32,747	4.2%	74,958	7.0%	77,634	6.1%
Informal dwelling NOT in backyard	103,458	15.8%	1,10,157	14.2%	143,823	13.5%	145,286	11.5%
Traditional dwelling	2,859	0.4%	14,795	1.9%	3,768	0.4%	2,400	0.2%
Other	1,483	0.2%	2,250	0.3%	8,493	0.8%	6,828	0.5%
Unknown	6,643	1.0%	17,639	2.3%			203	0.0%
Total	653,085	100.0%	777,392	100.0%	1,068,579	100.0%	1,264,849	100.0%

Table G3: Number of dwelling and household types in Cape Town from 1996 – 2016

Source: 1996 Census, 2001 Census, 2011 Census and 2016 Community Survey, Stats SA

⁵⁵ Housing Finance Afrika , 2016.

⁵⁶ Integrated Human Settlements Five-Year Plan: 2015/16 Review, p. 24.

⁵⁷ GeoTerralmage.

⁵⁸ Integrated Human Settlements Five Year Plan 2017.

State-assisted housing

The rate at which state-assisted top structures is delivered has stabilised at around 5 000 per year since 2005 despite the real contraction of housing subsidies. South Africa's housing policy and corresponding subsidy structure focuses on delivering as many top structures as possible by minimising the cost of delivering each unit, pushing housing development to where land is cheapest. The subsidy currently made available for building top structures – about R160 000 per unit – does not cover the full cost of delivering houses which is up to 75% higher, depending on location⁵⁹. Combined, the rate of delivery remains far below what is required to keep up with new household formation and in-migration, let alone addressing the housing backlog. Based on current resources available to the City, and using a conventional housing provision approach, it will take more than 70 years to eradicate Cape Town's current housing backlog⁶⁰.

Accordingly, a transition from delivery of top structures to the incremental upgrading of informal settlements and backyarding is required. This incremental approach is challenging, in that overcrowding in many areas inhibits the City's ability to provide services and in situ upgrading may necessitate de-densification through relocation. The City's Department of Human Settlements has estimated that resolving Cape Town's housing problem over a 20-year period will cost R99 billion (R5 billion per year). It is therefore critical to partner with citizens and the private sector⁶¹.

A review of state-assisted housing development since 2005 (Diagram G15) suggests that newer state-assisted housing is gravitating closer to areas of economic opportunity. However, the spatial consequences of affordability constraints, given Cape Town's urban land market, is also demonstrated with new low-income housing concentrated in areas characterised by poverty and informality. The realisation of affordable infill opportunities at scale is constrained by the fact that the City has limited control over large portions of undeveloped and under-utilised land in their area. State-owned entities (SOEs), national or provincial departments or the private sector, own much of the land, with disposals reflecting market-related values. These constraints represent a need to reconceptualise all public land in relation to supporting and promoting the public interest. Any acquisition of land must be located in municipal strategic planning processes, and contain a clear motivation of why and when the land is necessary to support the City's spatial objectives.

⁵⁹ CDE Agenda for Growth.

⁶⁰ Integrated Human Settlements Five Year Plan 2017.
⁶¹ ibid



Diagram G15: Informal and state-assisted housing⁶²

3. Physical growth and form

• Land consumption

City analysis suggests that of the 99 000 hectares (ha) of land inside the 2015/16 urban edge, 62 000 hectares have been developed. An additional 18 570 ha is constrained due to location and/or regulations (Map G1). Approximately 18 400 ha of developable land⁶³ remains within the urban edge. While historic amendments to the urban edge have increased the extent of developable land by 4 648 ha since 2012, the physical extent of the city's urban footprint has only grown by an estimated 671 ha during this five-year period. The difference between the pace of urban edge amendments and the pace of actual physical development is suggestive of land market speculation and not activities that result in economic growth or service delivery.

Although a principle of economic growth-enabling spatial policy is that new development is desirable and investment in development should be facilitated, land speculation goes against this principle by creating inactive areas in the urban fabric, resulting in economic decline and rising service delivery costs. Furthermore, the weight of evidence suggests that rather than being constrained by lack of developable land, Cape Town has entered a period of spatial consolidation indicated by the slowing rate of land consumption.

The rate of land consumption – which is the conversion of developable land into developed land – has slowed from over 1 000 ha a year during the late 1970s and early 1980s, to an average of less than 250 ha per year since 2008 (Diagram G16). This decline is due to a combination of adverse

⁶² City of Cape Town 2016. Diagram generated from multiple sources, including Development Application Management System and roof counts produced by Department of Development Information and GIS.

⁶³ Developability is a function of its (1) physical and locational characteristics which gives rise to (2) regulatory constraints. This definition is distinct from 'availability', which is a function of the land market which structures the economic power of the potential developer in relation to the land owner.

market conditions and the changing locational preferences of households and firms, both trends that are unlikely to change significantly in the medium-term.

The land consumption rates projected by the various future land use scenarios developed by the City range from 190⁶⁴ to 250 ha⁶⁵ per year until 2032, indicating that the probability of urban development being constrained by a shortage of developable land within the next 15 years is low. There is sufficient developable land within the 2015/16 urban edge to accommodate new growth until at least 2040.



Diagram G16: Land consumption and gross density

⁶⁴ Comprehensive Transit-Oriented Development scenario.

⁶⁵ Pragmatic Densification scenario.



Map G1: Developed, developable and constrained land (as at December 2016⁶⁶)

⁶⁶ City of Cape Town (2016). Constraint is based on the intrinsic and immutable characteristics and regulatory restrictions preventing development on a given parcel of land in the medium-term, such as cemeteries, landfill sites, high potential agricultural land, parks, core 1 and 2 biodiversity areas, servitudes, bulk dams, highway and rail buffers, water bodies, inaccessible pockets). Characteristics such as ownership and development rights are not considered immutable in the medium-term and thus not regarded as absolute constraints to development (source: February 2015 aerial photography).

• Density and spatial efficiency

Raising citywide densities and reducing average transport costs is a long-term City priority. The City's planning and budgets reinforce the existing urban footprint whilst supporting targeted, spatially efficient densification in order to progressively achieve better performance. Spatial policy plays a critical role in supporting densification in specific locations or along priority corridors. However, the improvements in citywide density are affected by a number of factors and conditions, including: the pace of urban growth, land markets, the housing subsidy regime, household preferences and the durability of building stock.

Historically, densities associated with suburban residential development are too low to sustain costeffective public transport. A scheduled bus service, for example, requires a minimum threshold of 100 persons per hectare. The number of persons per gross hectare has declined from 180 to 40 persons per hectare between 1862 and 1977 driven largely by rising income and changes in household preference for car-centric suburban living. Since the 1980s slower economic growth accompanied by smaller residential plots and the growth of dense informal settlements saw gross base densities rise slightly, to 60 people per hectare.

Given anticipated slower demographic and economic growth, it is unlikely that gross base densities for Cape Town will reach the 80 person per hectare threshold required to support a regularly scheduled bus service, irrespective of land use trajectory. Simply put, given the geographic size of the urban footprint, the amount of new growth expected in the future is insufficient to reach wall-to-wall densities to sustain universal, frequent and formal public transport. However, if all new growth were concentrated in one third of the existing city footprint (22 000 hectares), it is possible to reach the necessary density in these priority areas by 2040. Prioritising areas for residential intensification and supporting economic agglomeration is therefore critical to sustain high-quality infrastructure and services.

Raising Cape Town's density remains a key challenge and is fundamental to creating more efficient and dynamic urban economies. Whilst City policy supports density, the land market, coupled with the spatially blind structure of property and development levies creates a perverse incentive, drawing new development to peripheral, poorly serviced areas. The low land prices which attract development to these locations represent a pricing failure because they do not reflect the underlying capital or life cycle costs of development in peripheral locations. These costs constitute a negative externality transferred to poor households (capitalised into transport costs in the case of state-assisted housing) and to the City and its ratepayers (who share the operational cost burden of maintaining infrastructure and providing services in the forms of rates and tariffs).

• Inward growth

The same pricing failure that contributes to urban sprawl also contributes to urban blight. The shortterm financial gains arising from outward growth risks 'crowding out' much-needed infrastructure investment in inward growth, thereby accelerating inner city decline. This emphasis on inward growth, as vital to the city, signals a greater commitment to achieve larger scale efficiencies across the city. These include (a) the regeneration and intensification of underperforming inner city business nodes, (b) the infill development of large underutilised pockets of land within the urban edge (e.g. Wingfield) and (c) the in situ residential intensification within well-located but traditionally low-density suburbs (e.g. second dwellings, cluster housing, backyarding).

4. The economy

• Economic context

"As a country we are operating in a global environment that is not going to see growth of 4, 5 or 6 percent for a long time to come". - Finance Minister Pravin Gordhan, 29 July 2016

• Macro context

The world economy has entered a period of slower productivity growth. An ageing population and lower investment levels are feeding into a decline in global growth potential. All countries – particularly developing nations – are grappling with the changes required to manage this new reality. Growth in developing countries has slowed, resulting in lower demand for commodities.

Nationally, governance and policy uncertainty, low business confidence and declining household demand compound an already weakened economic situation. The recent credit ratings downgrade by several credit institutions will further dampen the poor short-term outlook for South Africa's economy. Weak financial and capacity positions of several major public entities, upon which the City is dependent, will complicate achievement of coordinated infrastructure roll-out and investment. Without a stronger effort to overcome domestic constraints, improve competitiveness and speed up the pace of structural change, South Africa will not be able to substantially reduce unemployment, poverty and inequality in the near future.

• Local context

Through the IDP, the City is committed to creating a Well-Run City, with the specific priorities of creating an Opportunity City by positioning Cape Town as an economically inclusive, forward-looking globally-competitive city.

With a gross geographic product of over R300 billion, Cape Town plays a significant role in the regional economy. As a mid-sized, middle-income city on the international stage, Cape Town is highly interconnected with the rest of the world and strongly affected by developments in the global economy. It is a service-driven economy, with services constituting 80% of the economy as of 2016. Official projections expect economic growth to inch upwards from 0, 2% in 2017 to 0,8% by 2018, driven by manufacturing (2% in 2018); and wholesale and retail trade (0, 7%0⁶⁷). At best, economic growth over the medium-term will be sufficient to gradually absorb skilled and semi-skilled workers affected by the economic slump in certain sectors. However, in the absence of marked improvements to educational outcomes, this growth is unlikely to have any significant impact on the employment prospects for unskilled workers. In order to adapt to a low-growth future, Cape Town must reduce its vulnerability by optimising the potential for growth, productivity and innovation which arise from the spatial concentration of jobs, people and opportunities which enables households to access employment and higher quality public services⁶⁸.

⁶⁷ Municipal Economic Review and Outlook 2017.

⁶⁸ Integrated Urban Development Framework 2016, National Department of Cooperative Governance and Traditional Affairs.

• Work force

About 1, 53 million of the 2, 84 million who made up the working age population in 2016 are employed, with about 81% employed in the formal sector and 11% in the informal sector, the remainder are employed in the agricultural sector and private households (Diagrams G17 and G18). One exceptional characteristic of Cape Town's labour market is that it has by far the fewest number of discouraged work seekers as a proportion of overall labour force amongst any South African city. The number of discouraged work seekers (i.e. non-searching unemployed) has dropped dramatically from 113 531 in 2005 to 17 376 in the second quarter of 2017.





Diagram G17: Cape Town's labour force (employed vs unemployed)69

Diagram G18: Cape Town's labour force (formal vs informal)70

⁶⁹ Quarterly Labour Force Survey; Global Insight ratios applied to determine formal/informal breakdown. *2014 split applied to 2015. ⁷⁰ Quarterly Labour Force Survey; Global Insight ratios applied to determine formal/informal breakdown. *2014 split applied to 2015.

• Cape Town's economic geography

Cape Town's space economy may be understood as a network of inter-connected and interdependent productive centres or business nodes where the vast majority of the city's firms and formal jobs are clustered (Diagram G19). Each of these nodes represent an 'ecosystem' in which businesses are established, and, over time, flourish or fail. The performance of these ecosystems has a direct impact on the livelihoods of each of the 1.46 million-strong work force and their dependents. Indirectly, the attractiveness of these nodes to businesses is capitalised into revenue for the City in the form of rates and tariffs, which in turn provide part of the necessary resources for the City to roll-out infrastructure and provide services to poor households. The City of Cape Town is committed, through the IDP to promoting a Well-Run and Opportunity City by leveraging progress through technology, positioning Cape Town as a globally competitive and forward-looking city, and through excellence in basic service delivery, specifically to informal settlements and backyarders.



By closely monitoring and analysing the location potential⁷² (i.e. unique assets and constraints) and market performance⁷³ of these business nodes over time the City can intervene more intelligently, tailoring responses to differentiated circumstances, and thus realising a greater prospect of

⁷² Location Potential is a composite, weighted indicator which includes the scale, intensity and complexity of economic activity, room for growth, proximity to markets, skills, disposable household income and regional economic gateways, congestion, infrastructure constraints and the incidence of crime affecting businesses.

⁷¹ City of Cape Town (2016), ECAMP Business Location Platform.

⁷³ Market performance is a composite, weighted indicator which includes non-residential rentals and rental growth, vacancy, building development and property sales.

success, whether retaining existing businesses or attracting new investment. Discernible trends are discussed below.

• Spatial concentration of knowledge economy

The space economy has entered a phase of spatial consolidation, with the knowledge economy increasingly concentrated in four business nodes: Cape Town CBD, Salt River-Woodstock, Tyger Valley and Century City (Diagram G19). Since 2005, approximately two out of three new office-bound jobs were located in these areas, despite a dramatic increase in road congestion and land values. The CBD, to which 200 000 people commute every working day, remains by far the most significant concentration of business and employment in the city and the region. It ranks alongside Sandton, Johannesburg as one of the few business locations in southern Africa with the intrinsic locational qualities required to compete successfully at a global level, attracting inward investment, visitors and scarce skills from abroad. It is an economic engine, which helps drive employment across the city because of the demand for goods and services.

The total current value of property in the CBD has grown from R6.1 billion in 2005 to R24 billion in 2014⁷⁴, generating over R250 million in property rates per month. The residential population within historical business precincts has grown significantly in recent years from almost non-existent 10 years ago to nearly 20 000 today⁷⁵. However, the CBD is growing at a much slower rate than the less congested regional nodes of Tyger Valley and Century City, which have enjoyed the bulk of general corporate office and retail development since 2005. Investment in connective infrastructure to the CBD and the other commercial growth nodes will deepen and extend the geographic spill over of agglomeration benefits beyond their immediate neighbours and reinforce the greater inner city stretching from Maitland to Bellville.

Movement of blue-collar jobs

An evaluation of overall industrial and transport sector performance in relation to spatial patterns of industrial and warehouse building development indicates that industrial activity is dispersing from established and accessible inner city industrial nodes to industrial parks on the periphery of the city. On the strength of engagements with local stakeholders and supported by infrastructure risk and crime data⁷⁶, the competitiveness of these employment centres are being undermined by rising congestion, a declining urban environment, deteriorating internal infrastructure and economic restructuring. Not only do these factors appear to overlap with a geographic move of blue-collar jobs towards the urban periphery (e.g. Saxonburg, Rivergate, and Brackengate), there is at the same time displacement of employment-rich manufacturing by lower order economic activities and warehousing.

• Underperforming inner city nodes

Inner city commercial nodes (e.g. Salt River, Maitland, Goodwood, Parow, Athlone CBD and Bellville) which exhibit significant potential for residential intensification are being constrained by a deteriorating urban environment, particularly in those nodes where local private resources are insufficient to co-fund an effective City Improvement District (Diagram 53). Extending effective area-based urban management to these nodes will require that the City works more closely with local stakeholders and explores differentiated institutional and funding models aimed at harnessing a broad spectrum of local private and social resources in furtherance of creating the conditions necessary for affordable residential intensification.

In terms of economic regeneration, local areas must build on their existing assets and strengths, whilst correctly understanding and addressing constraints to investment. The use of public funds for

⁷⁴ Nominal values.

⁷⁵ State of Central City Report (2016).

⁷⁶ City of Cape Town 2016. ECAMP Diagnostic Model. See Rabe et al (2015) to review location potential and market performance indices.

place-based economic interventions should be targeted at those areas where there is a chance of building a self-sustaining business node in the short-to-medium term. Carefully targeted government investment will only carry the local economy to the tipping point, after which marketled regeneration must take root to continue to attract businesses and generate employment at scale well after grant funding and incentives have shifted to other priorities⁷⁷.

Diagram G20: Non-residential development

Diagram G21 shows the number of non-residential building plan approvals as at December 2017. The location and volume of approvals display the following trends:

- Displacement of 'industrial' jobs to peripheral industrial nodes (e.g. Saxonburg, Rivergate, Brackengate);
- Cape Town's CBD remains the most significant business and employment node in the city and region, despite growing at a slower rate than Tyger Valley and Century City (since 2005);
- The knowledge economy is increasingly concentrated in four business nodes: Cape Town Central Business District (CBD), Salt River-Woodstock, Tyger Valley and Century City;
- Since 2005, two out of three new office jobs is estimated to be located in these areas;
- Bellville CBD has been affected by the shift of A-grade office accommodation and high-end retail activity to Tyger Valley; and
- Despite public investment in infrastructure and facilities private investors have continued to avoid the south-eastern areas e.g. Philippi, Khayelitsha / Delft.

⁷⁷ Moretti. The New Geography of Jobs.



Diagram G21: Non-residential building plan approvals as at December 2017

• Informal economies

Efforts to strengthen township economies should be based on a clear understanding of the economic potential of particular townships. Despite significant investment in infrastructure and facilities during the last two decades, most business nodes in the Metro South-East have yet to benefit from job-generating private sector investment at scale⁷⁸. Area-based initiatives like the Urban Renewal Programme, intended to crowd in private sector investment, have so far failed to generate employment at a scale commensurate with its cost⁷⁹. Economic activity remains dominated by non-tradeable personal and household services, notably retail and entertainment services. The scale of these activities is limited because household incomes in townships are, on average, significantly lower than those in suburban areas; many township businesses are small and operate on very narrow margins.

Regulations on economic activity, including zoning rules, mitigate against the successful establishment and management of entrepreneurial activity. An area-based regulatory regime is needed that fosters faster growth and employment by creating a supportive environment for small business entry, survival and expansion. The interest of residents lies in ensuring the expansion of businesses and jobs in both township nodes and the city as a whole, linked to a safe, efficient and affordable public transport system. Policy should therefore focus on what it will take to get the overall urban economy to grow more rapidly and create employment at scale.

⁷⁸ City of Cape Town 2011, Analysis and Highlighting of Lessons Learnt and Best Practices in the Urban Renewal Programme.

⁷⁹ Rabe, McGaffin and Crankshaw (2015), A Diagnostic Approach to Intra-Metropolitan Spatial Planning.

• Natural resources

The natural resource base is a foundation of what makes Cape Town the globally significant place it is. It is also a foundation for key economic sectors in the city economy, including tourism, commerce and industry. The city's coastline, mountains and surrounding agricultural areas contribute to a significant portion of economic activity, particularly in the service sector, and represent a positive form of economic diversification as sectors like tourism can grow in environments where other sectors fail and have a number of spin offs. The City must both ensure the sustainability of and capitalise on its natural assets to leverage greater economic benefits. As a result, one of the City's IDP priorities is to promote resource efficiency and security through a Well-Run City, and create economic inclusion through a City of Opportunity in relation to these natural assets.

5. Implications for spatial planning

Employment is about more than income: it is about social mobility and cohesion. Jobs structure people's lives, they provide self-respect, promote social inclusion, improve mental health, reduce domestic violence and correlate with a general decline in crime and gangsterism⁸⁰.

Whereas public employment programmes in Cape Town reached 40 000 people in 2014/15 (higher than any other South African metro⁸¹, this is less than 10% of the 415 000 unemployed people in Cape Town. Cape Town needs accelerated growth that is private sector-driven, enabled by a smart local government and targeted at mass employment⁸².

Cape Town should enable the efficiency and enterprise of markets to drive job-generating economic growth, making the city a more attractive place for business start-ups, investment, innovation and employment. Cape Town's economic and employment prospects are affected by but not beholden to the national economy⁸³ – the MSDF can influence economic growth via the levers illustrated in Diagram G22.

CTMSDF is influenced by	 Proximity to major markets Macro-economic stability and growth potential
CTMSDF can influence	 Natural resources Institutional or regulatory framework Labour availability
CTMSDF directly influences	 Infrastructure provision and priority Land availability Urban management Assessment of development proposals

Diagram G22: How spatial policy can support economic growth

⁸⁰ De Witte et al (2012), The Psychological Consequences of Unemployment in South Africa.

⁸¹ National Treasury City Support Programme, 2015.

⁸² CDE Growth Agenda: Priorities for Mass Employment and Inclusion.

⁸³ World Bank.



Diagram G23: Cape Town's economic geography⁸⁴

• Enhanced urban management

The observation of both residential and commercial patterns of investment since 2005 implies that that the main driver of formal, market-led densification is the growing preference for well-managed, well-located and mixed use inner city environments.

In Cape Town, the supply of these environments is shrinking because of deteriorating urban management conditions outside of privately or partnership-managed precincts, and deteriorating levels-of-service for commuter rail. The extent to which demand outstrips supply is revealed by the extreme land price differences in managed areas and the rising levels of congestion. Thus, a sustainable mechanism available to the City to unlock affordable and efficient market-driven densification at scale is to increase the supply of high-quality inner city environments by extending the conditions for densification to other inner city nodes. This can be achieved through capital investment in connective infrastructure (e.g. reducing the cost of transport in and out of nodes and upgrading the bulk and network infrastructure for utility services) and by raising amenity through operational improvements to area-based urban management practices.

⁸⁴ City of Cape Town 2016. Diagnostic classification of business nodes based on location potential and market performance indices drawn from ECAMP Diagnostic Model based on criteria described in Rabe et al (2015). BRT trunks routes shown are not comprehensive but a subset based on connectivity between social mobility nodes and areas of medium-term economic potential. Trunk routes indicated are stylised.



Diagram G24: Area-based urban management initiatives⁸⁵

Currently, a limited number of the thirty-four City Improvement Districts across the city have sufficient resources to sustain effective precinct management (Diagram G24). Spatial analysis suggests that market-led densification is occurring within these limited well-performing, high amenity areas. Therefore, equitable densification – at scale, mixed use, connected and affordable – relies on the extension of effective area-based urban management practices and differentiated institutional models to support local initiatives with supplementary services, facilitation and funding (e.g. business and community improvement districts, neighbourhood watches, homeowners' associations, etc.). These approaches will in turn support and sustain the level of public transport required to make these job-creating nodes accessible. Extending area-based urban management to underperforming but well-located business nodes and corridors will result in a more economically competitive and equitable city.

• Connective infrastructure

"Infrastructure to facilitate economic activity is conducive to growth and job creation." - National Development Plan

A clear economic rationale underpins the need for coordinated and sustained investment in infrastructure. Growth in income per capita depends on increased productivity, which itself depends on infrastructure, but such infrastructure can only be delivered, improved and maintained through sustained, targeted and planned investment. Investment in connective infrastructure (such as transport, bulk and digital connectivity) is a tool of spatial transformation, as it reduces the economic and social cost of spatial fragmentation and geographic distance. The City of Cape Town currently responds to this through the commitment to dense and transit-oriented growth and development, excellence in basic service delivery, as well as leveraging technology for progress in the City.

⁸⁵ City of Cape Town (2016). Corporate GIS Server.

• Private and public transport

Cape Town – ranking 73 out of 85 cities according to the Future of Urban mobility Index⁸⁶ – is the most congested city in South Africa, imposing a growing constraint on the wellbeing of citizens and the economic competitiveness of the city. Long travelling times to workplaces and other urban amenities contribute to low productivity levels and erode disposable incomes, especially for the poor. The R18-21 billion spent annually on fuel⁸⁷, and the loss of productivity and well-being as a result of time spent commuting, amounts to a loss to the economy. The steep increase in transport fuel consumption is driven by the growth in private passenger transport and road congestion. Although less than half the city's households own a car, private car ownership is increasing at a rate of 4% per annum (2009-2013)⁸⁸. Factors contributing to this include the historical growth of household income, increasing sprawl, lack of adequate and safe public transport options and consumer choice. Conversely, public transport such as Metrorail, MyCiTi and minibuses transports nearly half of all city passengers daily and consume only 9% of all liquid fuel relating to passenger transport. The City has committed to addressing this by promoting dense, transit-oriented growth and development, as well as an efficient, integrated public transport system.



Diagram G25: Road⁸⁹ and rail congestion⁹⁰

To address historic backlogs and meet new demand, the multiple authorities responsible for transport (SANRAL, provincial government, the City, PRASA and others) will have to coordinate and

⁸⁸City of Cape Town Cape Town State of Energy Report.

⁸⁶ The Future of Urban Mobility Index is used to benchmark Cape Town's current mobility status from a global perspective. Quoted in City of Cape Town 2016 Transport for Cape Town TDI results.

⁸⁷ The City of Cape Town's MTIIF Spatial Costing Tool estimates that the annual operating costs for all private transport in Cape Town in 2016 is R43.5 billion.

⁸⁹ City of Cape Town (2016) Medium Term Infrastructure Investment Framework. Phase 1 Summary Report. Delays reflect road network peak period duration for origins and destination in 2015 according to iterative optimisation process conducted by AECOM 2016. ⁹⁰ Rail capacity comes from the Rail Census Report 2012. Lack of capacity is regarded as from 85% or higher.

implement transport investments to the capital cost value of over R40 billion over the medium term⁹¹:

- Currently the road network is experiencing significant congestion (Diagram G25) resulting in the need for major backlog investments (to the value of R5 billion) across the metropolitan area, including improvements to the N1, N2 and the extension of R300. An additional 350 km of new roads and 130 km of additional lanes will be required to accommodate private transport demand.
- Commuter rail from Strand and Khayelitsha to Cape Town are running over capacity with other services running close to capacity. It is expected that these constraints will be addressed through the PRASA modernisation programme with an estimated value of R45 billion. The inclusion of the Blue Downs Rail link is needed to accommodate future passenger demand.
- The MyCiTi IRT service currently consists of nine trunk and 31 feeder routes serving 61 681 passenger journeys per weekday⁹². The overall capital cost of rolling out the IRT service throughout the metropolitan region will be in excess of R30 billion⁹³. However, this cost should be balanced against the overwhelming efficiency advantage of priority bus lanes over conventional private road transport. A priority bus lane can accommodate nearly 10 times more passengers per hour than a normal traffic lane⁹⁴. Furthermore, innovative measures such as e-hailing, hybrid minibus taxi solutions and peak capping have the potential to significantly improve the financial sustainability of the City's rollout of its integrated public transport network. However, the long-term sustainability of public transport and the overall efficiency of the city's network infrastructure is contingent upon spatially-directed inward growth. Transit oriented-development is recognised by the City as a key instrument for ensuring better alignment of transport planning, housing and provision of urban infrastructure. ⁹⁵ It is expected that this shift will help support, and be supported by, the City's strategic focus on spatial transformation – improving connectivity within Cape Town as a way to reduce the tremendous social and economic burden that geographic distance and fragmentation imposes on households and firms.

• Bulk services

The City is aware of the extent and quantum of the infrastructure network challenges highlighted in the main body of the MSDF. Recent rates of infrastructure investment do not appear to have been sufficient for the long-term needs of Cape Town's economy. Not only have historically low levels of investment, compared to international benchmarks, led to an accumulated backlog of R6.9 billion shared between the City, the state and state-owned enterprises⁹⁶, but it is anticipated that new bulk infrastructure requirements over the medium-term will be substantial, estimated at R16.2 billion:

- The total water demand for the entire metropolitan region has remained roughly the same over the last 15 years, despite substantial population and economic growth. This was achieved by effective demand management measures of which pressure management and water tariff hikes were the most effective. This decrease in water demand assists the City in meeting long-term water supply goals.
- Water consumption is projected to grow from roughly 940 mega litres (ML) per day to 1,270ML by 2032. In addition, drought events have highlighted the need to augment the current water supply. The City will need to develop further resources such as water recycling and intercatchment transfers, extraction from the Table Mountain Group aquifer, and thereafter energy intensive desalinisation. Although the capacity of the water network is adequate in most areas, a severe lack of capacity is experienced in localised areas and specifically the Milnerton, Brakkloof and Mountainside supply zones. The most significant upgrade required is the Bulk Water Augmentation Scheme (BWAS), which entails roughly 60% of the overall medium-term water infrastructure cost.

⁹¹City of Cape Town (2016), MTIIF Phase 1 Draft Summary Report. Excludes PRASA's Rail Modernisation Programme ⁹² MyCiTi Operations Report (July 2016).

⁹³ City of Cape Town (2016), MTIIF Phase 1 Draft Summary Report.

⁹⁴ City of Cape Town (2016). IPTN Business Plan Presentation. 30 September.

⁹⁵ Integrated Urban Development Framework (IUDF)2016 and TOD Strategic Framework (City of Cape Town) 2015.

⁹⁶ City of Cape Town 2016. Medium Term Infrastructure Investment Framework. Phase 1 Summary Report. Excludes the R40bn PRASA Modernisation Programme.

- A large proportion of existing stormwater infrastructure across Cape Town is over 60 years old and in need of rehabilitation, refurbishment and replacement. There is therefore a risk that a large proportion of future development taking place within the older parts of Cape Town will be constrained by the poor condition of existing bulk stormwater infrastructure.
- A number of areas within Cape Town experience sanitation network constraints, with severe constraints experienced in the drainage areas of Athlone, Bellville, Cape Flats, Gordon's Bay, Potsdam, Simonstown, Atlantis and Zandvliet waste water treatment works.
- Cape Town's electricity network is constituted by both City of Cape Town and Eskom supply areas. Of the City's 82 substations, 13 are at capacity. Of Eskom's 57 substations, 17 are at capacity.
- Although the City's landfills have adequate capacity for immediate disposal, the current banked airspace is significantly lower than the minimum international guideline of 15 years. Longer-term there should be a move towards a circular economy where materials are reused or recycled rather than thrown away. This could result in significant environmental and economic benefits but will require significant additional investment either by the City or in partnership with the private sector. The development of alternative waste treatment facilities is required to divert waste and reduce the amount of waste transported to the landfill site for disposal. These facilities should be constructed within the urban edge for accessibility by the public, without compromising the prescribed buffer distance.

• Digital connectivity

Cape Town's s broadband project is an example of the innovative adoption of network technology. Starting with a high speed, high capacity core network linking 300 City, 64 provincial and 30 private buildings, the project demonstrated an initial 3 000-fold increase in bandwidth speed and a 77% return⁹⁷ on investment because of the cancellation of rented data and telephone lines as well as revenue generation⁹⁸. The network is now being expanded to connect all remaining 572 government buildings and 143 schools, to enable economic development through digital inclusion in underserved areas and to boost the productivity of businesses⁹⁹. Once completed in 2021, the network of 1 500 km of cables, 55 switching facilities, 1 000 public Wi-Fi zones and a connection capacity of at least 1 Gbps will equip Cape Town with a basic platform to serve its needs for several decades. In recognition of this need, the City aims to position Cape Town as a forward looking globally-competitive city, by leveraging technology for progress in order to promote an Opportunity City as stated in the IDP.

⁹⁷ Based on a 14% usage of the network capacity.

⁹⁸ City of Cape Town Review of Broadband Project (November 2015).

⁹⁹ Sectors that are highly dependent on good connectivity include business process outsourcing (estimated to employ 41 000 people in the Western Cape and 12 000 in the CBD alone), publishing and film media – all significant, job-intensive growth sectors in Cape Town.


Map G2: Current infrastructure constraints (as at 2016) 100

¹⁰⁰ City of Cape Town 2016: Medium Term Infrastructure Investment Framework. Phase 1 Summary Report. Areas characterised by high or very high level of infrastructure constraint.



NEW BACKLOG





Diagram G27: Net Present Value of 20-year operating costs for new infrastructure and services

¹⁰¹ City of Cape Town 2016: Medium Term Infrastructure Investment Framework. Phase 1 Summary Report. Excludes PRASA rail modernisation programme. Reflects costs shared by City, state and state-owned entities.

• Fiscal sustainability

"There is a need for greater efficiency in all areas of government expenditure, because the overall envelope is likely to grow relatively slowly over the medium term." - National Development Plan

Local government is under acute pressure to mitigate the social impacts of adverse macroeconomic conditions. Consequently, many cities have fallen into debt causing slower service delivery and fewer resources to dedicate to infrastructure maintenance. There is a growing recognition that fiscal sustainability depends on cities doing more with less through greater spatial and resource efficiency.

Municipal financial sustainability is defined as "the financial ability to deliver services, develop and maintain the infrastructure required by its residents without unplanned increases in rates and taxes or a reduction in the level of services and the capacity to absorb financial shocks caused by natural, economic and other adversities without external financial assistance"¹⁰².

An independent evaluation of Cape Town's financial stability in terms of its financial position, operating performance, indebtedness and liquidity position is presented here.

Cape Town's performance score is based on it having a R4.4 billion operating surplus in 2014/15 and the fact that is has a revenue collection rate of 96%. The municipality has sufficient cash reserves in spite of the fact that it has increased its infrastructure expenditure. The City's debt burden is moderate and it may be able to increase borrowings to expand infrastructure investment.



¹⁰² Ratings Afrika, 2016.

• Renewal of municipal assets

Given the long life and slow rate of deterioration of infrastructure, it is often believed that infrastructure is in good working order and will remain so. This partly explains why maintenance is seldom considered a priority in budgets and in spending – as long as infrastructure continues to function there is no sense of urgency in caring for it. Then, towards the end of its life, the deterioration in condition rapidly accelerates. A ten-year review of expenditure indicates that 60% of the City's capital expenditure has been on new assets, 28% on the upgrading of assets and only 12% on asset renewal. Although this is below the ideal target of 48%¹⁰³, it is within the acceptable guidelines determined by National Treasury. Municipal asset renewal is important, and the City must guard against neglecting it as a priority in the future. At City level, enhancing efficiencies in expenditure and upkeep requires better data, which in turn, will only be available once a full lifecycle asset management system is put in place. Through the IDP the City has stated that it is committed to promoting excellence in basic service delivery. Nationally, grant frameworks will in future allow for the refurbishment of assets, recognising the long-term nature of municipal infrastructure¹⁰⁴.

• 5.8 Resource efficiency

The City of Cape Town has identified the need for resource efficiency and security though the IDP. The sustainable utilisation of resources like water, energy and land is essential to the economic life of Cape Town¹⁰⁵. A ten-year review of resource consumption confirms that Cape Town's economy and households are becoming resource efficient, using less electricity, water and land relative to the size of the economy or population (Diagram G29). Of concern, however, is the dramatic increase in fuel consumption during this period.



¹⁰³ Medium Term Infrastructure Investment Framework, Summary Report.

¹⁰⁵ Economic Growth Strategy.

¹⁰⁶City of Cape Town (2016). Population Statistics South Africa, Mid-Year Estimates 2014; GGP, Quantec (2016) Regional output by basic prices; Water, City of Cape Town Water Consumption Data; Petrol, Sustainable Energy Africa; Electricity, Cape Town State of Energy Report 2015.

• Climate change and carbon targets

Urban areas will increasingly come under pressure from climate change – rising temperatures will lead to an increased demand for energy for air conditioning, there will be health impacts from extreme weather events, damage to infrastructure and deteriorating aquatic health whilst changing rainfall patterns will create challenges in water resource management and stormwater handling with knock-on effects in terms of food security. Intensification of storms and winds will also increase the risk of damage to buildings and infrastructure. Although climate change is likely to be one of the biggest challenges of our time, it should not be viewed as an impending disaster that will happen all at once but rather a slow process of incremental change. The compounding effect of carbon-intensive development patterns, progressive deterioration of natural ecosystem services and the inefficient resource use by people against a general backdrop of slowly increasing climate pressures provide motivation to commit to further policy responses.

To mitigate these impacts, changes will have to be made in spatial planning and building standards to improve resource efficiencies. Options that increase the adaptive capacity of communities and economic activities, reduce exposure to risk and create long-term efficiencies are required.

Although the City has managed to reduce water consumption, drought events and climate change require that further efforts are made to find and sustainably utilise alternative sources of water. The City's aquifers have been identified as a significant source of water and exploratory drilling is underway. However, the Cape Flats aquifers cannot be utilised sustainably without being recharged. Reducing and limiting contamination of the aquifers and identifying and protecting key aquifer recharge areas is therefore imperative. Opportunities to achieve aquifer protection objectives should be sought in both spatial planning and development/landscape design strategies and policies.

Opportunities that arise out of climate change adaptation, and that can affect the City's operations, are mostly related to energy generation and supply. The region has opportunities for high potential wind energy and possible future gas import facilities at Saldanha. There is a rising demand for less carbon intensive and renewable energy as evidenced by direct investment in these sectors, the facilitation of similar private sector investment and the adaptation of local products to the use of alternative forms of energy. Development in general needs to take heed of the opportunities afforded by the 'green economy', especially in respect of the service sector and tourism.

Notwithstanding efficiency gains in some sectors in recent years, the City's energy model indicates that a business-as-usual trajectory would result in a doubling of energy consumption and emissions by 2040¹⁰⁷. Such a future will make Cape Town extremely vulnerable to external impacts and shocks and increased emissions would further contribute to human-induced climate change. The economy would be placed under pressure due to unsustainable cost burdens.

The current electricity supply constraints, tariff increases, and increased burden of traffic congestion, increasing fuel costs and the battle to transform the city spatially need immediate as well as long-term solutions. If a business-as-usual approach were to continue, the majority of Cape Town's energy would be generated from fossil fuels with dependency on a single utility (Eskom). Residents would experience severe energy poverty and carry huge cost burdens. The city would continue to sprawl with the poor situated on the margins. Transport would dominate the energy footprint and increasing private car ownership with low occupancy levels would increase major traffic congestion.

Spatial policy must support the City's efforts to address vulnerabilities through actions aimed at improving energy efficiency and renewable energy in municipal operations. These include the prioritisation of inward growth on the back of investment in public and non-motorised transport, encouraging embedded renewable electricity generation in the commercial and residential sectors, and providing the required planning support to the diversification of large-scale energy supply with solar, wind, energy storage solutions and possibly natural gas.

¹⁰⁷ City of Cape Town (2015), 2040 Energy Vision.

Technical Supplement H: Corridor and nodal classifications

Corridor	Characteristics
Voortrekker Road Corridor	The corridor is anchored by the metropolitan nodes of Cape Town CBD in the west (past the rapidly developing sub-metropolitan node at Century City) and Bellville CBD in the east.
	Land use aspects The corridor contains sections of mixed land use consisting of ground level retail/business with two to four storeys of residential above it, predominantly along Voortrekker Road. Land use in areas further away from Voortrekker Road displays limited land use diversity.
Description:	A good balance and high volumes of both attractor (employment) and generator (residential) land uses are present.
Cape Town CBD via Century City to Bellville CBD	The corridor currently attracts a range of investment and development opportunities along its length, with great potential to
 Anchoring nodes: Cape Town CBD (metropolitan node) Bellville CBD (metropolitan node) 	<u>Existing transport infrastructure</u> Railway lines with a number of stations N1 Freeway Voortrekker Road
	<u>Planned supporting public transport</u> The corridor will be strengthened by planned north-south road-based public transport routes such as Khayelitsha to Century City (T17); Eerste Rivier to Blaauwberg (T16); Symphony Way (T13); Strandfontein to Cape Town CBD (T15); Westlake to Bellville (T14); and the west-east supporting Kraaifontein to Century City (T19).
	Supporting initiatives/ priority projects Voortrekker Road Integration Zone (See Technical Supplement I) Urban Development Zone (UDZ) Bellville Foreshore Freeways and other CBD sites Conradie

Corridor	idor Characteristics		
Main Road Corridor	This corridor is anchored by the Cape Town Central Business District (CBD) metropolitan node and connects the sub-metropolitan nodes at Claremont and Wynberg with the developing sub-metropolitan node at Tokai/ Retreat, and even further south to Simon's Town along the railway line.		
	Land use aspects The corridor generally operates well as a mixed land use area. Long stretches of mixed use districts are encountered with business/ retail at ground level and several storeys of office or residential above.		
 Description: CBD via Main Road to Southern Suburbs 	This pattern is broken by single use zones, generally located between mixed use urban nodes where east-west routes intersect Main Road or rail stations occur.		
 Anchoring nodes: Cape Town CBD (metropolitan node) 	This north-south corridor represents an overall mature nature with a fairly good mix of attractor (employment opportunities) and generator (residential) land uses.		
Claremont CBD (sub- metropolitan node)	The land use intensity decreases south of Tokai and Retreat.		
 Metropolitan node) Wynberg CBD (sub- metropolitan node) Tokai/ Retreat (sub- metropolitan node) 	The northern portion is well serviced, providing good opportunities for high- density, mixed use development, while the southern portion of the corridor is still developing, but with strong similarities to the north.		
	The northern part of the corridor is supported by Main Road and the M3 Freeway.		
	Transport aspects		
	Existing transport infrastructure Railway lines with a number of stations Main Road M3 Freeway Road-based public transport e.g. along Main Road		
	Planned public transport The central section of the corridor will be supported by the planned IPTN trunk route links between generator land uses (residential) located in the Metro South-East of the City (from Khayelitsha and Mitchells Plan to attractor land uses (employment nodes) at Wynberg and Claremont (T11 and T12)).		
	There are also two IPTN planned west-east routes linking Westlake in the south of the corridor to Bellville as metropolitan employment node (T14); and from Westlake/ Retreat to Strand/ Gordons Bay (T10).		
	Supporting initiatives/ priority projects Foreshore Freeway and other CBD sites		

Corridor	Characteristics			
Blaauwberg Corridor (Phase 1 of MyCiTi)	Towards the north the Cape Town CBD connects, via the sub- metropolitan node at Century City along various industrial and mixed-use areas in Milnerton and along the West Coast and between the coastline and the N7, to an emerging sub-metropolitan node in the Rivergate area. To the far north Atlantis remains a fairly isolated district node connected to the Cape Town CBD by MyCiTi.			
	Land use aspects Century City has over the past decade established itself as a mixed use node of sub-metropolitan scale with a good balance between attractor and generator land uses.			
 Description: Cape Town CBD via Century City to Blaauwberg 	It is envisaged that a sub-metropolitan node will be established over time in the vicinity of Rivergate/ Frankendale around the intersection of Berkshire Boulevard, the M12 and the railway line (at present still a low- volume goods line).			
 Anchoring nodes: Cape Town CBD (metropolitan node) Century City (sub- metropolitan node) Rivergate (emerging sub- metropolitan node) 	However, that growth is directly impacted by the Koeberg Nuclear Power Station and the impediments it places on high density mixed land use (urban growth/ density limitations) owing to the City's evacuation responsibilities.			
	Closer to the CBD the corridor is mature with high levels of attractor land uses (employment opportunities) balanced with generator land uses (residential). This pattern continues north up to Dunoon and will benefit from attractor uses (job opportunities) planned in the vicinity of Rivergate/ Frankendale (the latter not yet established).			
	Segments of the southern part of the corridor from Paarden Eiland northwards and especially on Blaauwberg Road, are establishing a 'balanced' corridor with high concentrations of single and mixed use concentrations in rapid succession. Pressure for land use change can in part be attributed to the proximity to the existing MyCiTi stations with feede services providing scheduled access to the public transport network.			
	Transport aspects Existing transport infrastructure MyCiti Phase 1 (CBD - Atlantis) R27 (Otto du Plessis / Marine Drive) N7 Freeway			
	Planned supporting public transport The corridor will be strengthened by planned north-south road-based public transport routes such as Khayelitsha to Century City (T17); Eerste Rivier to Blaauwberg (T16); Symphony Way (T13); Strandfontein to Cape Town CBD (T15); Westlake to Bellville (T14); and the west-east supporting Kraaifontein to Century City (T19).			
	Supporting initiatives/ priority projects Foreshore Freeway and other CBD sites			
West-East/Southern Corridor	This developing corridor establishes a west-east linkage parallel to Voortrekker Road. The implementation of the Phase 2A BRT route will formally establish the corridor, connecting the Metro South-East with the Claremont/ Wynberg areas. The corridor is characterised by the sub- metropolitan nodes at Claremont and Wynberg and an emerging node			

Corridor	Characteristics		
	of metropolitan importance at the Airport/ Metro South-East/ Philippi area. This emerging node is dependent on and supported by the sub- metropolitan nodes in Khayelitsha and Mitchells Plain. Somerset-West/ Stand and surrounding areas may over time develop and expand due to the potential development at Paardevlei into an emerging metropolitan node. Land use aspects Mixed use and segments of single land use districts are expected to		
 Description: Mitchells Plan and Knowelitches to Clarement 	emerge around the developing Phase 2A MyCiTi Corridor linking the Metro South-East, Claremont and Wynberg.		
and Wynberg	Land use patterns on district level are largely of generator (residential) nature, but several civic and business districts exist on major intersections.		
 Anchoring nodes Claremont CBD (sub- metropolitan node) Emerging node of metropolitan importance in the vicinity of Airport/ Metro South-East/ Philippi Somerset-West (emerging metropolitan node) 	As a developing corridor, it will improve connections between attractor land uses (work opportunities) on the Main Road Corridor and predominately generator land uses (residential) in the Metro South-East part of the city.		
	The corridor functions as an intermediate link parallel to the Voortrekker Road Corridor, but currently lacks connectivity between the Metro South- East to Strand. This will be realised once the anticipated Paardevlei development gets underway and the planned rail or BRT extension is established through Paardevlei.		
	The corridor is characterised by significant volumes of one-directional peak morning period movement along its length (such as along the N2 freeway) into the CBD, and a reverse flow during the afternoon peak period.		
	The Phase 2A BRT route will link residents to concentrations of job opportunities on the Western Corridor, and support movement of current concentrations of informal activity and trading in the Metro South-East area to the west.		
	The R300, as well as segments of the N2 and Klipfontein Road, supports the BRT route, which in turn will support the existing rail connections from Khayelitsha and Mitchells Plain to the Cape Town CBD.		
	Transport aspects		
	Existing transport infrastructure Railway lines with a number of stations N2 Freeway Phase 2A		
	Planned public transport routes The T10 BRT route (Retreat to Strand/ Gordon's Bay) will provide another parallel support to this emerging corridor, or an extension to the rail (Chris Hani station – Firgrove station) if warranted.		
	 Supporting initiatives / priority projects 		
	Metro South-East Integration Zone, Paardevlei and Philippi		
Blue Downs / Symphony Way Corridor	This corridor links the Metro South-East (Mitchells Plain and Khayelitsha) to the Cape Town CBD and Bellville/ Tyger Valley via Symphony Way and the planned Blue Downs rail link (Khayelitsha to Bellville), which runs parallel to Symphony Way. An emerging sub-metropolitan node		

Corridor	Characteristics
Corridor	
	associated with Philippi and the Airport will over time anchor the corridor in the south. The Blue Downs area and the Southern Corridor will link to the emerging sub-metropolitan node in Somerset West through the development at Paardevlei.
	Land use aspects
Description	Land use surrounding the potential Blue Downs Rail link is predominately residential in nature. The three planned station locations and the overlapping Blue Downs CBD area will over time develop as mixed use activity nodes.
Mitchells Plain/	
Khayelitsha to Bellville	networks contain areas of mixed use character which, over time, will develop further and realise greater land use intensities.
 Beliville CBD (metropolitan node) Mitchells Plain (sub- metropolitan node) 	For most of its length, this corridor mostly functions as trip generator (residential) with only a few concentrations of attractor land uses (work opportunities).
Khayelitsha (sub-	The speed at which the corridor develops is dependent on substantial
metropolitan node)	infrastructural investment envisaged in the form of rail (proposed Blue
Emerging node of metropolitan importance in the vicinity of Airport/ Metro South-East/ Philippi	Downs rail link). Should this not materialise as anticipated, the corridor is likely to develop along the existing R300 freeway and future Symphony Way BRT route.
	The corridor will require the planned BRT feeder networks to support the new rail link and other service infrastructure to ensure maturity over time.
	The Blue Downs rail link is essential to improve access to socio-economic opportunities between the Mitchells Plan/ Khayelitsha and Bellville.
	Transport aspects
	Existing transport infrastructure
	Railway lines with a number of stations
	Symphony Way
	Planned supporting public transport routes
	Bue Downs Kall link and reeders
	Portions of Khavelitsha to Century City BRT route (117)
	Portions of Klipfontein Road BRT route (D12)
	Symphony Way/ Mitchells Plain to Durbanville BRT route (T13)
	Portions of Gordons Bay to Retreat (T10) BRT route
	Supporting initiatives (priority projects
	Metro South-East Integration Zone
	Bellville
	Philippi

Technical Supplement I: Integration Zone overview To give effect to spatial targeting and the performance-related Integrated City Development Grant (ICDG), the City has identified and commenced detailed planning for three corridor-scale Integration Zones (IZs) namely, the Metro South-East Integration Zone (MSEIZ), the Voortrekker Road Corridor Integration Zone (VRCIZ) and Blue Downs Integration Zone (BDIZ). The IZs represent the City's commitment to plan, fund and implement projects and approaches that are best able to transform the spatial structure of the city through effective transport links and spatially-defined mobility and activity corridors.

The IZs are premised on:

- opportunities afforded by public transport to restructure urban form along transit-oriented development principles;
- capacity to link concentrations of economic opportunity and mono-use settlement patterns;
- opportunities to diversify and intensify land uses; and
- infrastructure improvements and related catalytic urban development projects.

Although the IZs share the potential to assist in the restructuring of the city, they are fundamentally different in terms of existing spatial form and structure.

Philippi, Khayelitsha and Gugulethu, located within the Metro South-East IZ, include some of the city's most marginalised communities. Similarly, parts of these are characterised by some of the highest household and population densities within the city e.g. Kosovo and Sweet Home informal settlement (Philippi) and Zondi in Gugulethu. The primary spatial restructuring objective of the Metro South-East IZ is to spatially-link Mitchells Plain and Khayelitsha with the Cape Town CBD, utilising the existing and proposed public transportation linkages and infrastructure, supporting a more diverse land use pattern and maximising the catalytic benefits of the Athlone Power Station and Philippi priority projects.

The Voortrekker Road Corridor IZ hosts key business districts of Bellville, Maitland, Parow, Goodwood, and Salt River and diverse regional health and tertiary educational infrastructure. Like the Metro South-East IZ it is anchored by the city's CBD. It does not however reflect the same socio-economic profile of the Metro South-East IZ. It has been negatively impacted by urban decay and is in need of structured management approaches to support and stimulate investment and re-investment in the corridor. There is an abundance of opportunity to optimise land use in support of transit investments and intensify development to serve the diverse community residential and commercial needs. The availability and increase in supply of affordable rental stock is recognised as one of the key levers towards integration and renewal of the corridor. The VRC social housing project (including Conradie) was endorsed by the national Department of Human Settlements as one of the City's candidate catalytic human settlement projects.

Blue Downs IZ is premised on the potential development opportunities and structural efficiencies afforded by the investment in the multi-billion-rand rail link extension facilitated by the Passenger Rail Agency of South Africa (PRASA). Other catalysts for integrated planning and development include the partnership with ACSA (in relation to the Symphony Way and Swartklip land developments) and the supportive feeder systems for station precincts along the rail route (Wimbledon, Blue Downs and Nolungile). The southern corridor human settlement project, comprising clusters of informal settlements in proximity to the N2 highway, traverses both the Blue Downs and Metro-South East IZs.

1 Metro South-East Integration Zone (MSEIZ) - Diagram I1

The primary spatial restructuring objective of this IZ is linking Mitchells Plain / Khayelitsha with the Cape Town CBD.

Marginalised areas within the MSEIZ include Philippi, Khayelitsha and Gugulethu and account for a number of the City's neediest communities as defined by the Socio-economic Index based on Census 2011. Similarly, a number of sub-places within these areas are amongst the highest household and population densities within the City e.g. Kosovo and Sweet Home Informal Settlement (Philippi) and Zondi in Gugulethu. Many areas targeted by the Mayoral Urban Regeneration Programme (MURP) fall within this IZ.

Numerous human settlement projects are active and planned in this Integration Zone including Langa Joe Slovo (N2 Gateway programme), BM Section (in-situ upgrading programme), Southern Corridor Integrated Human Settlements Programme and Valhalla Park infill (new mixed use programme).

Nodal points located within this IZ include Athlone, Philippi East, Mitchells Plain town centre, Khayelitsha town centre and Nolungile stations. There are numerous smaller nodes within the IZ including Nyanga, Manenberg, Gugulethu and Langa. The City's ECAMP platform monitors performance and potential of the following nodes in the IZ: Athlone and Athlone Industrial, Epping Industrial, Khayelitsha, Mitchells Plain, Ndabeni, Philippi East and North.

Strategic intentions and opportunities within the MSEIZ:

The rail corridor is the backbone of the MSEIZ. Transportation projects and investments include: The N2 Express MyCiTi (CCT), the Central Line Modernisation Programme (PRASA and Metrorail), Phase 2A MyCiTi (CCT), the redevelopment of the Nolungile Public Transportation Interchange, Khayelitsha CBD, and the Station Deck precinct development.

Strategic projects within the zone include the redevelopment of the Athlone Power Station, the Two Rivers Urban Park (TRUP), the Mitchells Plain intake (Erica substation), Cape Flats 3 sewer line installation and rehabilitation of lines 1 and 2.

Specific objectives of the MSEIZ SIP are to:

- Contribute to a more compact and integrated city, with associated efficiency, productive, and resource sustainability gains.
- Use TOD as a lever to unlock growth and development through the enhancement of public transport infrastructure (including its institutional arrangements and processes) and the support of appropriate development at appropriate locations.
- Improve housing opportunities to enable productive livelihoods and communities.
- Maximise the investment by various spheres of government and related agencies in the provision and maintenance of infrastructure and public facilities; and encourage private sector and individual entrepreneurship and investment through appropriate infrastructure and facility provision, regulations, and urban management instruments.
- Enhance infrastructure provision in the MSEIZ.

P12.2 The Voortekker Road Corridor Integration Zone (VRC) – Diagram I2

The primary spatial restructuring objective is linking the Bellville CBD with the Metro South-East Corridor boundary and the Cape Town CBD.

Although the area is not as vulnerable as the broad MSEIZ, the VRC has been susceptible to urban decay and is in need of structured management approaches to support and stimulate investment and re-investment.

In addition to the higher order nodes of Bellville and the Cape Town CBD other strategic nodal points and precincts include Maitland, Parow, Goodwood and Salt River. Regional facilities located in the VRC include the University of the Western Cape, Cape Peninsula University of Technology and Tygerberg Hospital.

Strategic intentions and opportunities within the VRC are to:

- optimise land-use in support of transit investments;
- intensify development; and
- balance transit demands (key to an efficient and sustainable public transport network).

The most prominent of these opportunities, from a public transport perspective, is the Bellville public transport interchange which provides the City an opportunity to reconsider its considerable land holdings and to leverage opportunities of integrated, mixed land use within the context of this inter-modal facility.

The availability and increase in the supply of affordable rental stock is recognised as one of the key levers towards integration and renewal of the VRC and the VRC social housing project was submitted by the national Department of Human Settlements as one of the City's candidate catalytic human settlements projects.

A separate integrated strategically-oriented forward planning exercise, the Bellville Integrated Transport Local Area Plan (BITLAP) consolidates the planning efforts of the City, SOEs (Transnet, PRASA/ Metrorail) and provincial departments.

Important VRCIZ projects include potential urban development opportunities linked to strategic state land, including Wingfield, and old provincial hospital sites. The human settlements emphasis in the VRCIZ is focused on social housing to provide affordable rental opportunities at densities supportive of the public transport network and TOD principles. Additional engineering infrastructure includes the northern sewer line replacement, and the Bellville waste water treatment works upgrade.



Diagram III: Metro South-East spatial structure



Diagram I2: Voortrekker Road spatial structure

Blue Downs / Symphony Way Integration Zone

The City has committed via the Built Environment Performance Plan to package the Blue Downs / Symphony Way Integration Zone in a similar fashion to the other integration zones.

The basic tenets of the Blue Downs Integration Zone are listed in Table I1.

Table I1: Blue Downs proposed Integration Zone overview

Blue Downs Corridor / Integration Zone			
Nature of the development	 PRASA Blue Downs rail link construction and associated Wimbledon, Blue Downs and Mfuleni MyCiTi feeder system. A secondary intervention of the Downs feeder system, the restructuring of the bus network contracting authority function and the development of Symphony Way. 	d station precincts at TDA will reprioritise the Blue work upon assignment of the of the BRT corridor along	
The Blue Downs Rail Link remains critical to the development of the City. This requirement and the analysis of development trends in proximity to the proposed BRT (Symphony Way) and Rail (Blue Downs) have been the primary motivations for the City to adopt this formally as its third Integration Zone.			
The lead investor for this proposed new integration zone is PRASA via its commitment to the Blue Downs rail link (estimated R5 billion). The lack of access in this last line of the development quadrant in the City of Cape Town, is causing a detrimental long term impact on the city.			
Future development needs to follow the direction of the TOD Strategic Framework and specifically the TOD Comprehensive land use model which emphasises land use intensity (density of households and diversity of land uses).			
The three new stations on the Blue Downs rail line will become major opportunities for the development of multi-functional integrated hubs of both mobility, commercial and living spaces. Consequently, there is a need for the City, together with PRASA, to determine land use development and management opportunities for both land use intensification (with appropriate degrees of density and diversity) in and around the proposed new stations.			
between the VRC and MSE IZs.			
Priority Projects:		Built environment projects directly supporting priority projects:	
Blue Downs rail	link	• The Blue Downs rail link	

Three new station locations namely (Mfuleni, Blue Downs, Wimbledon). station feasibility project The three new stations on the Blue Downs rail line become major is completed. opportunities for the development of multi-functional integrated hubs • PRASA confirmed the of mobility, commercial and living spaces. Consequently, there is a construction of the rail need for the City and PRASA to determine land use management link opportunities for both land use intensifications (with appropriate is budgeted for in the degrees of density and diversity) in and around the proposed Medium Term Expenditure Framework. new stations.

Technical Supplement J: Land use modelling overview

Land use and transportation modelling: data-based projections of future land use in a 20 to 30-year context

The challenge presented to the City in 2012-15 was to develop a range of land use and transportation scenarios which had to illustrate the potential spatial patterns/ location for a 20-year period. The objectives of the scenarios ranged from being realistic and considering land use policy's impact on long-term urban growth, to being more instrumental in restructuring the city. The scenarios accepted the current (historically created) spatial fragmentation of residential and economic land use patterns and combined it with calculations on anticipated new growth in land uses (quantified in Diagram 83).

Ultimately the later scenarios were based on creating a more balanced and efficient city, linked directly to the optimum functioning of the transportation network. Intensified focus on the mandate of the City to restructure for increased efficiency and integration, has encouraged the City to explore a more thorough approach to TOD development and led to the development of its most ambitious land use scenario, the TOD Comprehensive (TOD C), that sets targets for development in both vacant land and built up areas¹⁰⁸. The development of the four future land use scenarios made a significant contribution to the City's progression in its strategy and policy thinking which informed the re-shape and re-form spatial approaches absorbed in the May 2017 approved IDP.

Diagram J1 illustrates the anticipated expansion of four broad land use categories between 2015 and 2032 which are considered the re-structuring opportunities available.



Diagram J1: Projected land use quantum

Infiltrating a range of planning processes

These scenarios have progressed into sophisticated approaches, linked to complex data sets and inputs, including travel patterns and modes, infrastructure risks and growth pressure areas. These data-driven land use scenarios have informed a variety of projects and strategies including infrastructure master planning and the IPTN (as illustrated in Table J1).

¹⁰⁸ TOD Comprehensive is described in the TOD Strategic Framework, March 2016.

YEAR	SCENARIO	SPATIAL ALLOCATION/ EMPHASIS	ASSUMPTIONS	PRACTICAL APPLICATION
Pre 2012	Urban growth model (UGM)	Citywide growth	Anticipated development (best guess)	 Identification of future pressure points / risk identification
2012 (under- pinned the 2012-CTSDF)	Medium to long- term Cape Town growth options	NE and NW greenfield growth corridors	Greenfield / expansion	 Infrastructure costing and phasing for the growth corridors
2013	Business as Usual (BAU) land use scenario	Citywide growth	Development trends continue not encumbered by urban edge. Based on continuation of financial and spatial (land ownership) principles in government subsidised housing policy, i.e. one land parcel, one beneficiary	
2013	Pragmatic Densification (PD) land use scenario	Citywide growth	Development intensity and density more compact and more constrained within the urban edge, with intensified allocation to strategically- located vacant parcels.	 Bases of all master planning by utilities departments Development Contribution Policy Social facility planning (CSIR) for parks, clinics, libraries, fire stations, schools, sports fields, community halls 15-20 year Medium Term Infrastructure Framework - MTIIF (initial assessment)
2013	Pragmatic TOD (PTOD) land use scenario	Citywide growth	Greater density and intensity in respect of new development located in relation to the public transportation network (IPTN) and access point, also included intensification on underutilised and vacant land parcels.	 IPTN MTIIF (second assessment)
2015	TOD Comprehensive (TOD C) land use scenario	Citywide growth – public transit nodes	Land use allocated in a way that supports a range of transportation- related sustainability and efficiency outcomes.	 MTIIF (third assessment)

Detailed layers of information and assumptions of TOD C

The base numbers for population and job opportunities, as well as associated household and other land use growth, were determined by using past growth trends to project future growth and were informed by:

- verifying dwelling growth projections against population growth estimates;
- including informal dwellings and second dwellings; and
- using long-term trend data for non-residential land uses to minimise the impact of market cycles and reflect structural changes in the economy such as deindustrialisation.

Each scenario was underpinned by a range of detailed assumptions. For the purposes of this MSDF review, the high level assumptions for the TOD C scenario (approved by Council in 2015) included:

- Household income and land value would not impact on the location of residential development;
- Development would be allocated to priority transit areas using existing maximum permissible/ deliverable rights, in terms of the City's land use management scheme, and then – if additional development is required – rezoning/ amendment of land use rights will be applied;
- Parking requirements would be adjusted according to the provisions of Public Transport (PT) zones; and
- Land use intensity and mix would be allocated according to the optimal location for transit capacity utilisation; and
- Development would be modelled in proximity to existing and planned higher order public transport infrastructure.

The baseline established the existing land use mix per Transportation Analysis Zone (TAZ) illustrating areas of the city which contribute to peak hour flows of traffic from trip origins (residential land uses reflected in yellow) to trip destinations (non-residential land uses reflected in red) and demonstrating how these trip patterns undermine the efficiency of moving around the city. Diagram 84 illustrates the 2015 baseline land use mix.

The translation of this 'transport demand' scenario into the available land supply via latent rights and vacant land informed the next modelling phase. Results from this exercise indicated that in theory, most TAZs could accommodate requirements in terms of future trip origin or trip production land uses via residual floor area from latent rights and/or vacant land. However, a number of the primary economic nodes within the city (e.g. the CBD, Century City and Bellville) did not have enough capacity to absorb demands for increased residential development. To address this shortfall in land supply, the following variables were adjusted:

- a) Adjustment of land use mix and intensity of use of building floor space (persons per m²: household size / employment density);
- b) Space recovered through parking zone change (lower parking requirement);
- c) a) and b) further optimised through rezoning/ departure from standard development rules (height, coverage, floor factor); and
- d) Relocation to the nearest adjacent TAZ with spare floor area capacity.

The land use quantum projected to 2032 in Diagram J1 was allocated to both latent land use rights¹⁰⁹ and vacant land within each of the TAZ. A number of development constraints were considered and applied to the modelling of these values, for example the noise contours from the Cape Town International Airport, exclusion zones associated with the Koeberg nuclear facility, floodlines and environmental or conservation areas. Table J2 illustrates both the 2015 baseline and the 2032 projected numbers for residential and non-residential land uses.

¹⁰⁹ Modelling work in support of TOD C has emphasised latent land use rights that are theoretically available according to both property valuation and zoning data sets. Latent rights refer to rights that are conferred by existing zoning via the land use management scheme but are yet to be used (and may never be utilised for practical reasons e.g. financial constraints, property market dynamics etc.). This approach has established a quantifiable baseline of i) used and ii) unused land use rights which have been applied to each of the City's TAZs.

Table J2: Baseline vs 2032 estimates

	2015 (estimated)	2032 (projected)
Residential (number of dwelling units)	1 289 703	1 604 313
Retail (m² GLA)	7 518 701	8 518 701
Office	6 385 163	9 885 163
Industry	18 536 122	23 036 122

Following a transport improvement process, Diagram J3 shows the illustrative optimal location of new trips in 2032 per Transport Analysis Zone (TAZ) based on the illustrative values in Table J2. The yellow shows trips generated by trip-attracting land uses. The red depicts trip-attracting (mostly non-residential) land uses, expressed as square metres gross leasable floor area (GLA). The intensity of land uses at different locations and the relative distance between them, seeks to improve the flow of movement to the benefit of all, and specifically for public transport operations.

A comparison of the baseline and future optimised scenario (Diagrams J2 and J3) indicates the following key shifts envisaged:

- An increase in residential land uses along transport corridors and key economic nodes including the Cape Town CBD to increase the trip productions within these corridors;
- An increase in non-residential land uses within areas presently dominated by residential development, most notably the Metro South-East corridor to balance the productions and attractions; and
- A more intense, compact distribution of future growth and less intense allocation on the margins of the city.

The final product representing the aspirational Transit Oriented Development Comprehensive land use scenario is reflected in Diagrams J4 and J5 showing the future allocation of land uses and the 'complete' picture at a citywide scale.

CURRENT SITUATION

Pie size depicts intensity of use (largest pie = 24000 Ps + As) Pie split depicts diversity of use (Residential Vs. Non-residential



Diagram J2: Current land use mix and intensity per Transport Analysis Zone based on TOD C



Diagram J3: Future land use mix and intensity per Transport Analysis Zone based on TOD C



Diagram J4: Future optimised land use location – projected growth only (2015–2032)



Diagram J5: Composite baselines and projected growth 2032