

Khayelitsha Mitchells Plain Greater Blue Downs

Integrated district spatial development framework
and environmental management framework

Vol. 1: Baseline and Analysis Report



JANUARY
2022



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

CONTENTS

1	INTRODUCTION	10
1.1	Background	10
1.2	Structure of the District SDF Suite of Documents	10
1.3	Baseline and Analysis Report	10
1.4	Key Informants and Limitations of the Baseline and Analysis Report	13
A.	STATE OF THE POPULATION	14
2	DEMOGRAPHICS	15
2.1	Overview	15
2.2	Population	16
2.3	Households	23
2.4	Employment	26
2.5	Income	29
B.	STATE OF THE ENVIRONMENT	0
3	NATURAL AND HERITAGE ENVIRONMENT	1
3.1	Status Quo, Trends and Patterns	1
3.2	Key Development Pressure and Opportunities	21
3.3	Spatial Implications for District Plan	24
C.	STATE OF THE BUILT ENVIRONMENT.....	28
4.	LAND USE AND DEVELOPMENT TRENDS	29
3.1	Residential.....	31
3.2	Industrial	32
3.3	Retail and Office.....	33
3.4	Mixed Use.....	33
3.5	Home-Based Enterprises	34
3.6	Agricultural Land and Smallholdings	34
3.7	Monwabisi & Mnandi Coastal Areas	34
3.8	Supportive Land Uses	34
3.9	Development Pressures.....	35
3.10	Vacant land	35
3.11	Key Opportunities and Constraints	38
4	TRANSPORT AND ACCESSIBILITY	39
4.1	Introduction	39
4.2	Strategic Parameters & Informants	40

4.3	State of Public Transport	42
4.4	State of Road Infrastructure	52
4.5	State of Freight	55
4.6	Travel Patterns	57
4.7	Key Opportunities and Constraints	66
5	INFRASTRUCTURE.....	67
5.1	Electricity.....	67
5.2	Water	73
5.3	Stormwater and Sanitation	76
5.4	Solid waste.....	80
5.5	Key Opportunities and Constraints	82
6	HUMAN SETTLEMENTS	83
6.1	Housing Overview.....	83
6.2	Housing Demand	90
6.3	Housing Supply	92
6.4	Key Opportunities and Constraints	95
7	PUBLIC FACILITIES.....	98
7.1	State of Supply and Demand	98
7.2	Key Observations	110
7.3	Key Opportunities and Constraints	110
D.	STATE OF THE ECONOMY	112
4	THE ECONOMY	113
4.1	Macro-Economy.....	113
4.2	District Analysis	118
4.3	The Informal Economy	125
5	PROPERTY MARKET	129
5.1	Measuring Property Market Performance.....	129
5.2	Key Observations and Trends	130
5.3	KEY OPPORTUNITIES AND CONSTRAINTS	145
E.	SYNTHESIS.....	147
6	RISKS	148
6.1	Guiding Policy on Risk Management	148
6.2	Risks in Khayelitsha, Mitchells Plain & Greater Blue Downs	150
6.3	Key Opportunities and Constraints	165

List of figures

Figure 1.1: District SDF Review process summary	10
Figure 1.2: Building integrated communities (TOD Strategic Framework, 2016)	11
Figure 2.1: Overview of Khayelitsha, Mitchells Plain & Greater Blue Downs District key demographic statistics (Census, 2001; Census, 2011; CCT estimates, 2018 & HIS Markit, 2019)	15
Figure 2.2: District versus metropolitan population growth trends (formal, informal and backyard settlements), 2001–2018 (Census, 2001 & 2011 & CCT roof count, 2018)	17
Figure 2.3: Khayelitsha, Mitchells Plain & Greater Blue Downs District gross population density (persons/km ²) distribution across populated areas, 2018.....	19
Figure 2.4: Kahyelitsha, Mitchells Plain & Greater Blue Downs District population change across populated areas, 2011–2018.....	20
Figure 2.5: Khayelitsha, Mitchells Plain & Greater Blue Downs age distribution, 2011 (Census, 2011)	22
Figure 2.6: Khayelitsha, Mitchells Plain & Greater Blue Downs change in age distribution, 2001–2011	22
Figure 2.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District household change across populated areas, 2011–2018 (Census, 2011 & CCT roof count, 2018)	25
Figure 2.8: Khayelitsha, Mitchells Plain & Greater Blue Downs District employment status	27
Figure 2.9: Khayelitsha, Mitchells Plain & Greater Blue Downs District unemployment rate spatial distribution across populated areas, 2011 (2011 Census)	28
Figure 2.10: Khayelitsha, Mitchells Plain & Greater Blue Downs District average monthly .	29
Figure 2.11: Metropolitan change in income inequality over time, as represented by the Gini Coefficient (HIS Markit, 2019)	30
Figure 2.12: Metropolitan change in the Human Development Index over time (HIS Markit, 2019)	30
Figure 2.13: Khayelitsha, Mitchells Plain & Greater Blue Downs District median household income spatial distribution across populated areas, 2011 (Census, 2011)	0
Figure 3.1: Distribution of underlying geology across the Khayelitsha, Mitchells Plain & Greater Blue Downs District	2
Figure 3.2: Hydrology of the Khayelitsha, Mitchells Plain & Greater Blue Downs District	11
Figure 3.3: Composite map of the Khayelitsha, Mitchells Plain & Greater Blue Downs District bio-physical environment	19
Figure 3.4: Composite map of the agricultural potential and (officially demarcated) cultural/heritage resources in the Khayelitsha, Mitchells Plain & Greater Blue Downs District	20
Figure 4.1: Khayelitsha, Mitchells Plain & Greater Blue Downs District building plan approvals according to land use type, 2015–2018 (CCT Development Management Department, 2019)	30
Figure 4.2: Proposed projects of the Southern Corridor Human Settlements Programme in relation to informal settlements	32
Figure 4.3: Vacant land distribution across the Khayelitsha, Mitchells Plain & Greater Blue Downs District.....	37
Figure 4.1: Transit oriented development concept illustrated at various scales.....	39

Figure 4.2: Blue Downs Integration Zone transport concept	41
Figure 4.3: Metro South-East Integration Zone, showing prioritized local areas	41
Figure 4.4: Existing and future high-order public transport services in the Khayelitsha, Mitchells Plain & Greater Blue Downs District	43
Figure 4.5: Existing and planned cycle routes across the Khayelitsha, Mitchells Plain & Greater Blue Downs District	44
Figure 4.6: Intensity of boardings and alightings for road-based public transport	45
Figure 4.7: Planned IPTN Phase 2A MyCiti BRT trunk routes	47
Figure 4.8: Scoring of transport-accessible precincts in relation to the higher-order public transport network	50
Figure 4.9: Composite map of existing public transport and related infrastructure in the Khayelitsha, Mitchells Plain & Greater Blue Downs District	51
Figure 4.10: Existing road network and planned public right-of-way upgrades or new roads in the Khayelitsha, Mitchells Plain & Greater Blue Downs District	54
Figure 4.11: Main freight vehicle movement routes in the Khayelitsha, Mitchells Plain & Greater Blue Downs District	56
Figure 4.12: Trip generators versus trip attractors across the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013 (EMME Travel Demand Modelling, 2013)	58
Figure 4.13: Origin-destination mapping of peak morning commuter trips for all modes of transport in relation to the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013	59
Figure 4.14: Origin-destination mapping of peak morning commuter trips by public transport in relation to the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013	60
Figure 4.15: Origin-destination mapping of peak morning commuter trips by private car in relation to the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013	61
Figure 4.16: Transit Oriented Development Comprehensive Land Use Model ideal distribution of trip-attracting and trip-producing land uses, 2032	65
Figure 5.1: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk electricity infrastructure: slight and severe lack of capacity, 2016 (MTIIF, 2017)	69
Figure 5.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk electricity infrastructure: spare and adequate capacity, 2016 (MTIIF, 2017)	70
Figure 5.3: Substation loading across the metropolitan area, 2018	71
Figure 5.4: Proposed electricity infrastructure projects, 2019–2024	72
Figure 5.5: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk water infrastructure: spare and adequate capacity, 2015 (MTIIF, 2017)	75
Figure 5.6: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk wastewater infrastructure – slight and severe lack of capacity, 2015 (MTIIF, 2017)	78
Figure 5.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk wastewater and stormwater infrastructure – spare and adequate capacity, 2015 (MTIIF, 2017)	79
Figure 6.1: Building integrated communities (TOD Strategic Framework, 2016)	83
Figure 6.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District housing typology ...	84
Figure 6.3: Khayelitsha, Mitchells Plain & Greater Blue Downs District distribution of dwelling typologies (2011 Census)	85
Figure 6.4: Khayelitsha, Mitchells Plain & Greater Blue Downs District informal dwelling distribution by (CCT Informal Structure Count, 2018)	86

Figure 6.5: Khayelitsha, Mitchells Plain & Greater Blue Downs District distribution of	88
Figure 6.6: Khayelitsha, Mitchells Plain & Greater Blue Downs District spatial distribution of household tenure status (2011 Census)	89
Figure 6.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District housing supply and demand trends, 2013–2018 (CCT Housing Needs Registry)	91
Figure 6.8: Khayelitsha, Mitchells Plain & Greater Blue Downs housing delivery over time by number and typology, 2013/14–2017/18 (CCT Human Settlements Department, 2019) ...	93
Figure 6.9: Khayelitsha, Mitchells Plain & Greater Blue Downs District housing delivery	94
Figure 6.10: Status of Human Settlements projects in the Khayelitsha, Mitchells Plain & Greater Blue Downs District	96
Figure 56: Conceptual Hierarchy of Community Facility Nodes/Civic Clusters	98
Figure 57: Distribution of Community Facilities in Khayelitsha Mitchell's Plain Greater Blue Downs District.....	100
Figure 39: Figure 39: Facility Need in Khayelitsha Mitchell's Plain Greater Blue Downs District	
Figure 4.1: Average annual Gross Domestic Product (GDP) growth in South Africa vs. Cape Town, 2009-2018 (IHS Markit, 2019)	113
Figure 4.2: Consumer Price Index (CPI), Producer Price Index (PPI) and repurchase rate trends against the Reserve Bank inflation rate target, 2009–2018 (Statistics South Africa 2018–2019 & SARB, 2018–2019)	114
Figure 4.3: Building Confidence Index (BCI) trends in Cape Town, 2009–2018 (Bureau for Economic Research (BER), 2018 & FNB/BER BCI, 2018)	115
Figure 4.4: Cape Town new building completions and vacancy rates for office and industrial space, 2009–2018 (Transport Business Support Department & South African Property Owners' Association (SAPOA), 2019)	116
Figure 4.5: Cape Town Gross Value Added (GVA) and capitalisation rate (cap rate) trends, 2011–2018 (IHS Markit, 2019 & South African Property Owners Association (SAPOA), 2019)	117
Figure 9.6: Gross geographic product (GGP) contribution by district at current prices, 2018 (IHS Markit, 2019)	
Figure 9.7: Employment contribution by district, 2018 (IHS Markit, 2019)	
Figure 4.8: Average annual economic growth rates by district, 2009– 2018 (IHS Markit, 2019)	119
Figure 4.9: Economic performance comparison across Districts, 2018 (IHS Markit, 2019)	119
Figure 4.10: Gross Value Added (GVA) contribution across districts by sector, 2018 (IHS Markit, 2019).....	120
Figure 4.11: Employment contribution to Cape Town across districts by sector, 2018 (IHS Markit, 2019).....	121
Figure 4.12: Gini Coefficient comparison across districts, 2009, 2014 & 2018 (HIS Markit, 2019)	124
Figure 4.13: Number of households per annual income category by District, 2018 (HIS Markit, 2019).....	125
Figure 9.14: Formal versus informal employment in Cape Town, 2015–2019 (Stats SA Quarterly Labour Force Survey: Q2,, 2019)	
Figure 4.15: Industry distribution of informal sector employees in Cape Town, 2019 (Stats SA Quarterly Labour Force Survey: Q2, 2019)	127

Figure 5.1: Change in Khayelitsha, Mitchells Plain & Greater Blue Downs District average capitalisation rates per non-residential market segment, 2012–2018 (CCT Non-Residential Market Research, 2018)	130
Figure 5.2: Change in Khayelitsha, Mitchells Plain & Greater Blue Downs District average vacancy rates per non-residential market segment, 2012–2018 (CCT Non-Residential Market Research, 2018)	131
Figure 5.3: Khayelitsha, Mitchells Plain & Greater Blue Downs average capitalisation rates per 4 ha grid: industrial property market	132
Figure 5.4: Khayelitsha, Mitchells Plain & Greater Blue Downs average capitalisation rates per 4 ha grid: street-front retail property market.....	134
Figure 5.5: Khayelitsha, Mitchells Plain & Greater Blue Downs average capitalisation rates per 4 ha grid: office property market	136
Figure 5.6: Khayelitsha, Mitchells Plain & Greater Blue Downs District change in average non-residential property values per 1 ha grid, 2012–2018.....	139
Figure 5.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District: number of residential sales per suburb, 2009–2018.....	141
Figure 5.8 Khayelitsha, Mitchells Plain & Greater Blue Downs District: average residential property value by suburb, 2018 (R/m ²)	142
Figure 5.9: Khayelitsha, Mitchells Plain & Greater Blue Downs District change in average residential property values per 4 ha grid, 2012–2018.....	144
Figure 6.1: Relative elevation above sea level (m) of the Khayelitsha, Mitchells Plain & Greater Blue Downs District	153
Figure 6.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District risks – built environment	158
Figure 6.3: Consolidated map of exposure to all climate hazards for the mid-future period (2021–2050) across the Khayelitsha, Mitchells Plain &	162
Figure 6.4: Present-day resilience to climate hazards across the Khayelitsha, Mitchells Plain & Greater Blue Downs District	163
Figure 6.5: Risk of climate hazards relative to resilience across the Khayelitsha, Mitchells Plain & Greater Blue Downs District	164

List of tables

Table 2.1: District versus metropolitan population trends (formal, informal and backyard settlements), 2001–2018 (Census, 2001 & 2011 & CCT estimates, 2018).....	16
Table 2.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District age distribution, 2001–2011 (Census, 2001 & 2011)	21
Table 2.3: District versus metropolitan distribution of highest adult (aged 20+ years) education levels, 2011 (Census, 2011)	23
Table 2.4: District versus metropolitan population and household growth trends, 2001–2018 (Census, 2001 & 2011 & CCT roof count, 2018)	23
Table 2.5: Khayelitsha, Mitchells Plain & Greater Blue Downs District.....	26

Table 3.1: Conservation status of Cape Flats Dune Strandveld in the Khayelitsha, Mitchells Plain, Greater Blue Downs District (CCT State of Environment Report, 2018 & CCT 2009 Biodiversity Network Report for historical figures)	6
Table 3.2: Status of major rivers in the Khayelitsha, Mitchells Plain & Greater Blue Downs District (State of the Environment Report, 2018)	9
Table 3.3: Environmental Spatial Implications.....	25
Table 4.1: Largest residential developments in the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2014–2019 (CCT Human Settlements Department, 2019)	31
Table 4.2: Categories and their respective criteria used in the analysis of vacant land in the Khayelitsha, Mitchells Plain & Greater Blue Downs District.....	35
Table 4.1: Overview of public transport interchanges and minibus taxi ranks in the Khayelitsha, Mitchells Plain & greater Blue Downs District	46
Table 4.2: Peak morning travel patterns from and to the Khayelitsha, Mitchells Plain & Greater Blue Downs (KMPBD) District	62
Table 5.1: Classification of electrical substation supply areas by level of existing capacity (MTIIF, 2017)	67
Table 5.2: Classification of bulk water supply areas by level of existing capacity (MTIIF, 2017)	73
Table 5.3: Classification of bulk wastewater management areas by level of existing capacity (MTIIF, 2017).....	76
Table 5.4: Classification of bulk solid waste infrastructure by level of existing capacity	80
Table 17: 2020 Top Areas of Need Khayelitsha Mitchell's Plain Greater Blue Downs District	101
Table 18: 2040 Top Areas of Need Khayelitsha Mitchell's Plain Greater Blue Downs District	102
Table 4.1: Top five sectors by location quotient in each district (detailed SIC), 2018 (HIS Markit, 2019).....	121
Table 4.2: Human Development Index (HDI) 2009, 2014 and 2018 (HIS Markit, 2019).....	123
Table 5.1: Khayelitsha, Mitchells Plain & Greater Blue Downs District property market indicators, 2012–2018 (City of Cape Town Non-Residential Market Research, 2018).....	130
Table 5.2: Highest affordable property prices for respective monthly household incomes	140
Table 6.1: Policy statements pertaining to risk (CTMSDF, 2018)	149
Table 6.2: Cape Town Disaster Risk Management Plan evaluation of hazards	149
Table 6.3: Overview and implications of risk: wind-blown sand.....	150
Table 6.4: Overview and implications of risk: coastal erosion	151
Table 6.5: Overview and implications of risk: flooding.....	152
Table 6.6: Overview and implications of risk: cemeteries, waste disposal sites and waste water treatment works	154
Table 6.7: Overview and implications of risk: noise contours.....	154
Table 6.8: Overview and implications of risk: lack of infrastructure capacity	155
Table 6.9: Overview and implications of risk: structural fires in informal settlements.....	155
Table 6.10: Overview and implications of risk: structural fire in formal settlements	156
Table 6.11: Overview and implications of risk: heat and heat island effect	156
Table 6.12: Overview and implications of risk: unmanaged land occupation and unregulated development.....	157

Table 6.13: Weighting of climate change hazard vulnerability factors 160

Table 6.14: Implications of climate hazards and risk for development 165

1 INTRODUCTION

1.1 Background

This District SDF is a review of the 2012 District Spatial Plan (DSP) and provides up-to-date spatial planning guidance for one (1) of eight (8) planning districts in Cape Town. This process follows the City's commitment to review the District SDFs periodically on a 10-year basis, or when a need arises, due to, inter alia, changing trends in the natural environment, built environment, population/composition and/or in the legislative environment.

1.2 Structure of the District SDF Suite of Documents

At this stage, the District SDF suite of documents and the respective main subordinate categories are illustrated in Figure 1.1 below. The current document is the Status Quo/Baseline and Analysis Report (BaAR).



Figure 1.1: District SDF Review process summary

1.3 Baseline and Analysis Report

The purpose of the BaAR is to identify the development parameters that will inform the spatial plans intended to manage the future growth of the planning districts in a manner that is sustainable, resilient, equitable and contextually appropriate.

The formulation of the BaAR uses a spatial layering approach to extract the **constraints** and **opportunities** for the respective structuring elements under investigation in each district. This is required to identify appropriate spatial interventions to **mitigate** against constraints and **enhance** opportunities in order to build integrated and resilient communities. The intent is to enable environments that support the natural, social, physical, and economic integration of people into the existing urban fabric and establish quality living environments for all, as illustrated in Figure 1.2 below.

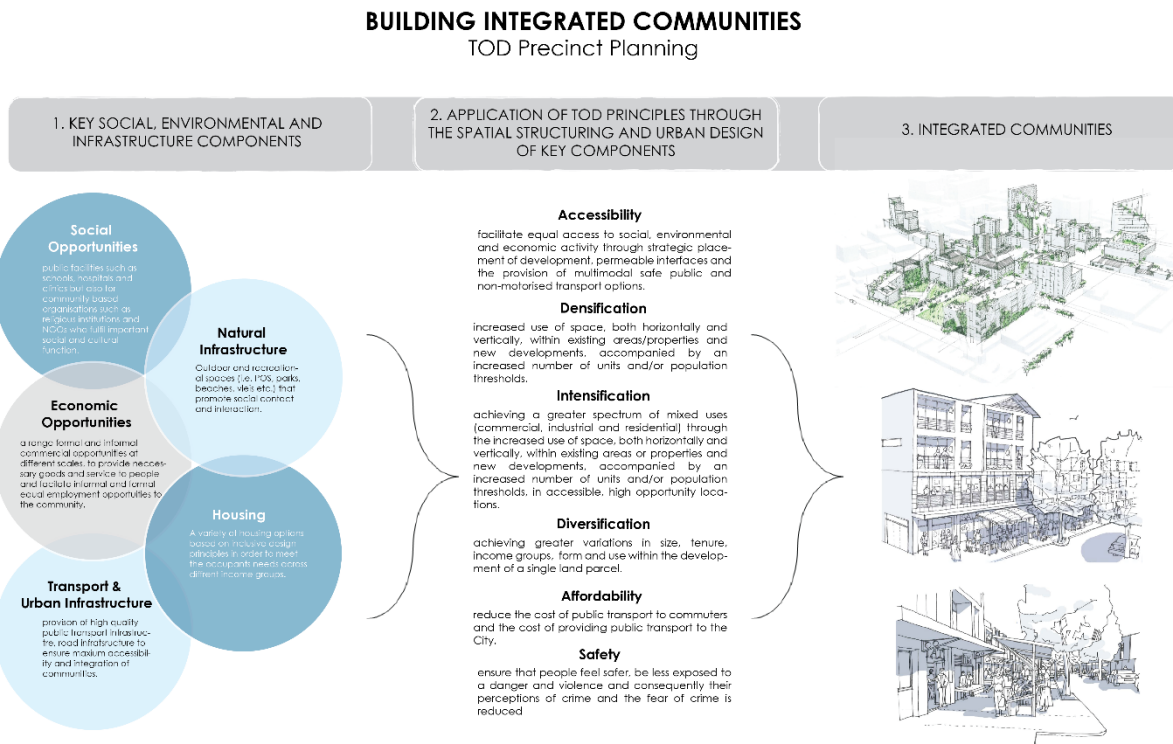


Figure 1.2: Building integrated communities (TOD Strategic Framework, 2016)

The narratives for the respective layers in the Baseline and Analysis Report have been structured using the following approach, by answering the three main questions below:

- 1. What is there and what are the trends?** This entails a brief description of the status quo, showing the trends since 2012, i.e. projects built, pressures, constraints and the opportunities.
- 2. What does this mean and what are the implications?** This entails an indication of the implications of the above constraints or opportunities for spatial planning (District SDF), i.e. the location of available physical space and where more is needed; and where land use guidelines, policies or interventions (e.g. physical projects) are needed.
- 3. How is this linked to other elements/layers?** This entails a synthesis, yet to be completed, that explores the interrelationship between the constraints and the opportunities as they relate to the various layers analysed and as they all work together to form the basis for plan making. It uses an analysis-informs-plan making approach.

1.3.1 Structure of the Baseline and Analysis Report

As explained above, under Paragraph 1.8, the Baseline and Analysis Report is divided into the following main sections that aim to respond to at least the following questions for the respective sections:

1.3.2 State of the Population:

- a. What is the current socio-economic profile of the population?
- b. What is current and forecasted growth of the population per district? This is required to identify the projected impact of future growth on the natural and urban environment, and how best to plan for said growth.

1.3.3 State of the Environment:

- c. This will serve as the baseline for the EMF for the District;
- d. Are there areas of ecological and environmental significance which must be conserved/protected from urban development, and where are they located?
- e. Are there areas of cultural significance which must be conserved and protected from inappropriate development which negatively impacts the heritage qualities and value of the area, and where are they located (i.e. the HPOZ and proposed HPOZ)?
- f. What are the bio-physical features of the district that may constrain any form of future development (i.e. rivers, wetland, topography etc.)?
- g. Which areas require appropriate interface development guidelines to mitigate negative impact?
- h. Which areas are appropriate for environmental and heritage exemptions or designations (in terms of NEMA and NHRA)?

1.3.4 State of the Built Environment:

- i. What and where are the current development trends and pressures in the district?
- j. What is the current state of supply and demand for transport and urban infrastructure, social and recreational facilities and housing to enable more integrated and resilient communities?
- k. What areas currently have capacity for intensification of land use and which areas require upgrades to the current transport, social, recreational, urban infrastructure to enable further intensification of land use?
- l. What is the current state of transport accessibility and mobility in each district of the city (internally and externally)? This will help identify areas appropriate for intensification (densification and diversification).
- m. What is the extent of underutilised vacant land in the district?

1.3.5 State of the Economy:

- n. What is the state of employment/unemployment?
- o. What are the best-performing industries, that offer competitive advantages?
- p. What are the best-performing property markets in the district and which areas offer the most property market potential?

1.3.6 Risk and Resilience:

- q. What are the risks to the future sustainability of the City and its citizens? What and where are the setback or proximity parameters that may impact on future development?
- r. How can spatial development promote social inclusion, physical connectivity and equitable travel to optimise carbon emission reductions?
- s. What is the level of vulnerability and resilience of current areas in the district?

1.4 Key Informants and Limitations of the Baseline and Analysis Report

Whilst every attempt has been and will be made to ensure the information in the BaAR document is accurate, it cannot be guaranteed that it is up to date at all times. This is because the information is subject to the availability of information, the time period for when it is available and valid and the credibility of the source (refer to Annexure C for a list of said sources). Given the aforementioned and the fact that the District SDF and its implementation period is only for ten years the approach has not been to ensure that every statistic is 100% accurate and undeniably the most recent. However, the authors have opted to rather use the general trends relating to the statistics and not the absolute numbers and will draw the main issues and opportunities for the formulation of proposals and guidelines.

A.STATE OF THE POPULATION

2 DEMOGRAPHICS

2.1 Overview

At 29.92% in 2018, the Khayelitsha, Mitchells Plain & Greater Blue Downs District comprises the significant majority of the overall metropolitan population. Between 2001 and 2016, the district population grew by 44.28% from 872 425 to 1 218 681 (Figure 2.1). Despite the district's large population, its annual average population growth rate of 2.99% between 2001 and 2018 sits marginally below the metropolitan average of 3.06%. The district has also seen a slight decrease in annual average population growth over time, with growth being slightly more pronounced in the 2001–2011 than 2011–2016 period.

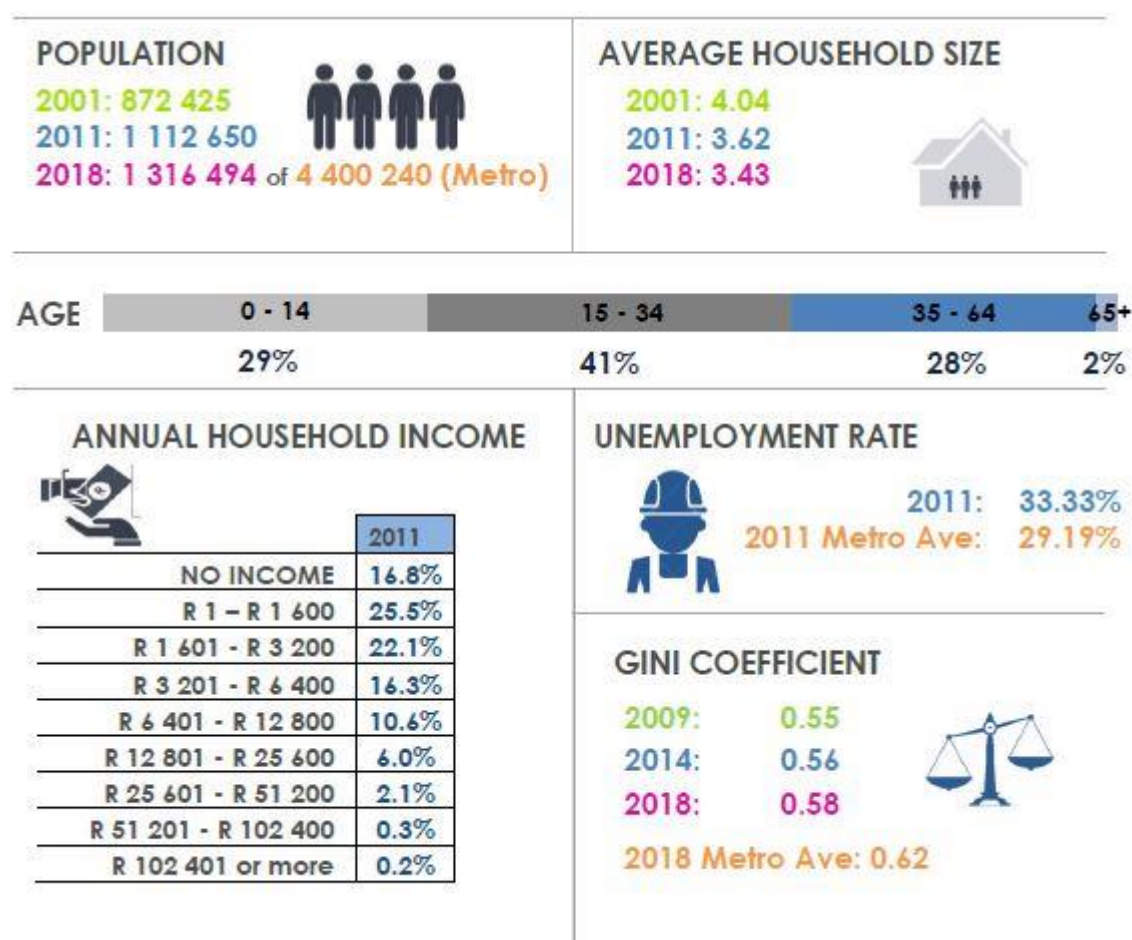


Figure 2.1: Overview of Khayelitsha, Mitchells Plain & Greater Blue Downs District key demographic statistics (Census, 2001; Census, 2011; CCT estimates, 2018 & HIS Markit, 2019)

Mirroring metropolitan trends, the district's annual average household growth rate of 4.58% between 2001 and 2018 is significantly greater than that of population. This is linked to an overall trend of decreasing household size (Figure 2.1). However, as with population growth, this is a trend that appears to have weakened in the district over time. Therefore, while there has likely been a growth in housing demand due to households splitting into smaller units, this is not as large a pressure in Khayelitsha, Mitchells Plain & Greater Blue Downs as it might be in other districts.

Between 2001 and 2011 the unemployment rate in the district decreased drastically, from 45.16% to 33.33% (Figure 2.1). Part of this is attributable to the slight decrease in the labour force participation rate from 68.36% to 64.47%, which indicates an increase in the proportion of not economically active people. Even so, this represents a significant improvement in access to and ability of people to create employment opportunities in the district. In terms of income, as of 2018, Khayelitsha, Mitchells Plain & Greater Blue Downs has a Gini Coefficient of 0.58. This suggests a lesser degree of income inequality in the district relative to the metropolitan area as a whole, with a Gini Coefficient of 0.62. However, this is largely as a result of the widespread nature of poverty in the district, with exceptionally few households earning a monthly income in the higher brackets (Figure 2.1). The highest unemployment rates as well as the lowest median household incomes largely correlate with areas of high informality, namely:

- Crossroads, Philippi and Weltevredend Valley (Philippi Sub-District);
- Ikwezi Park, Victoria Mxenge, Nonqubela, the north-eastern edge of Denel/Swartklip, Endlovini (Monwabisi and Khayelitsha T2-V2b) Enkanini (east of Kuyasa), Umrhabulo Triangle and Faure (Site B, Site C, TR Section and Greater Khayelitsha Sub-Districts); and
- Mfuleni (Mfuleni Sub-District)

2.2 Population

2.2.1 District Trends

As of 2018, the population of the Khayelitsha, Mitchells Plain & Greater Blue Downs District is estimated at 1 316 494 (Table 2.1). It comprises 29.92% of the city's total population – the largest proportion by a significant margin. Despite its majority share of metropolitan population, the district's population growth has been almost equal to that of the overall metropolitan area (Figure 2.2). Between 2001 and 2018, the district's population grew by 50.09% (from 872 425 to 1 316 494), equating to an average of 2.99% per annum (Table 2.1). In the same period, the metropolitan population grew by 52.08% (from 2 893 249 to 4 400 240), equating to an annual average rate of 3.06%. Furthermore, the annual average population growth rate of the district has remained relatively consistent over time, changing only marginally from 2.75% (2001–2011) to 2.62% (2011–2018) (Table 2.1).

Table 2.1: District versus metropolitan population trends (formal, informal and backyard settlements), 2001–2018 (Census, 2001 & 2011 & CCT estimates, 2018)

Planning district	2001	Annual average change 2001-2011	2011	Annual average change 2011-2018	2018	Annual average change 2001-2018
Khayelitsha - Mitchells Plain - Greater Blue Downs	872 425	2.75%	1 112 650	2.62%	1 316 494	2.99%
Cape Town	2 893 399	2.93%	3 740 026	2.52%	4 400 240	3.06%

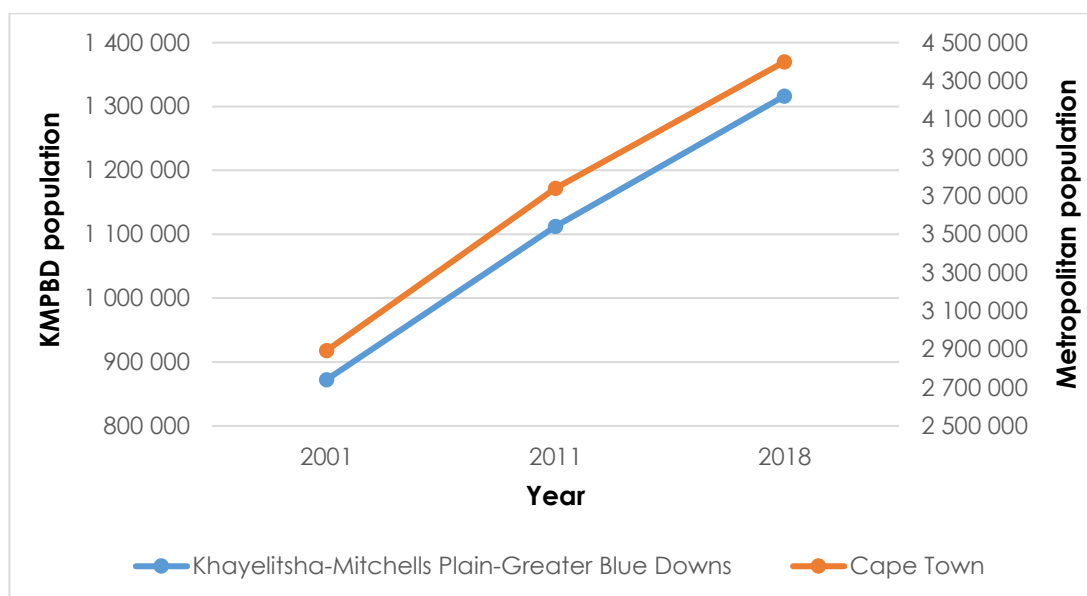


Figure 2.2: District versus metropolitan population growth trends (formal, informal and backyard settlements), 2001–2018 (Census, 2001 & 2011 & CCT roof count, 2018)

2.2.2 Spatial Distribution

Within the district, the N2 Highway forms a distinct barrier between areas of high population and population density to the south and low population and population density to the north (Figure 2.3). The district population is concentrated most intensely in areas within the Philippi, Mitchells Plain, Khayelitsha and Site B, Site C, TR Section Sub-Districts. These areas include:

- Browns Farms (2018 population: 72 200, 6.09%);
- Philippi East (2018 population: 48 452, 4.09%);
- Lenteguur (2018 population: 40 965, 3.46%);
- Tafelsig (2018 population: 62 024, 5.23%);
- Ikwezi Park (2018 population: 56 763, 4.79%);
- Nonqubela (2018 population: 43 834, 3.70%).

Of the above areas, the large populations of Browns Farms, Ikwezi Park and Nonqubela correlate with the presence of significant informal settlements.

The most sparsely populated areas are generally found within the Greater Blue Downs and Penhill & Surrounds Sub-Districts. One exception to this broad spatial pattern is Mfuleni. With a 2018 population of 61 242, it accounts for 5.17% of the total district population – its third most populated area.

As a whole, the district has very low population densities (Figure 2.3). As of 2018, average gross population density of populated areas in the district stands at merely 12 218 persons/km² (122.18 persons/ha). The distribution of gross population density across the district generally mirrors that of population. Highly populated areas largely present the highest population densities, as seen in those located in the Philippi, Mitchells Plain, Khayelitsha and Site B, Site C, TR Section Sub-Districts. The most densely populated areas also broadly correlate with the presence of informal settlements, with the highest population densities found in:

- Kosovo Informal Settlement (54 085 persons/km² or 540.85 persons/ha – within Weltevreden Valley);
- Gqobasi Informal Settlement (46 397 persons/km² or 463.97 persons/ha) – north-western corner of Crossroads);
- Bongani TR Section (35 840 persons/km² or 358.40 persons/ha – north-eastern edge of Swartklip)
- Victoria Mxenge (36 926 person/km² or 369.26 persons/ha);
- Village V4 North (32 527 persons/km² or 325.27 persons/ha – southern portion of Victoria Mxenge);
- Nonqubela (315.76 persons/ha);
- Endlovini Informal Settlement (35 886 persons/km² or 358.86 persons/ha – south of Harare); and
- Silver Town (31 718 persons/km² or 317.18 persons/ha – north of Mandela Park).

The opposite also holds true, with the most sparsely populated areas generally home to some of the lowest population densities, as is the case with those that fall within the Penhill & Surrounds Sub-District and especially the Greater Blue Downs Sub-District (Figure 2.3). This is indicative of its as of yet unrealised potential as a major growth corridor in the district, linking the Metro South-East to the Northern Suburbs.

Between 2011 and 2018, approximately 2/3 of areas in the district saw only marginal growth in population, which ranged between 0% and 5% (Figure 2.4). This sits significantly below the overall district population growth rate of 18.32% over the same time span between 2011 and 2018 (Table 2.1).

More significant population growth in the 2011–2018 period occurred in the following areas (Figure 2.4):

- Hagley 1 (44.80%)
- Stratford Green (46.43%)
- Sweet Home (47.18%)
- Endlovini Informal Settlement (48.67%) (south of Harare)
- Delro (67.65%)

Finally, the following areas have seen exceptionally high population growth between 2011 and 2018 (Figure 2.4):

- The Connifers (143.29%)
- Philippi East (427.63%)
- Fountain Village (549.04%)
- Faure (780.95%)

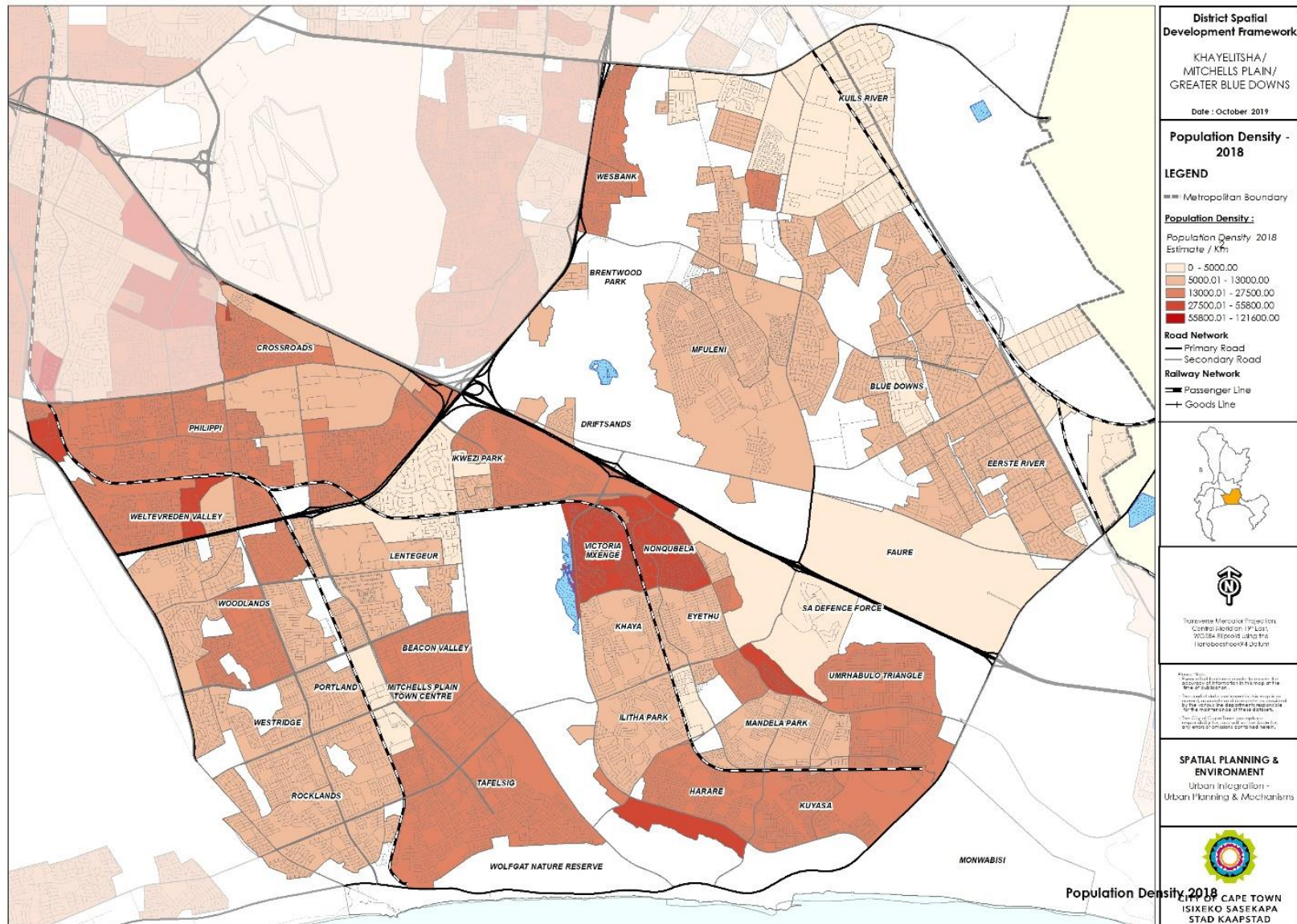


Figure 2.3: Khayelitsha, Mitchells Plain & Greater Blue Downs District gross population density (persons/km²) distribution across populated areas, 2018 (CCT roof count, 2018)

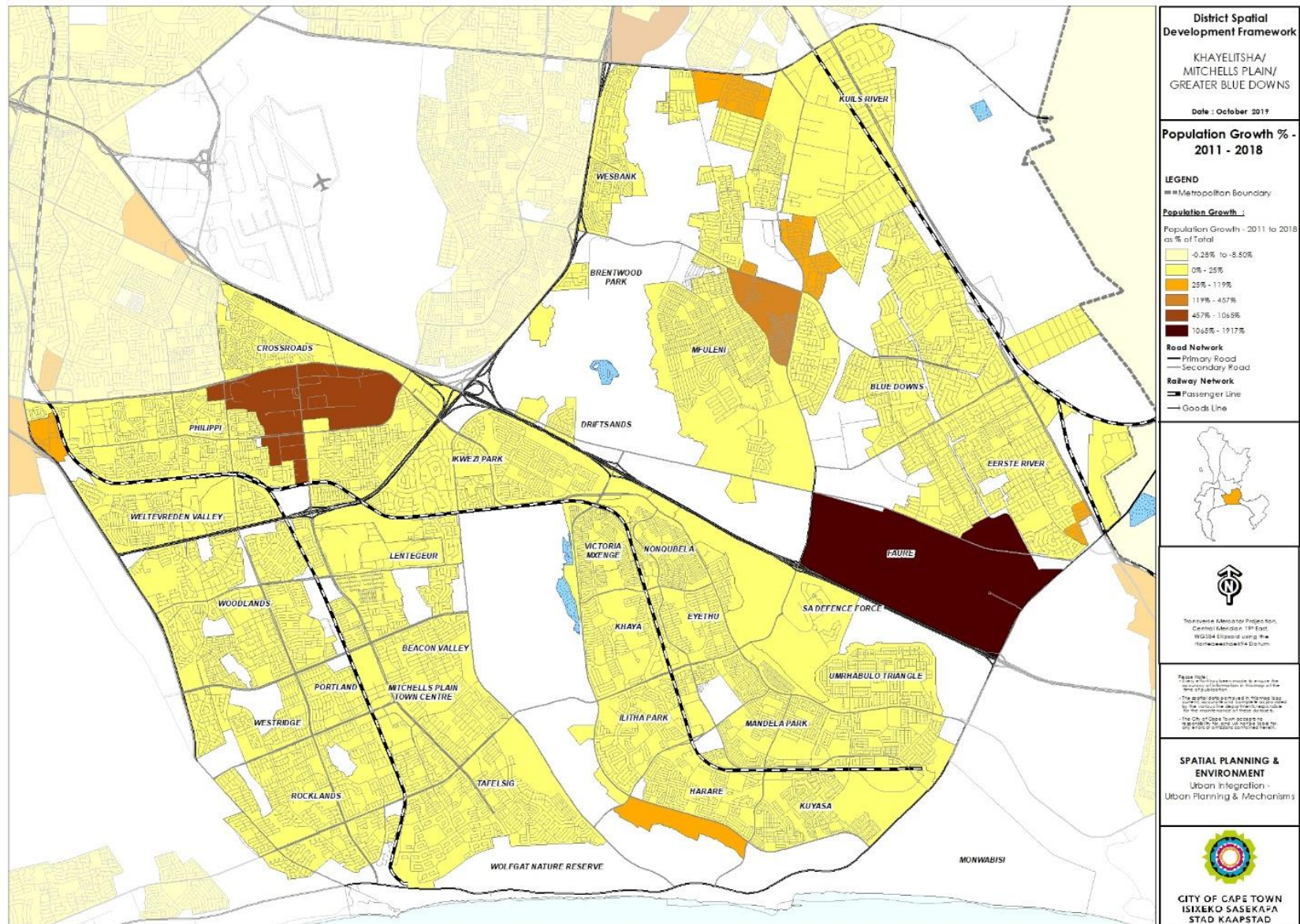


Figure 2.4: Kahyeletisha, Mitchells Plain & Greater Blue Downs District population change across populated areas, 2011–2018 (Census, 2011 & CCT roof count, 2018)

Of note, however, is that medium to high population growth in the district did not occur in areas with already high populations or population densities (Figure 2.3 & Figure 2.4). Sweet Home, Endlovini, Philippi East and Faure have historically been unpopulated or scarcely populated, with recent population growth linked strongly to the emergence of informal settlements. Informal settlement growth in Endlovini and Faure is of especially large concern, as it is respectively driving increasingly deeper into the False Bay dune system and Driftsands Nature Reserve/Khayelitsha wetland system. By contrast, the population growth experienced in Stratford Green, Delro, Fountain Village and The Connifers has been the result of formal greenfield residential development in the Greater Blue Downs Sub-District. Gqobasi Informal was the one area that saw a significant population decline of -9.22% between 2011 and 2018.

2.2.3 Population Structure

2.2.3.1 Age Distribution

As measured in 2011, the population of Khayelitsha, Mitchells Plain & Greater Blue Downs District has the highest proportions of children (14 and younger) (28.38%) and youth (aged 15–34) (41.15%) in the metropolitan area (Table 2.2). However, the prominence of young people in the district becomes far more significant when considering that approximately 1/3 of all the city's children (34.02%) as well as youth (32.38%) are located in the district. In contrast, the district is home to the lowest percentage of aged persons (65 and older) across the city – 2.29%, compared to the metropolitan average of 5.55% (Table 2.2).

Table 2.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District age distribution, 2001–2011 (Census, 2001 & 2011)

Planning district	Year	0 - 14		15 - 64		65 +		Dependency ratio	Index of ageing
		Number	%	Number	%	Number	%		
KMPBD	2001	263 899	30.25	594 578	68.15	13 947	1.60	46.73	5.28
	2011	315 819	28.38	771 411	69.33	25 428	2.29	44.24	8.05
Cape Town	2001	771 210	26.65	1 978 005	68.36	144 227	4.98	46.28	18.70
	2011	928 302	24.82	2 604 201	69.63	207 474	5.55	42.90	22.35

Between 2001 and 2011, the proportion of working-aged people persons (aged 15–54) in the district remained relatively constant (Table 2.2). The proportions of children and aged persons have a direct bearing on the dependency ratio of the district, which is a measure of the number of people in the “dependent age groups” in relation to the number of working-aged people (expressed per 100). This gives a rough estimate of the level of dependency in a society, be it in terms of income, social, physical or logistical needs. In the Khayelitsha, Mitchells Plain & Greater Blue Downs District, the 2011 dependency ratio

of 44.24 (the fourth highest of the eight districts) indicates that for just over every two people between the age of 15 and 64, there is one child (14 or younger) or aged person (65 or older) that may be dependent on them (Table 2.2). As indicated above, the most significant contributor to this dependency ratio is the high number of children in the district, given the below-average proportion of aged persons.

Despite the high proportion of children, the index of ageing increased from 5.28 in 2001 to 8.05 in 2011 (Table 2.2). This means that in 2011 there were more aged persons in relation to children (expressed per 100) than in 2001. As illustrated in Figure 2.6, this modest change emerged out of a marginal decrease in the child population accompanied by a marginal increase in the aged population in the district.

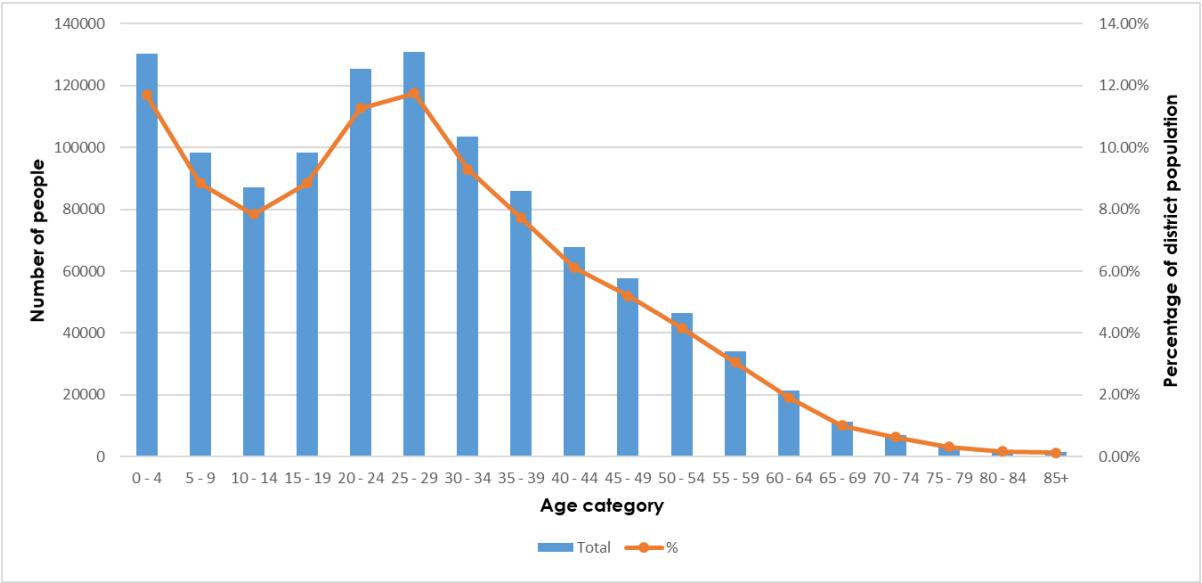


Figure 2.5: Khayelitsha, Mitchells Plain & Greater Blue Downs age distribution, 2011 (Census, 2011)

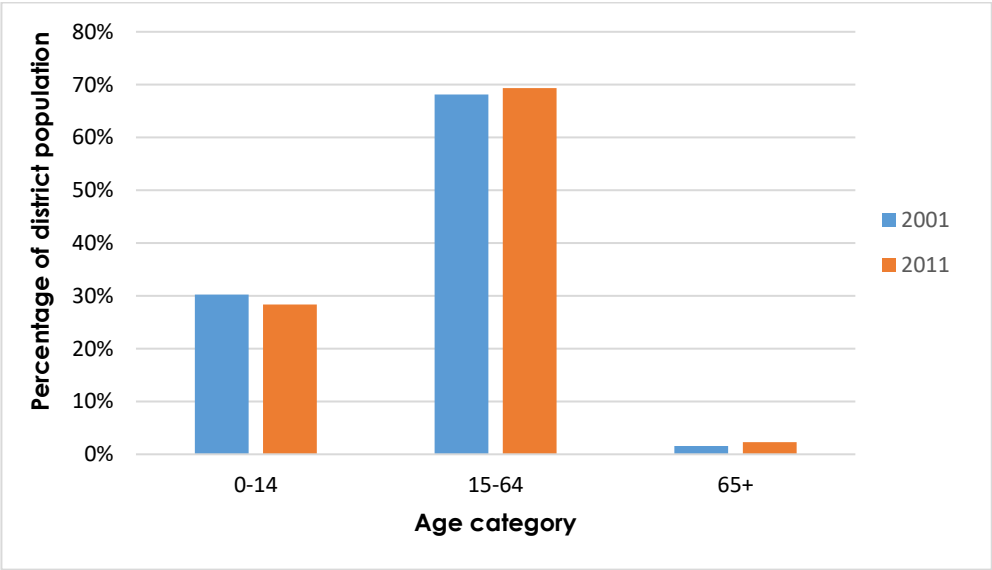


Figure 2.6: Khayelitsha, Mitchells Plain & Greater Blue Downs change in age distribution, 2001–2011 (Census, 2001 & 2011)

2.2.3.2 Education

Measured at 29.03% in 2011, the rate of adult matric completion in the Khayelitsha, Mitchells Plain & Greater Blue Downs District is broadly comparable with other districts and the metropolitan average of 30.17% (Table 2.3). However, the district is home to by far the largest percentage of people to have not completed their secondary education, accounting for almost 2/3 (65.67%) of its adult population, versus a metropolitan average of just over 1/2 (51.35%). The district also has the lowest rate of higher education by a significant margin. Only 5.06% of the total adult population has attained some form of higher of education, versus a metropolitan average of 16.17% and the largest proportion of 35.73% in the Southern Peninsula. For further comparison, the second lowest proportion of higher education completion is nearly double this, at 9.60% in the Cape Flats. This has a direct impact on the nature of the economic activity in which adults from Khayelitsha, Mitchells Plain & Greater Blue Downs can participate, limited largely to semi-skilled work and thereby impeding economic and spatial integration with other districts.

Table 2.3: District versus metropolitan distribution of highest adult (aged 20+ years) education levels, 2011 (Census, 2011)

	No Schooling		Partial primary to partial secondary schooling		Matric		Higher education	
	Number	%	Number	%	Number	%	Number	%
Khayelitsha-Mitchells Plain-Greater Blue Downs	16 254	2.34%	439 965	63.34%	201 642	29.03%	35136	5.06%
Cape Town	42 969	1.76%	1 255 404	51.35%	737 658	30.17%	395 436	16.17%

2.3 Households

2.3.1 District Trends

Table 2.4: District versus metropolitan population and household growth trends, 2001–2018 (Census, 2001 & 2011 & CCT roof count, 2018)

Statistic	Planning district	2001	Annual average change 2001-2011	2011	Annual average change 2011-2018	2018	Annual average change 2001-2018
Population	KMPBD	872 425	2.75%	1 112 650	2.62%	1 316 494	2.99%
	Cape Town	2 893 399	2.93%	3 740 026	2.52%	4 400 240	3.06%
Households	KMPBD	215 860	4.24%	307 439	3.55%	383 844	4.58%
	Cape Town	776 781	3.76%	1 068 573	3.29%	1 315 015	4.08%
Average household size	KMPBD	4.04	-	3.62	-	3.43	-
	Cape Town	3.72	-	3.50	-	3.35	-

As of 2018, the number of households in the Khayelitsha, Mitchells Plain & Greater Blue Downs District is estimated at 383 844 (Table 2.4). As with population, the district accounts for by far the largest share of the 1 315 015 metropolitan households at 29.19%.

Between 2001 and 2018, household growth in the district has consistently been greater than that of population (Table 2.4). In this period, the number of households in the district has increased at an annual average rate of 4.58% – significantly greater than that of population at 2.99%. This is linked to an overall trend of decreasing household size, from an average of 4.04 persons in 2001 to 3.43 in 2018. The above dynamic reflects metropolitan trends, wherein the challenge presented by growing population is exacerbated by increasing numbers of households and the decrease in average size of households.

However, within the district, the rate of household growth displays a similar moderately decreasing trend to that of population. Between 2001 and 2011, the number of households in the Khayelitsha, Mitchells Plain & Greater Blue Downs grew at an average annual rate of 4.24%, which subsequently decreased to 3.55% between 2011 and 2018. As the decline in household growth rate has been more pronounced than that of population, the disparity between the two appears to be narrowing, suggesting that fewer households are splitting into smaller units.

2.3.2 Spatial Distribution

Within the Khayelitsha, Mitchells Plain & Greater Blue Downs District, the spatial distribution of households and household density largely and intuitively mirrors that of population (Figure 2.3). As with gross population density (2018 average of 12 218 persons/km² or 122.18 persons/ha), gross household density across populated areas is generally very low, averaging at 30.61 du/ha. Very few areas in the district have the necessary household densities to adequately sustain clusters of social facilities, viable public transport systems and economic activity. Where higher household densities do occur, they are generally coupled with the presence of significant informal settlements.

The correlation between population and household numbers also presents itself in household growth rates between 2011 and 2018 (Figure 2.4 & Figure 2.7). However, there are two notable exceptions in which household growth greatly outpaced population growth, namely Philippi East and Faure. Where population grew by an already exceptional 427.62% in Philippi East, households grew by 732.84% – almost double that. In the same time, population grew by 780.95% in Faure, while households increased by a staggering 2300%. As previously discussed, both of these areas have seen significant informal settlement growth in recent years. However, it must be noted that the high population and household growth rate recorded in Faure is more directly tied to its historically very low population. Therefore, even a small increase in the population and household numbers would translate to a large percentage growth.

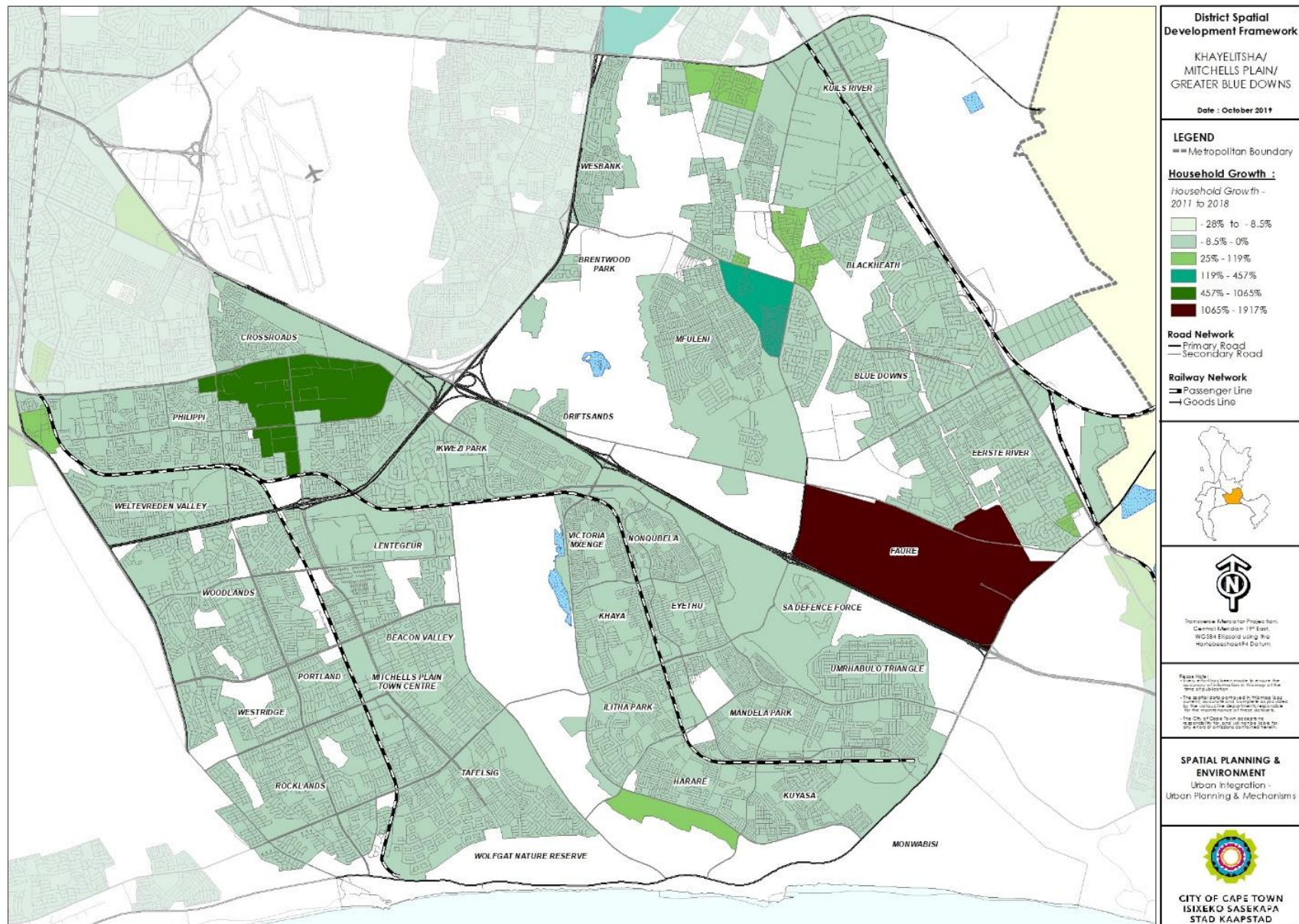


Figure 2.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District household change across populated areas, 2011–2018 (Census, 2011 & CCT roof count, 2018)

2.4 Employment

2.4.1 District Trends

As of 2011, 69.33 % (771 417 people) of the Khayelitsha, Mitchells Plain & Greater Blue Downs District's 1 112 650 residents are of working age (15–64 years old) (Table 2.5). Of the working-age population, 2/3 (64.47%) make up the labour force of 497 301 – a labour force participation rate comparable to most of the other seven districts (Table 2.5 & Figure 2.8). The remaining 1/3 (35.53%) is classified as “not economically active”. Of those not participating in economic activity, only 3.93% identify as discouraged work-seekers. The remainder (“other economically inactive”), abstain from work for a variety of reasons, ranging from full-time studies, duties as a homemaker/parent, disability or simply old age.

As of 2011, under half (42.98%) of the district's working-age population is employed – the lowest labour absorption rate among all districts (Table 2.5 & Figure 2.8). Consequently, 21.49% of its working-age population (greater than any other district) is unemployed. This becomes significantly more problematic when one considers these 165 747 unemployed persons as a percentage of the labour force – those actively looking for work or participating in the economy. In this context, the strict unemployment rate of the district stands at 33.33% – well above the metropolitan average of 23.88% (Table 2.5). Therefore, as of 2011, precisely one out of every three people in the district looking for employment is unable to find work.

However, the 2011 unemployment figure of 33.33% is the result of an exceptional decrease of almost 1/3 from that of 45.16% in 2001 (Table 2.5). Part of this is attributable to the slight decrease in the labour force participation rate from 68.36% to 64.47% in the same period, which indicates an increase in the proportion of not economically active people. Even so, this represents a significant improvement in access to and ability of people to create employment opportunities in the district.

**Table 2.5: Khayelitsha, Mitchells Plain & Greater Blue Downs District
labour force Indicators 2001–2011 (Census, 2001 & 2011)**

Labour Force Indicators	2001	2011
Population aged 15 to 64 years	494 627	771 417
Labour Force	338 140	497 301
Employed	185 443	331 554
Unemployed	152 697	165 747
Not Economically Active	156 487	274 116
Discouraged Work-seekers	-	30 294
Other not economically active	-	243 822
Rates %		
Unemployment rate	45.16%	33.33%
Labour absorption rate	37.49%	42.98%
Labour force participation rate	68.36%	64.47%

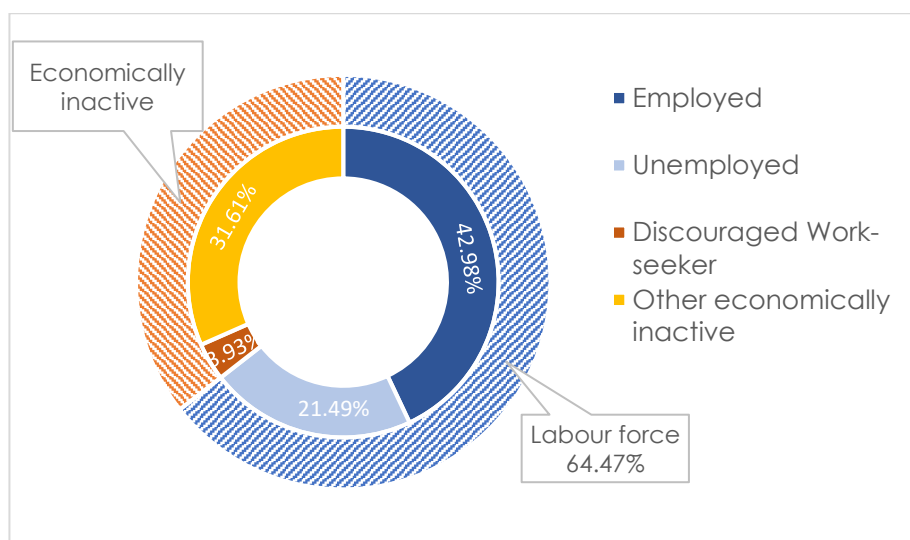


Figure 2.8: Khayelitsha, Mitchells Plain & Greater Blue Downs District employment status of working-ages persons (15–64), 2011 (Census, 2011)

2.4.2 Spatial Distribution

High unemployment rates are widespread throughout the district, reaching their peaks at 75.00% in Faure and 60.97% in Boys Town in 2011 (Figure 2.9). However, as of the same year, there is also significant variation recorded in unemployment between areas. Generally, unemployment displays the lowest ranges in areas located within the sub-districts of Mitchells Plain (10–30%) and Greater Blue Downs (10–20%). By contrast, areas in the Khayelitsha and Mfuleni Sub-Districts have a dominant unemployment range well above the district average of 33.33%. Unemployment is even more pronounced within the sub-districts of Site B, Site C, TR Section and Philippi, where several areas have unemployment rates reaching 40–50%.

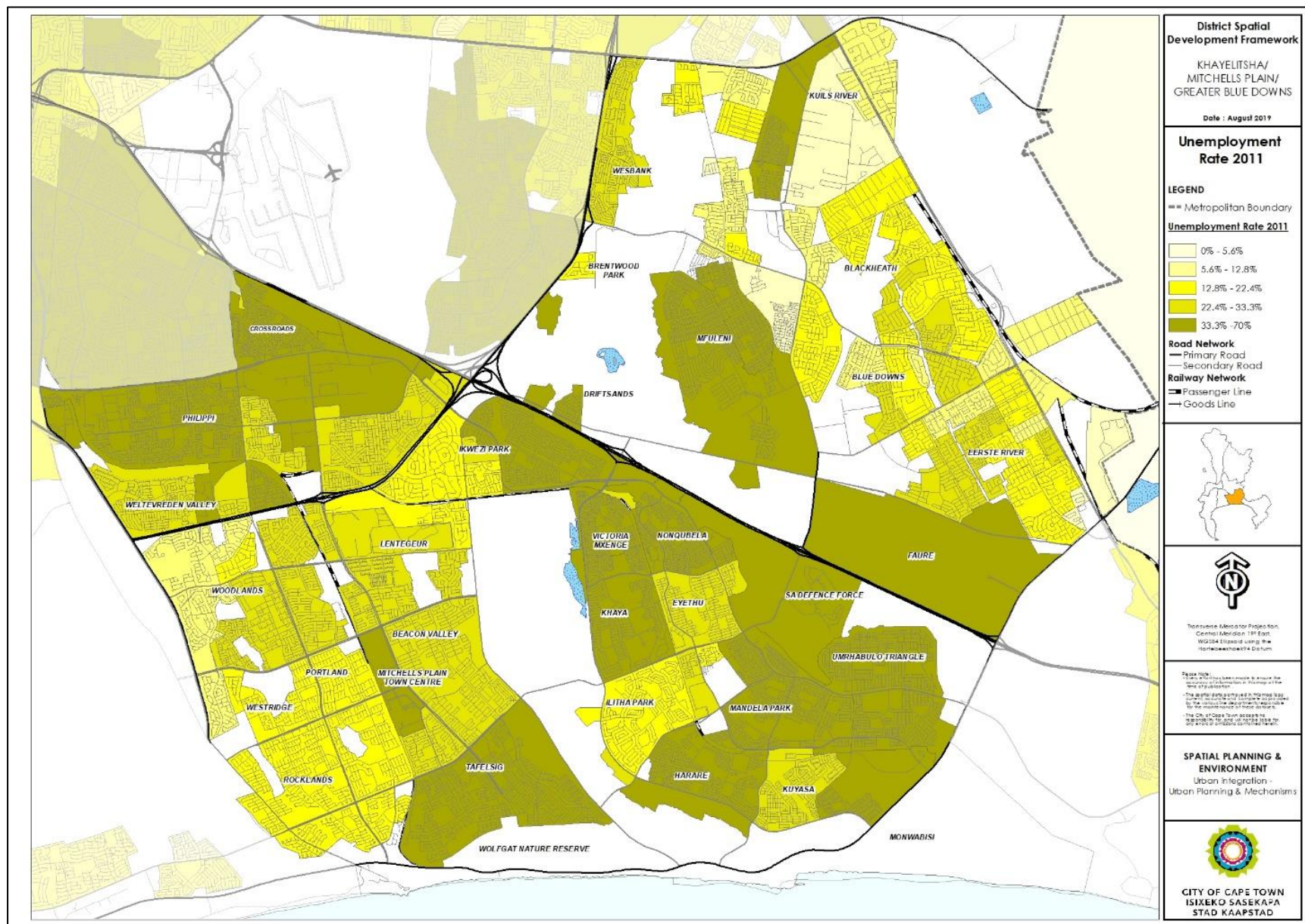


Figure 2.9: Khayelitsha, Mitchells Plain & Greater Blue Downs District unemployment rate spatial distribution across populated areas, 2011 (2011 Census)

2.5 Income

2.5.1 District Trends

As of 2011, The Khayelitsha, Mitchells Plain & Greater Blue Downs District has a fairly even distribution of households among the lowest four income brackets, such that almost 2/3 (63.98%) of total households live on an average income of less than R6 400 per month (Figure 2.10). Among these, 16.80% of households have no income at all. By extreme contrast, only 2.58% of households in the district earn an average monthly income greater than R25 000, with merely 0.44% of households earning within the top two income brackets. Between these two extremes, a combined 16.62% of households lives from more moderate average monthly incomes ranging between R6 400 and R25 000.

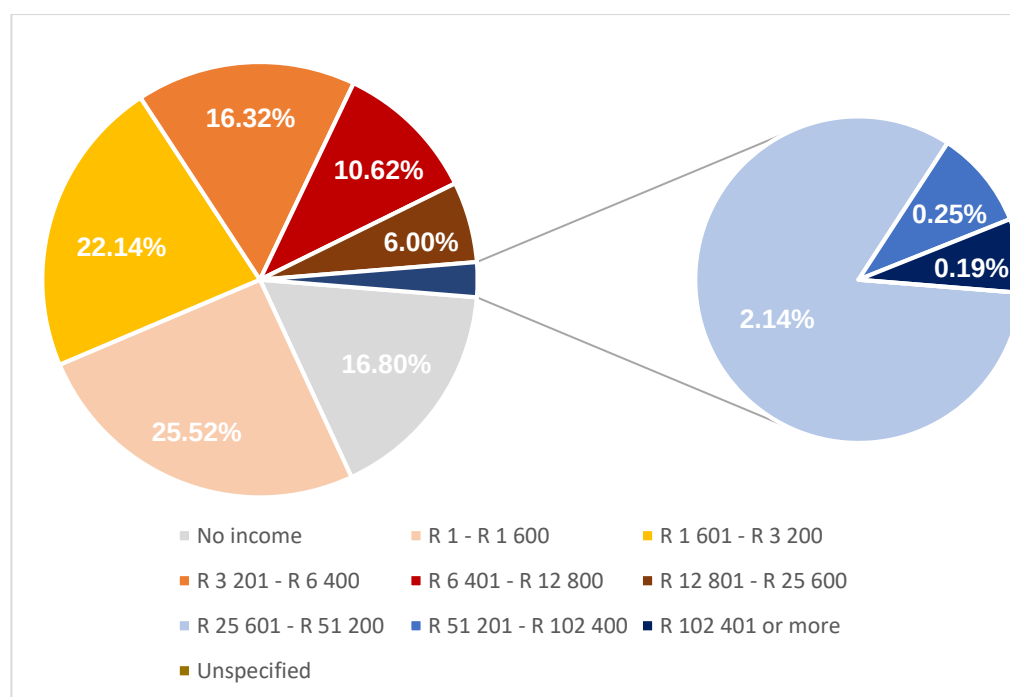


Figure 2.10: Khayelitsha, Mitchells Plain & Greater Blue Downs District average monthly household income distribution, 2011 (2011 Census)

As with the majority of Cape Town's eight districts, Khayelitsha, Mitchells Plain & Greater Blue Downs has seen a steady rise in income inequality between 2009 and 2018, mirroring the overall metropolitan trend (Figure 2.11). As of 2018, the district has a Gini Coefficient of 0.58 – more economically unequal than the Southern Peninsula and Northern District, on par with Tygerberg and Table Bay and less economically unequal than Blaauwberg, the Cape Flats or Helderberg. It is also below the metropolitan level of income inequality, measuring at an overall Gini Coefficient of 0.62. This is largely as a result of the widespread nature of poverty in the district, with exceptionally few households earning a monthly income in the higher brackets, as noted above.

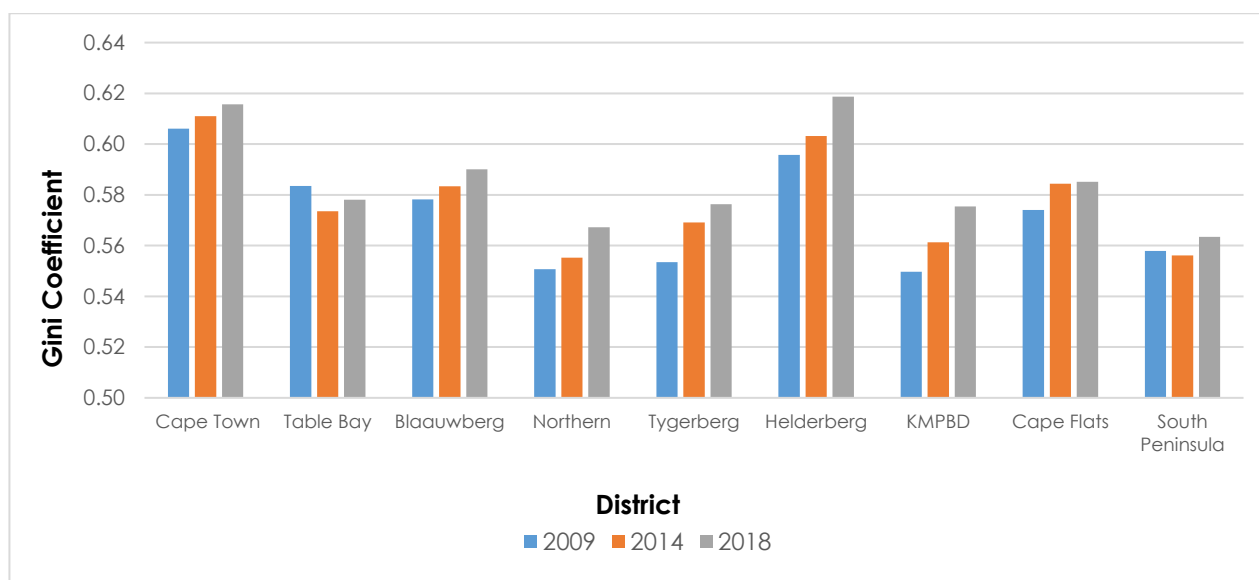


Figure 2.11: Metropolitan change in income inequality over time, as represented by the Gini Coefficient (HIS Markit, 2019)

Mirroring widespread metropolitan trends, the Khayelitsha, Mitchells Plain & Greater Blue Downs District Human Development Index (HDI) has been increasing over time, most markedly between 2009 and 2014 (Figure 2.12). In spite of this trend, the district HDI of 0.66, as measured in 2018, is the lowest of all districts, sitting well below the metropolitan average of 0.74. By contrast, the highest HDI was recorded in the Table Bay District at 0.81.

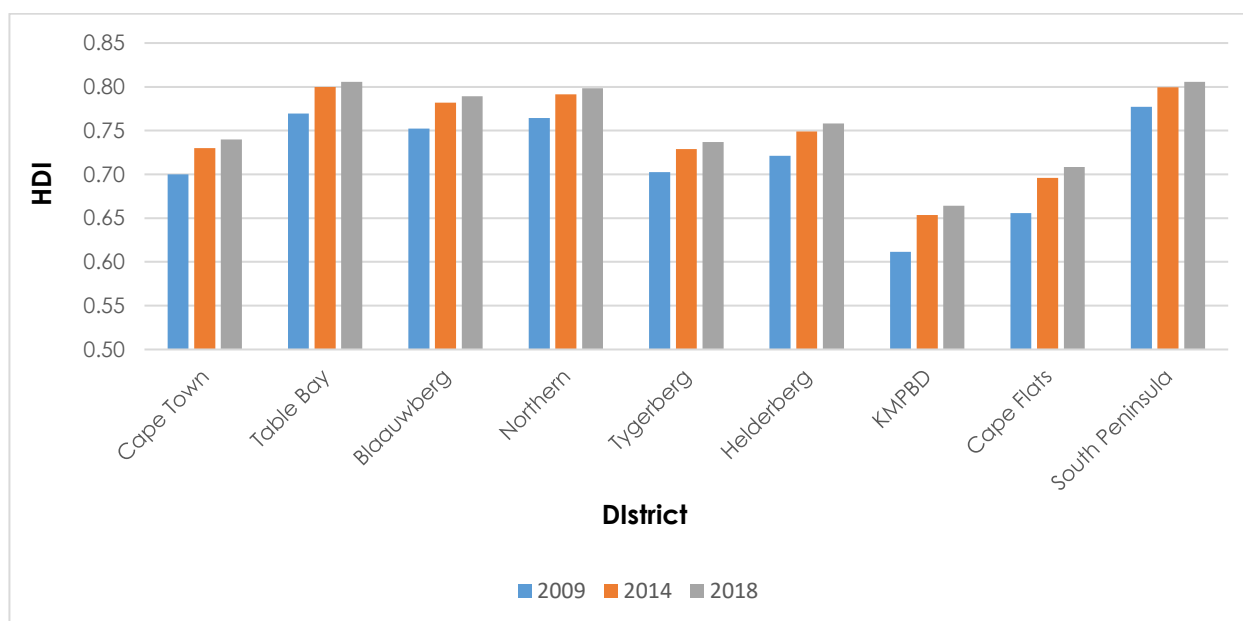


Figure 2.12: Metropolitan change in the Human Development Index over time (HIS Markit, 2019)

2.5.2 Spatial Distribution

As suggested by the above overview, income throughout the district is generally extremely low. However, like with unemployment distribution, there do exist finer nuances between areas (Figure 2.13). As of 2011, the poorest households are generally situated in Crossroads, Philippi, Weltevreden Valley, Ikwezi Park, Mfuleni and the outer areas of Khayelitsha, the

majority of which live on a median monthly household income of R800 – R1 600. The three areas of absolute lowest median monthly household income are Faure (R0 – R400) and Boys Town and Klipfontein Glebe (R401 – R800). These areas coincide with those with high unemployment as well as informal settlements.

The inner core of Khayelitsha is home to slightly wealthier households, mostly earning a median monthly household income between R1 600 and R3 200. These areas also have the greatest concentration of freestanding, fully owned homes in the district (see Chapter 7: Human Settlements).

Markedly higher income levels are observed in the Mitchells Plain and Greater Blue Downs Sub-Districts, with households in the latter emerging slightly wealthier than the former. Most areas in Mitchells Plain have a median monthly household income between R3 200 and R12 600, while the majority of areas comprising Greater Blue Downs survive on a median monthly household income between R6 400 and R12 000. Greater Blue Downs is also home to the wealthiest area in the district: De Wijnlanden, the only area with a median monthly household income between R25 600 and R51 200. Generally speaking, the two sub-districts of Mitchells Plain and Greater Blue Downs are also those with higher levels of employment. This, together with higher income levels, underpins the significantly greater degree of bond-financed housing in these areas (See Chapter 7: Human Settlements).

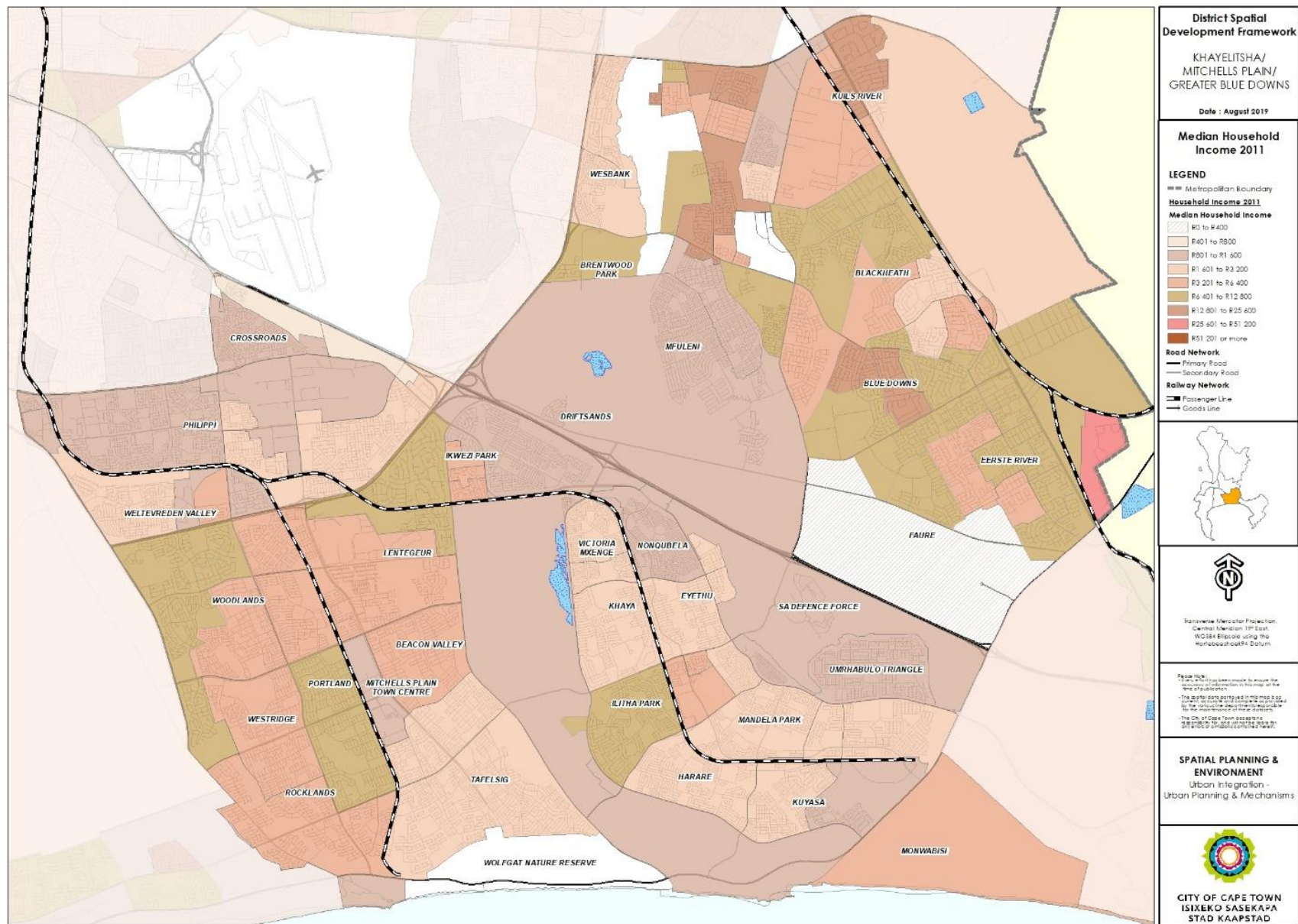


Figure 2.13: Khayelitsha, Mitchells Plain & Greater Blue Downs District median household income spatial distribution across populated areas, 2011 (Census, 2011)

B. STATE OF THE ENVIRONMENT

3 NATURAL AND HERITAGE ENVIRONMENT

The following section outlines the key environmental and heritage trends and spatial implications that have been identified for the Khayelitsha, Mitchells Plain & Greater Blue Downs District based on the Strategic Environmental Assessment, the City of Cape Town's State of the Environment Reports, the attributes for the district and other relevant policy documentation.

3.1 Status Quo, Trends and Patterns

3.1.1 Geology, Topography and Soils

3.1.1.1 Geology

The geology of the area consists of bedrock of slightly metamorphosed sedimentary rocks which underlies most of Khayelitsha/Mitchells Plain (Figure 3.1). Between present ground level and the bedrock, a number of layers of sandy sediments occur in various forms, some of which have been cemented into calcareous sandstone or sandy limestone. The most modern deposits are loose, reworked and mobilised by wind, some of them occurring as uncemented sand in dunes stabilized by vegetation. Key landform features linked to the underlying geology and related processes include the limestone cliffs at Monwabisi and Wolfgat and the remnant dune systems – both coastal (Kuils River, Macassar, Monwabisi, Mnandi, Wolfgat and Strandfontein Cape Flats) and inland (Swartklip, and within Rocklands, Westridge and Eastridge in Mitchells Plain).

3.1.1.2 Topography

(a) Limestone cliffs

During the Holocene period (18 000 – 16 000 years ago) the sea level began to rise and started eroding the coast northwards from the mouth of False Bay. Unique cliffs began to form as a result of the erosive force of the water. These cliffs can be seen at Wolfgat. The northern remnant is best seen in the south-eastern corner of the Cape Flats¹. The limestone cliffs found on the False Bay coastline at Wolfgat are recognized for their uniqueness, which has made them a rare landscape feature worthy of protection.

(b) Dune systems

The topography of the area has been altered significantly over the years. Rapid urban development has led to the obliteration of the subtle but clearly undulating systems of dunes. The remnants of these systems are however, clearly evident. These can be divided into three broad dune systems:

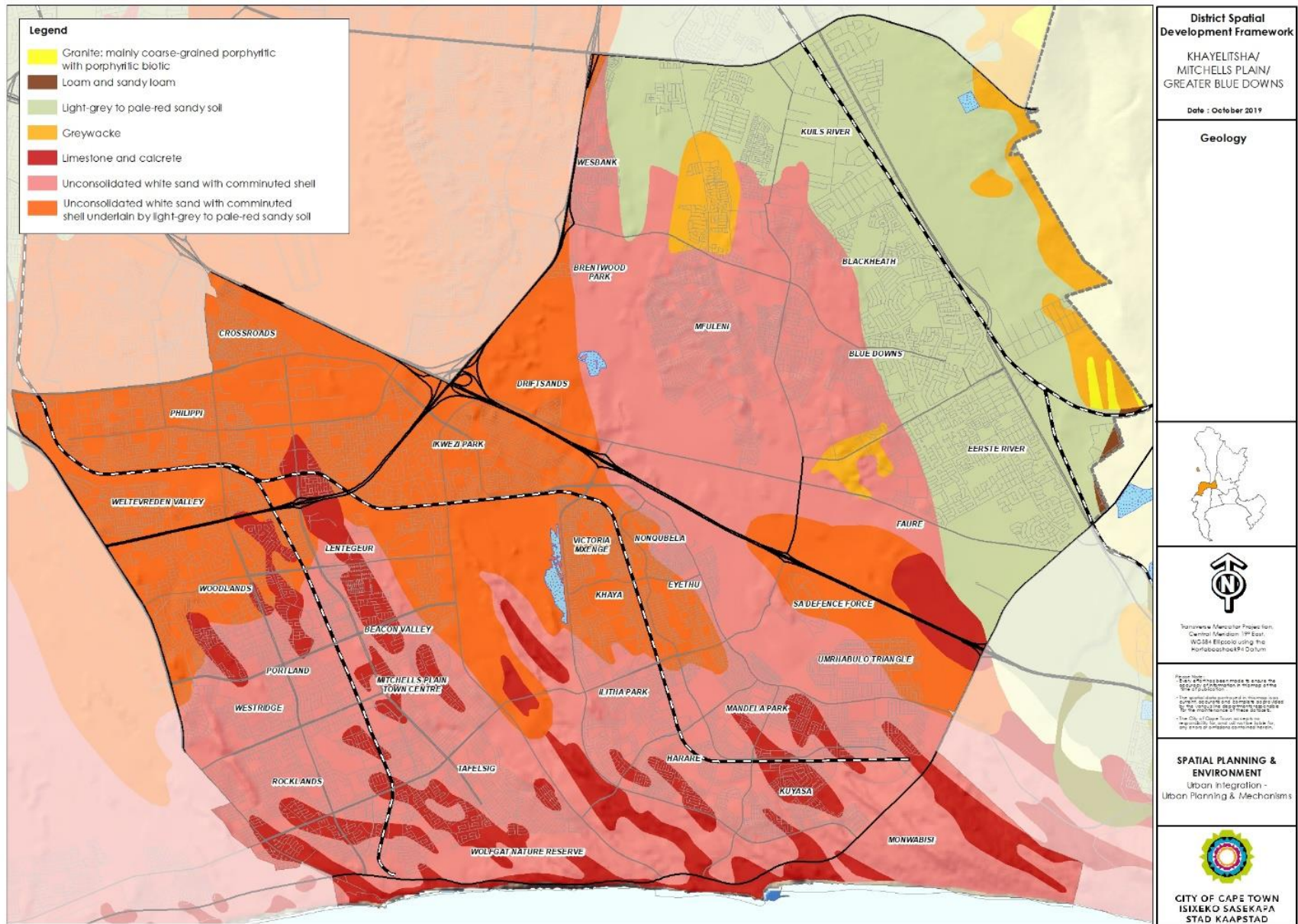


Figure 3.1: Distribution of underlying geology across the Khayelitsha, Mitchells Plain & Greater Blue Downs District

1. Embryonic dunes

A basic “pioneering” dune system, usually along the coastline and just above the high water mark². The earliest stage of dune formation, occurring as small mounds to low hummocks at the coast, often colonized or initiated by isolated plants³.

2. Parabolic dunes

A tongue of advancing sand with a rounded nose that migrates with the direction of the wind. Parabolics also produce two trailing edges (the two “legs” of “hairpin parabolics”). They can be unvegetated, but are generally stabilised by vegetation on dune sides.⁴

3. Dune sand overlying bedrock: sandstone, limestone, granite

Undifferentiated dunes which lack any structure, but cover bedrock. According to CCT (2004: 13) these are “undifferentiated dunes that lack structure but cover bedrock”. Since these dune systems, by definition, are described as unstructured accumulations of sand, the management implications are much less restrictive. However, dunes that have formed over limestone are viewed in a different light as they tend to support important vegetation types. These are considered sensitive to development.

3.1.1.3 Soils

There are no areas within the district that contain soil of high agricultural potential. However, the Philippi Horticultural Area, west of the district (situated within the Cape Flats District), is successfully farmed.

3.1.2 Geohydrology

The Sandveld Group deposits constitute what is known as the Cape Flats Aquifer. The aquifer is regionally unconfined and internally is essentially free of lateral hydraulic or geological boundaries that may influence regional behaviour. The aquifer is not hydro-geologically linked to any other aquifer, except the talus/scree material along the foot of the mountains in the west. The aquifer pinches out against “impermeable” boundaries in the east, west and north, while the southern boundary is defined by the coastline extending along False Bay between Muizenberg and Macassar. The aquifer is recharged principally from precipitation within the catchment. Groundwater flow in the Cape Flats is either to the west to Table Bay or south to False Bay. The water in the main part of the aquifer has a fairly low salinity, but is relatively hard. There is a build-up of salts in some pockets of the aquifer due to very high evaporation rates.

The aquifer has been significantly affected by urban development, but is still regarded as a viable supplementary water source for Cape Town. In the City of Cape Town Integrated Water Resource Planning Study 10, the aquifer was one of several options investigated to supplement bulk water supply. The key findings of the assessment of the aquifer's potential are summarized below:

- The aquifer has an estimated sustainable yield of 18 million m³/annum and can be utilised throughout the year.
- The location of the Swartklip waste disposal site and the Mitchells Plain waste water treatment works has increased the possibility of pollution of the aquifer water. It is, however, possible to design the layout of the well-field to minimize the pollution potential. The scheme would involve the drilling of 41 production and 20 observation boreholes as well as a water treatment works, buffer reservoir and pump station.
- The recommended well-field design would involve locating most of the high-yielding boreholes in parks, school grounds and open public spaces in the high-yielding zones, but would avoid the waste site and Mitchells Plain water treatment works. The boreholes in the eastern zone would have to be located in the north-eastern corner of the high-yielding zone so that the boreholes would be upstream of the old and the existing Swartklip waste disposal site.
- The possibility of pollution from these sources would thus be mostly negated. The boreholes in the western zone would be located to the east, west and north of the Mitchell's Plain waste water treatment works. The boreholes would be located as far as possible (at least 500 m) from the Philippi Horticultural Area to reduce the impact of pumping on the area.
- The possibility of seawater intrusion is limited because of the distance of the well-field from the coast.
- The water from the aquifer is extremely hard, but there are means to address this problem. Softening, filtration and disinfection will be necessary.
- The main source of recharge for the aquifer is precipitation within the catchment basin, which is normally between 500 and 800 mm per year. Recharge was calculated in 1980 when the Cape Flats were dominated by a dune-scape invaded by *Rooikrans* and Port Jackson. The recharge estimates have not been recalculated following urbanisation of the Cape Flats.
- The impact that urbanisation has on recharge is expected to be positive due to concentrated rivulets of storm water from roofs and paving, which can percolate into the aquifer. Light rainfall events, which normally would not have resulted in recharge events, add to the recharge of the aquifer due to the more concentrated runoff. The removal of alien vegetation, which utilises a lot of water, and its replacement with either irrigated gardens or barren open space also facilitates recharge. Subsequent to clearing and the housing development in the Blue Downs area, the water table has risen to such an extent that it is problematic.¹¹
- An initial consideration of the potential environmental and social impacts associated with water abstraction indicated that there are unlikely to be any impacts that cannot be addressed. However, should consideration be given to utilising the aquifer water, a full environmental impact assessment will be required.

3.1.3 Biodiversity

3.1.3.1 Vegetation

Cape Town falls within a unique and globally significant biodiversity hotspot. From an anthropocentric perspective, the city's biodiversity is a valuable part of its heritage and is an important driver of tourism, economic growth and social upliftment. The main national vegetation type occurring in this area is Cape Flats Dune Strandveld (Table 3.1), which is listed as Endangered and of which only 8% is conserved. Strandveld plays an important role in terms of corridors for animals, ensuring connectivity between the coast and inland. Approximately 76% of this vegetation has been transformed.

3.1.3.2 Fauna

There is a wide variety of avifauna in the area and those of conservation interest include the Bank Cormorant and Cape Cormorants (Endangered) and Crown Cormorants (Near-Threatened). There is also a heronry in the Khayelitsha wetlands and a Kelp Gull breeding area at the Wolfgat Nature Reserve. Only two threatened amphibian species are suspected to occur, including the Western Leopard Toad (Endangered). This species is suspected to occur along the eastern edge of the district and there are unconfirmed records from the Khayelitsha wetlands. The near-threatened Cape Rain Frog is also likely to occur in the northern areas of the district. It is not associated with wetlands and could be found in areas with remnants of natural vegetation. With respect to threatened reptiles, the vulnerable Cape Sand Snake is also suspected to occur in Strandveld vegetation in the area.

There are two butterfly species of conservation importance in the area, namely the False Bay Unique Ranger (Critically Endangered), found in seeps associated with the Cape Flats Dune Strandveld, and the Barber's Cape Flats Ranger (Critically Endangered), found in dune slack wetlands which have Cottonwool Grass.

3.1.3.3 Conservation Areas

There are a number of protected conservation areas in the district and they are discussed below.

(a) The Driftsands Nature Reserve

Driftsands is a 900 ha reserve, surrounded by informal settlements and state-subsidised housing development. It contains some of the last remnants of lowland Fynbos. Of the remaining 11%, a mere 3% is formally protected. In addition to the rare plants, scientists have also identified at least seven birds (including the African Marsh Harrier, Whiskered Tern and Marsh Owl), one reptile (the Cape Sand Snake) and two amphibians (the Cape Cacao and the Leopard Toad) that occur on the reserve.

Table 3.1: Conservation status of Cape Flats Dune Strandveld in the Khayelitsha, Mitchells Plain, Greater Blue Downs District (CCT State of Environment Report, 2018 & CCT 2009 Biodiversity Network Report for historical figures)

Vegetation type	Historic area in Cape Town (ha)		Area of remaining vegetation (ha)		% Remaining of historical area	% Historical area proclaimed/ managed	Ecosystem status
	2009 Biodiversity Network Report	2018 State of Environment Report	2009 Biodiversity Network Report	2018 State of Environment Report			
Cape Flats Dune Strandveld	40 000	40 000	19 100	18 315	44.4	23.8	Endangered

At Driftsands Nature Reserve, CapeNature's "urban" reserve, the grand vision for its use by surrounding communities continues to be pursued. Collaboration between the CapeNature and the Department of Social Services will see Driftsands being used as a venue for ongoing youth counselling, with the aim of including the natural environment as part of the counselling process. A suitable site for an initiation village, where the traditional Xhosa initiation rites can be performed, has been established through public participation. Another initiative that is well on track is the development of a cultural emporium that will be a hub for local artists and crafters to market their products to tourists. Other ideas for Driftsands include an organic vegetable garden, a medicinal plant nursery and the expansion of environmental education programmes.

(b) The Wolfgat Nature Reserve

This 248 ha area along the False Bay coast between the Mnandi and Monwabisi recreation resorts has been proclaimed as a local nature reserve. The reserve was originally recognised due to its unique natural vegetation, dunes and spectacular coastal limestone cliffs along Baden Powell Drive. It also boasts an abundance of space for outdoor recreation and nature-based education. The indigenous vegetation consists of Cape Flats Dune Strandveld (Endangered), which contains over 150 plant species. A major threat to the reserve is the invasive alien *Rooikrans* tree (*Acacia cyclops*). This species has spread across large parts of the coastline, smothering and killing local vegetation and severely disrupting coastal ecosystems. The nature reserve also supports a great diversity of fauna, including approximately 100 recorded bird species. A total of 15 mammal species have been observed or are likely to occur in the area.

(c) Khayelitsha Wetlands Park

The Khayelitsha Wetlands Park is a 45 ha park, supporting and conserving a range of species. The wetland is of important conservation value and is populated by many birds, including herons, and is a nesting site for a diversity of migrant birds. This makes it an important hub for ecotourism and the environmental education of local residents and visitors. There is a playground for children, skate park and African mosaic murals for added interest. The opportunities presented by this urban wetland park include the establishment of habitat diversity, environmental education, ecotourism, economic benefits, visual relief in an urban environment, recreation and social benefits.

(d) Macassar Dunes Conservation Area

The Macassar Dunes Conservation Area is a rich and varied natural area on the False Bay coast. The sand dunes of Macassar are protected as a conservation area, as it contains some of the best remnants of Cape Town's unique Strandveld vegetation. With its dense, evergreen shrubs and thickets, this endangered vegetation type is home to a wide range of plant and animal species. Cape Flats Dune Strandveld grows along the slopes of the dunes. Within the Macassar Dunes Conservation Area, one will also find a forest of White

Milkwood trees (Endangered). More than 80 different bird species can also be found in the conservation area. Some include the Southern Double-Collared Sunbird, Black-Shouldered Kite, Spotted Eagle Owl, African Black Oyster Catcher, Kelp Gull, Cape Bulbul and Cape Spurfowl.

The Macassar dunes provide essential ecosystem services, such as shielding from high winds and wind-blown sand, freshwater production and protection from storm damage. It is essential that the biodiversity of the area is conserved so that it can continue to provide these benefits to surrounding communities and visitors for years to come.

The conservation area has a fascinating cultural history as well. For many centuries, the Khoisan people living along the coast harvested their food and medicinal plants here. Also, in the 1600s, the first Muslim community in South Africa was founded here. The Sheikh Yusuf shrine at Macassar is the most important Muslim shrine in Cape Town. It rests on the summit of a vegetated sand dune close to Faure, near Macassar Beach. Over Easter weekends thousands of Muslims camp behind the Macassar sand dunes to pay tribute to the memory of the Sheikh.

(e) Welmoed (Penhill) Conservation Area

The Welmoed (Penhill) Conservation Area is one of 16 Biodiversity Agreement Sites that are owned by the City of Cape Town and managed by the City Parks Department. The Welmoed Conservation Area is 56.90 ha in size and comprises Cape Flats Sand Fynbos (Critically Endangered), Swartland Shale Renosterveld (Critically Endangered) and Boland Granite Fynbos (Vulnerable). It consists of more than 150 plant species, of which more than 14 species are of conservation concern as per the South African Red List categories. In addition to the plant diversity that occurs on this site, there is also a significant number of small mammals, reptiles, amphibians, birds and invertebrates that have been recorded.

3.1.4 Hydrology

The Khayelitsha, Mitchells Plain & Greater Blue Downs District has a diverse hydrological environment (Figure 3.2). Due to the district's large areas of shale and sand, it has lower volumes of surface runoff and hence fewer water bodies such as wetlands, reservoirs and dams than other regions within the metropolitan area. A notable exception are the wetlands of the Kuils River floodplain. At the same time, this abundance of shale- and sand-based soils translates to a generally very high water table.

3.1.4.1 Rivers and Estuaries

The Kuils River is the only major river that passes through the district (Figure 3.2 & Table 3.2). It forms the backbone of the Kuils River Corridor, which connects CapeNature's Driftsands Nature Reserve with Macassar Dunes and the coast. The central low-lying areas of Khayelitsha contain a series of interconnected wetlands (*vleis*), which form part of the Kuils River floodplains. Over the years, the catchment has become urbanised and the terrain

levelled. Large stretches of the river have been canalised to minimise flooding. The topography in the urbanised part of the catchment now has very gentle gradients, which slope inwards towards an artificial drainage system that runs down the centre of Khayelitsha. The river remains part of the stormwater management and some of the stormwater collected in the eastern areas of the township is drained into the river.

The Eerste River estuary meets the ocean at Macassar Beach on the False Bay coastline. The Eerste River is joined by the Kuils River approximately 4 km upstream of the estuary. The estuary is typified by a broad back ponding area with a highly mobile estuary mouth. The mouth is not canalised or fixed and is highly influenced by the prevailing coastal dynamics of a wind-driven sand system as well as altered flow due to urban and farming impacts on the greater catchment area. There is a large sewage treatment facility (Macassar Wastewater Treatment Works) located adjacent to the back ponding area and discharges final treated effluent directly into the estuary.

The flow of the river at the mouth is persistent as a net seawards flow. This is partly due to the wastewater discharge contribution, which has the effect of keeping the mouth generally open. Due to the fact that this system has a significant component of treated sewage effluent, the natural estuarine characteristics have been significantly altered. The objectives for managing such a system should therefore focus on the protection of infrastructure while allowing beach and dune processes to function as naturally as possible.

Table 3.2: Status of major rivers in the Khayelitsha, Mitchells Plain & Greater Blue Downs District (State of the Environment Report, 2018)

River	River health*	Most notable problems
Kuils River	Bad	• Canalisation • Release of treated effluent from urban areas and run-off • Littering • Infestation with alien vegetation • Infestation with alien fish in lower reaches

3.1.4.2 Wetlands^{1&2}

The Kuils River has a substantial wetland system associated with it in the north eastern section of the district (Figure 3.2). There is an extensive stormwater management system in the area and many stormwater ponds were created, as remnant wetlands began to fill up with stormwater after dunes had been levelled. Thus, many stormwater ponds now replace wetlands that used to occur in the district. Although polluted, these have recreational potential in association with parks and open space.

The Khayelitsha wetlands were once seasonal, but have become perennial due to inputs from waste water works. Urban agriculture can be considered in areas between the 1:50-year flood lines and the permanently wet areas, provided fertilisation and irrigation are

¹ Source: Draft Environmental Management Framework for Khayelitsha and Mitchells Plain Urban Renewal Programme, August 2005

² Source: State of the Environment Report, 2018

well controlled to minimise nutrient input into the wetlands. The area between the 1:2 and 1:50-year flood lines can be incorporated into the planning of open space and could be utilised for a variety of recreational, amenity, and productive land uses. These flood-prone areas are not suitable for housing.

The main flood-prone areas within the wetland area are the informal settlement upstream of Spine Road to the west of the river, the Silvertown area of Khayelitsha, the 9th South African Infantry military base on the north-western banks of the river and the 9th South African Infantry sewage works.

The Khayelitsha Wetlands Management Study identifies the wetlands (together with Westbank, Driftsands and the Macassar dunes) as an amenity node. Thus, there is a need to maximise the fitness for use of the water for at least intermediate contact recreation and reduce nutrients to minimise risk of algal blooms. Stricter standards for and control of sewage effluent as well as improved sanitation and storm water management will be necessary to achieve this goal.

3.1.4.3 *Groundwater*^{3&4}

The district is underlain by the Cape Flats Aquifer, which covers an area of more than 400 km² and extends from False Bay in the south to Tygerberg Hills and Milnerton in the northeast and northwest, respectively (Figure 3.2). The aquifer is regionally unconfined and internally is essentially free of lateral hydraulic or geological boundaries which may influence regional behaviour. The aquifer is not hydro-geologically linked to any other aquifer, except the talus/scree material along boundaries in the east, west and north, while the southern boundary is defined by the coastline extending along False Bay between Muizenberg and Macassar. The aquifer is recharged principally from precipitation within the catchment. Groundwater flow in the Cape Flats is either to the west to Table Bay or south to False Bay.

The drainage patterns are determined by the surface elevations. The major south-flowing surface drainage features are the Kuils River, Lotus River and Diep River (all in adjacent districts). The Kuils River joins the Eerste River (which flows from the Jonkershoek Mountains) ~3.5 km inland from the coast. Where the two rivers meet an area of wetland and marsh is developed in Khayelitsha, known as the Kuils River Wetlands. The Eerste River then flows towards the southeast and discharges at the ocean.

The water in the main part of the aquifer has a fairly low salinity but is relatively hard. There is a build-up of salts in some pockets of the aquifer due to very high evaporation rates. The aquifer has been significantly affected by urban development but is still regarded as a viable supplementary water source for Cape Town. Aquifer water would need to be softened, filtered and disinfected prior to use.

³ Source: CSIR Report, March 1995

⁴ Source: Indego Report

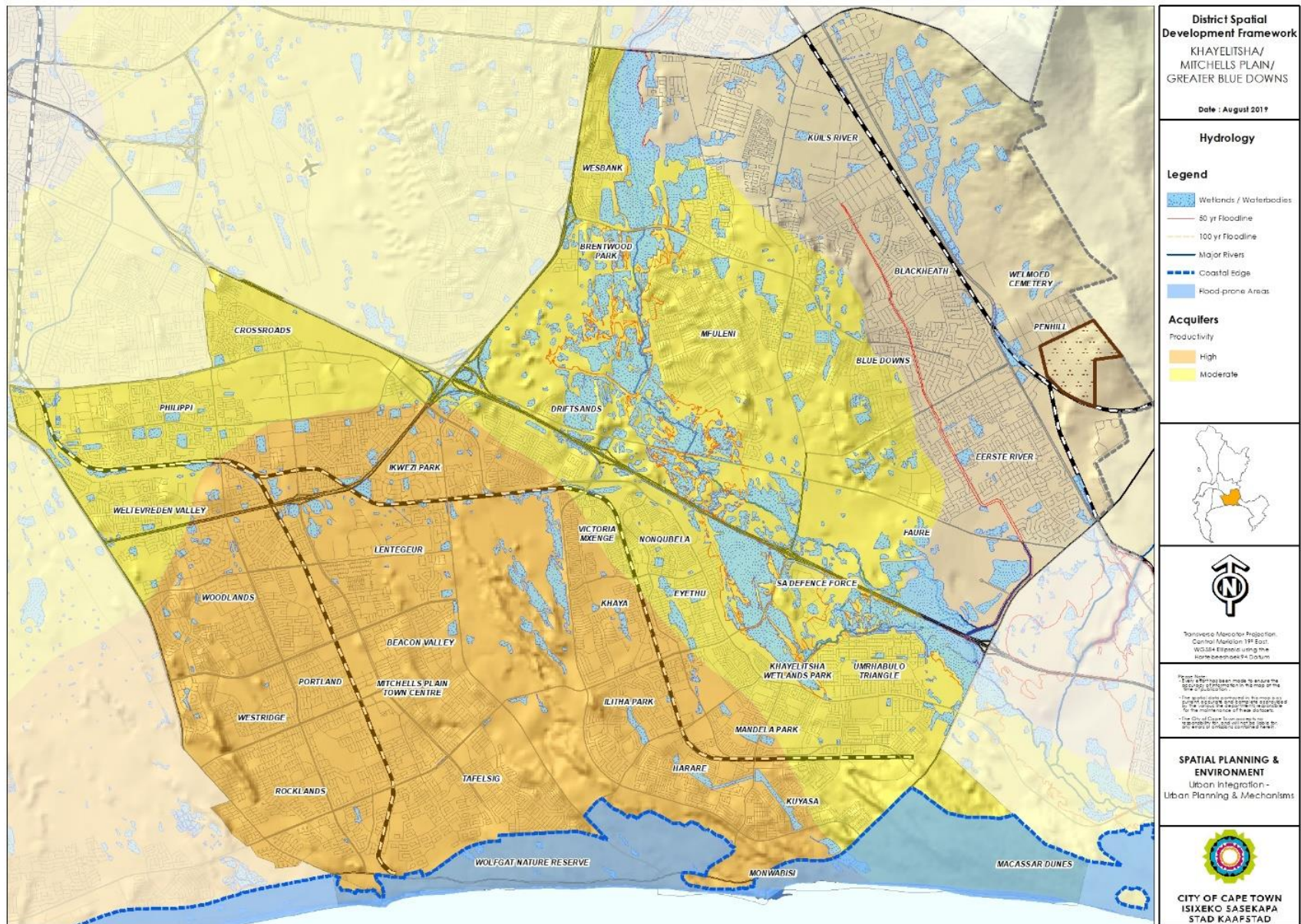


Figure 3.2: Hydrology of the Khayelitsha, Mitchells Plain & Greater Blue Downs District

The Cape Flats Aquifer is an important source of irrigation water for vegetable farming in the Philippi Horticultural Area (located to the west in the adjacent Cape Flats District). The recent drought that was experienced in Cape Town has placed pressure on finding additional resources to provide in the demand of water. The Cape Flats aquifer was one of the areas identified as part of the water augmentation scheme and detailed aerial mapping was done to find suitable extraction points. Potential locations for boreholes have been identified – school grounds, parks and public open space play an important role in enabling the aquifer to be used in the future.

3.1.5 Coastal Areas and Dunes⁵

3.1.5.1 Coast

The coast in this district is relatively intact, which makes it less vulnerable to the effects of storms or sea level rise. However, it is a dynamic and exposed coastline and any structures in the coastal area are vulnerable to extensive damage from wind and sand – and thus have very high maintenance costs. Access and security problems have hampered the realisation of the coast's considerable recreational potential.

Coastal nodes have been identified for intensification at Mnandi and Monwabisi 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. It may include a range of functions from businesses (shops, services and restaurants), social facilities (including recreation and resorts) and residential development.

3.1.5.2 Dunes

Macassar contains the tallest and most extensive remaining parabolic dunes on the Cape Flats. They offer exceptional views of the nearby Helderberg, Hottentots Holland and Kogelberg Mountains and the Cape Peninsula. Prior to the development of Khayelitsha, the length of the dune system was 8 km. With urbanisation, the length of the dune has been significantly reduced and most of the last of this remnant dune system can be found between Baden Powell Drive in the west and the Eerste River estuary in the east. The dune system has created a major physiographic corridor between the sea and the areas closer to Macassar Road. Its width varies between 3 km along Baden Powell drive and 1.5 km between Sheik Joseph's tomb and the coast. In spite of ongoing urbanisation, the Macassar dune system is still recognized as a significant feature of the Cape Flats landscape and can be seen from over 20 km away.

⁵ Source: City of Cape Town Coastal Management Programme, 2015

Two other remnant dunes which are of particular interest in terms of their effect on the landscape are the Lookout Hill dune, which gives panoramic views over Khayelitsha and the peninsula, and the Rocklands and Dagbreek dunes, which give views over Mitchells Plain. The dunes break the flat monotony of the Cape Flats and, if well managed, provide opportunities for both ecotourism and environmental education. However, when the dunes are not integrated into the urban fabric, they can become a security problem, as noted in the following sections.

Further to the above the dunes at the Khayelitsha wetlands, although they have been severely disturbed and reduced in extent, should be retained as a buffer around the wetland, whilst smaller dunes which occur within the wetland itself should be preserved.

The natural Rocklands dune area is the last existing dune, and is part of the Cape Tourism route. This route starts at Baden Powell drive and extends to Mnandi beach.

3.1.6 Agriculture and Mineral Resources ⁶⁷⁸

3.1.6.1 Agriculture

There are no areas with soil of high agricultural potential in the district. However, the Philippi Horticultural Area, located on its western boundary in the Cape Flats District, is successfully farmed. Furthermore, according to the draft EMF for Khayelitsha and Mitchell's Plain Urban Renewal Programme, August 2005, urban agriculture is an area of great potential. Although the soils in the Khayelitsha area are nutrient-poor, trench gardening can lower the input costs and incorporate recycling. The Kuils River Metropolitan Open Space System (MOSS) Study supports this form of agriculture in appropriate areas. The Khayelitsha Wetlands Management Study (1999) recommends the initiation of urban agriculture (e.g. market gardening) in the riparian zone between the 1:50-year flood lines and the permanently wet areas. Infrastructure for irrigation and careful control of pesticides and fertilisers would be required in order to maintain the water quality of the river. A zone of grass swales and other devices to trap pollutants and nutrients from the food gardens may be required. An area of about 25 ha east of the 9th South African Infantry sewage works could provide an area for short-term stock grazing. However, the study recommends that over time, cattle and goat grazing in Khayelitsha be phased out, as they cause significant erosion and water quality problems. Livestock grazing is not appropriate in Strandveld remnants, which would not historically have supported resident herds all year-round.

⁶ Source: Draft Environmental Management Framework for Khayelitsha and Mitchells Plain Urban Renewal Programme, August 2005

⁷ Kuils River Metropolitan Open Space System Study

⁸ Khayelitsha Wetlands Management Study, 1999

3.1.6.2 Mining

The district has significant sand resources which occur in three main areas, namely Philippi (on its north-western edge), Macassar (on its south-eastern edge) and Kuils River (towards the north-eastern edge). Philippi is the traditional sand mining area of Cape Town. Problems are experienced with illegal sand mining and mining in inappropriate areas, where there are conflicts with biodiversity as well as residential areas. The sand is used for fill, mortar and, to a lesser extent, plaster and concrete.

Building sand is also found within the Wolfgat Nature Reserve and along the Strandfontein coastline. There are also several “illegal” sand mines. Illegal sand mining has further taken place in the Monwabisi dunes, south-west of the formal sand mining area in the Macassar dunes. There is ongoing pressure to mine these dunes. Smaller amounts of sand are regularly removed illegally from remnant dunes in the area. This poses a danger for the neighbouring communities’ children, who are tempted to play in the dune areas and are vulnerable to suffocation from unstable collapsing dune faces. This activity also undermines the potential to derive other benefits from the remaining dunes.

3.1.7 Air Quality

The right to clean air is a basic human right. The quality of air is a key factor affecting the health of a city as air pollution represents a major health risk to residents. The three main types of air pollutants measured and reported on by the City of Cape Town are as follows:

1. Nitrogen dioxide (NO₂)
2. Sulphur dioxide (SO₂)
3. Particulate matter (PM₁₀)

In general, NO₂ levels have decreased over the past 12 years. They are generally within the guidelines standard. SO₂ levels have maintained low trends over the past 12 years, keeping within the guideline standards with discrepancies occurring every few years. However, PM₁₀ levels are more problematic and have considerably increased at most sites over the years. The Khayelitsha, Mitchells Plain & Greater Blue Downs District has higher PM levels from cooking fires and burning of waste, which is exacerbated by the high wind exposure in the urban area.

3.1.8 Green Infrastructure

Green Infrastructure can be defined as a strategically planned, designed and managed network of natural open spaces and “engineered” ecological systems which provide ecological, community and infrastructure services. In addition to further motivating for the protection of existing natural assets such as biodiversity and the coast, green infrastructure recognises the role and importance of a range of urban green spaces or parts of the urban system, including but not limited to gardens, trees, parks and storm water infiltration areas.

The City is in the process of identifying and mapping a green infrastructure network (GIN), identifying and ranking green infrastructure services, the opportunities they present and benefits they provide.

Metropolitan open space is a key component of green infrastructure. Cape Town's recreational open spaces are mapped in **Figure x (Chapter 4)**. Furthermore, a metropolitan open space network was prepared for the 2018 CTMSDF and will be reviewed through the GIN.

GREEN INFRASTRUCTURE MAP TO BE INCLUDED WHEN AVAILABLE

3.1.9 Heritage and Cultural Resources

3.1.9.1 *Historical Development*

The historical narrative of the establishment and development of Cape Town as a settlement, and into the city it is today, is reflected in its diverse cultural heritage and the wide range of heritage resources that form a sense of identity that should be preserved and conserved for future generations.

The Khayelitsha, Mitchells Plain & Greater Blue Downs District has many similarities to the Cape Flats District in that its historic development can be seen as a product of Apartheid town planning. Mitchells Plain was established as a township in 1971 by the City of Cape Town to accommodate people racially classified as "coloured" under the Apartheid regime who were evicted and forcibly removed from District Six. Pockets of smallholdings remain, especially along the Kuils River corridor and also towards the boundary with Stellenbosch. Khayelitsha was subsequently established in the 1980s on the drift sands to the east of Mitchells Plain.

3.1.9.2 *Archaeological Heritage Resources*

This district is an extension of the Cape Flats and similarly, there is a relatively small archaeological signature, possibly as a result of it being hot, dry and windswept in summer and wet and marshy in winter. Isolated stone artefacts and a human burial indicate that this area was frequented by indigenous people for many millennia prior to the establishment of the settlement at the Cape. It has been said that, at the time of the construction of the Strandfontein Pavilion in the 1960s, a number of Later Stone Age burials were disturbed in the dunes.

However, palaeontological remains have been found in the coastal dunes at Wolfgat Nature Reserve. These largely appear to be carnivore lairs and contain fossilized animal bone.

3.1.9.3 *Cultural Landscapes: Living Heritage*

The Rocklands Community Hall in the Mitchells Plain Sub-District was declared a Provincial Heritage Site in 2019. Apart from this, there are no formally protected cultural heritage sites in this district.

One of the challenges in heritage management in the district is the identification of Apartheid struggle sites and other sites where the heritage significance is intangible and not reflected in the physical fabric of the space. A secondary challenge has been the identification of sites of living heritage and cultural practices. Consequently, very few places of cultural and heritage significance in the district have been officially mapped or demarcated by the City, which constrains its ability to manage those spaces effectively. Living heritage practices should therefore be acknowledged, incorporated in and recognised as part of the district's cultural landscape and managed accordingly.

The Khayelitsha, Mitchells Plain & Greater Blue Downs District is characterized by high-density, low-income housing interspersed with pockets of undeveloped natural land (endangered and vulnerable ecosystems). Undeveloped land in this district fulfils a critical social role as sites of traditional practices relating to coming-of-age ceremonies and traditional healing, which form part of daily life in communities. As many of these practices require seclusion (visual and physical), it is necessary in the forward planning of the city to identify these spaces and ensure that provision is made for their protection.

Some of the traditional practices referred to above include the following:

(a) Male circumcision and initiation practices

Male initiation and circumcision practices play a vital role among Xhosa-speaking communities in the Western Cape. Due to the District's urban nature, people do not own any land to practice this cultural ritual. The tendency in Khayelitsha is for communities to use any open space they can find irrespective of land use and ownership.

The minimum requirements for an initiation site are:

- Reasonable distance from residential areas;
- Not visible to people, in particular women (i.e. in a vegetated area); and
- In an area not utilised or accessed by women during the initiation time.

Sites utilised for initiation vary. However, the following sites have been used for initiation purposes:

- Greenpoint circumcision site (Spine road off-ramp from the N2)
- Town 2 (behind the Magistrate's Court in the KBD)
- A's to C's (land adjacent to Lookout Hill)
- Site B (portion of Greenpoint)
- Makhaza: Section 42 (behind dairy and Nade's shop)

(b) Traditional healing

Common practices of traditional healers include:

- Gathering medicine (Macassar dunes, wetlands)
- Cleansing ritual (require secluded land)
- Male initiation ceremonies

(c) Keeping of livestock

Animals (cattle, sheep, goats, horses, donkeys, pigs) are used for cultural rituals and economic practices. Grazing and keeping of livestock occurs on all vacant land irrespective of ownership and land use.

(d) Burial sites

It is cultural practice to bury and not cremate the dead. The cemetery is thus culturally significant and will need to be expanded.

(e) Various uses of the sand dune areas

The sand dunes are used for the harvesting of wood and medicinal plants. Lookout Hill, located on Bonga Road, is one of the last remaining sand dunes in the area, providing a view of the coast and across the Cape Flats scenic routes.

3.1.9.4 Scenic Drives

The development of a Scenic Drives Network aims to link the diverse parts of the Cape Town metropolitan area through the promotion of the scenic qualities and tourism potential along the existing road network. The following criteria are used to identify a scenic route:

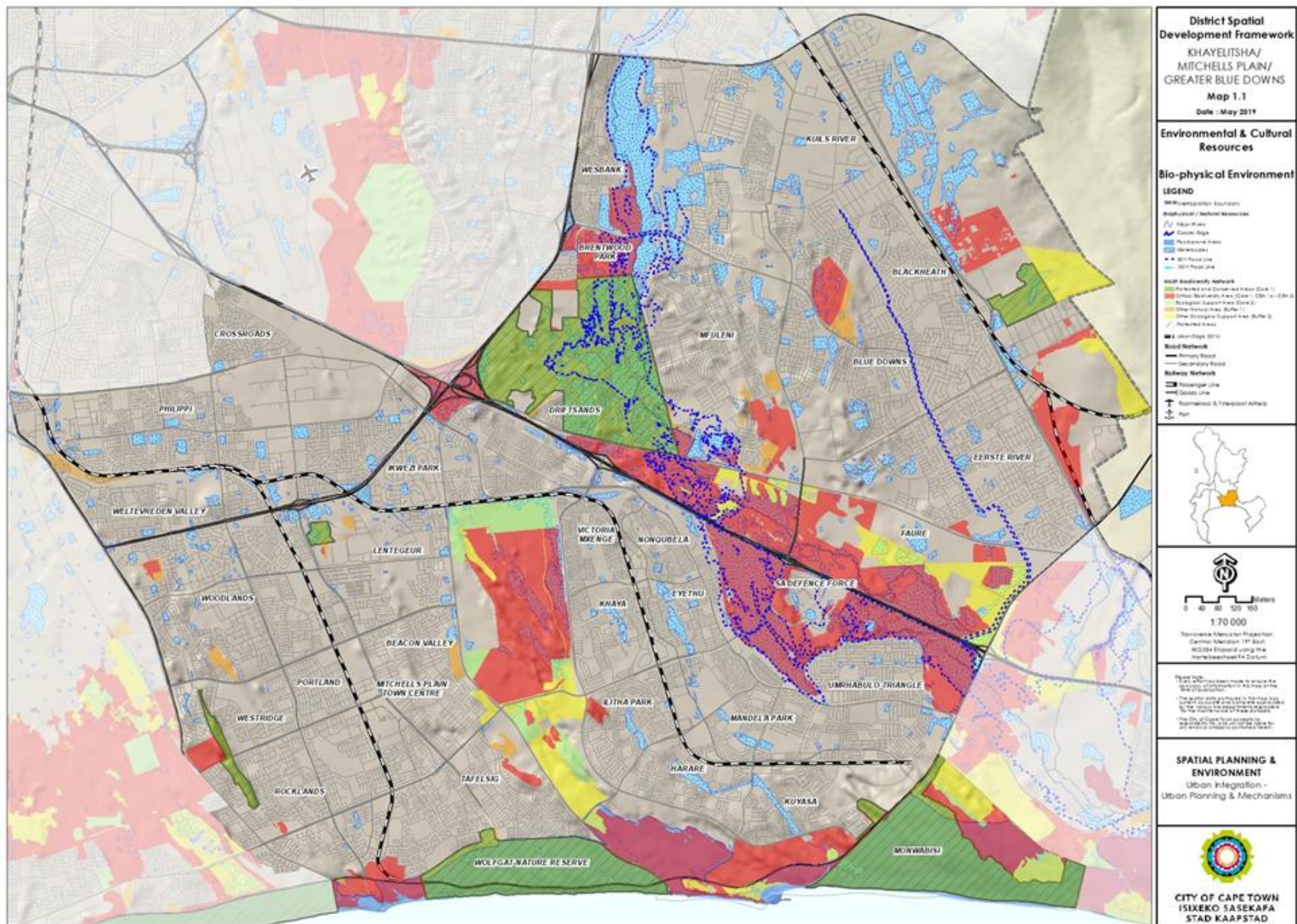
- Outstanding scenic qualities in terms of views (cultural or natural landscapes)
- Scenic qualities with a strong sense of place
- Range of scenic qualities
- High natural or cultural landscape qualities
- Links between major scenic, historical (or recreational) points of interest

Two main categories of Scenic Route were identified:

- S1: Routes fulfilling requirements of both "scenic" and "drive": limited access routes through areas of scenic value (largely natural/rural, with high scenic qualities)
- S2: Routes fulfilling the requirements of "scenic", but not "drive": Routes that traverse scenic areas, but which are frequently accessed (largely urban, but with high scenic qualities)

The Khayelitsha, Mitchells Plain & Greater Blue Downs District has one Scenic Route: Baden Powell Drive. It is the longest Scenic Route in Cape Town, functioning as the link between

the urbanised areas of Muizenberg and Stellenbosch. At the same time, the route originates at the Table Mountain range and extends along the False Bay coastline, passing through areas of pristine natural vegetation with views across the bay. As such, it is categorised as an S1 Route, fulfilling both “scenic” and “drive” functions.



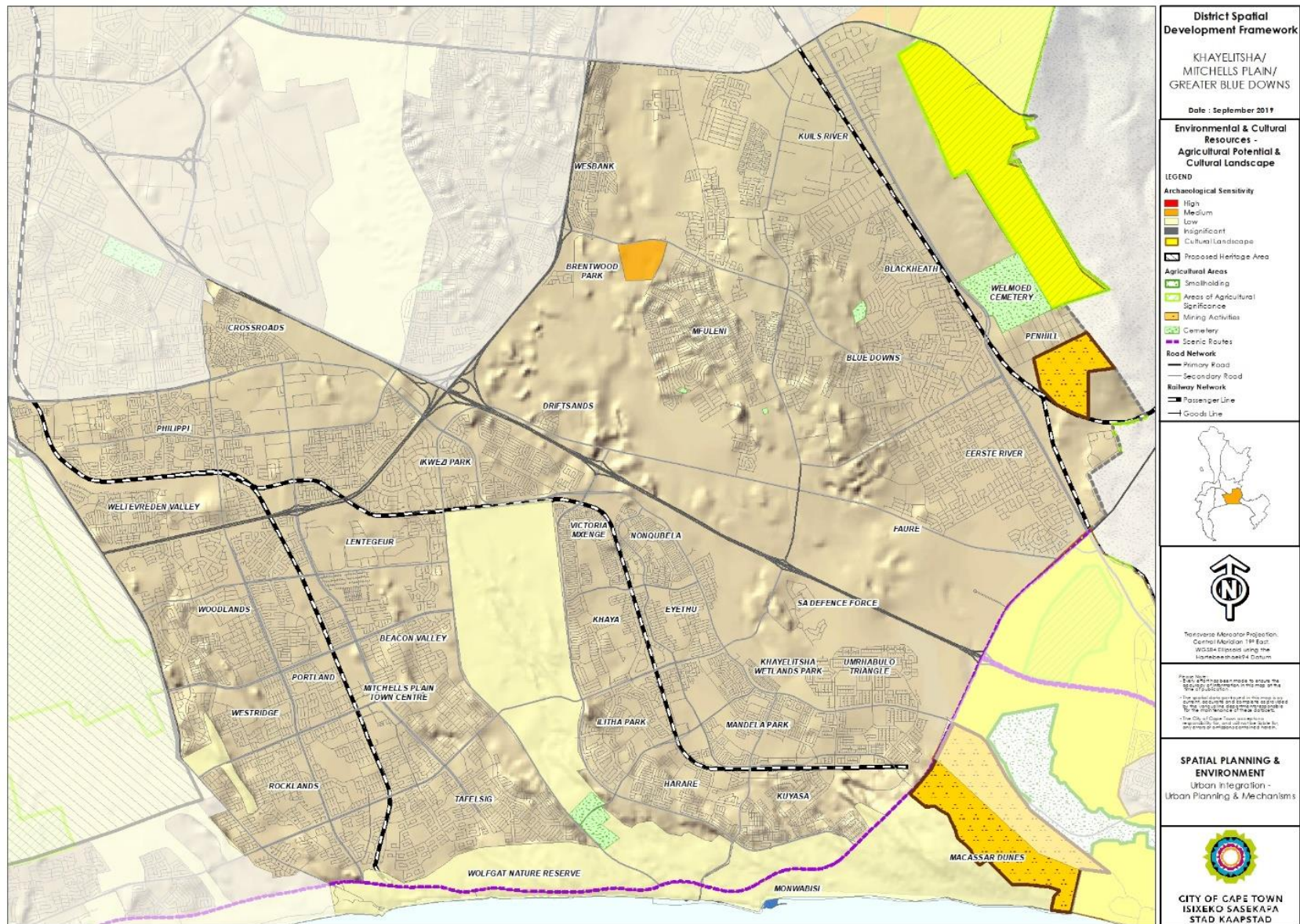


Figure 3.4: Composite map of the agricultural potential and (officially demarcated) cultural/heritage resources in the Khayelitsha, Mitchells Plain & Greater Blue Downs District

3.2 Key Development Pressure and Opportunities

3.2.1 Development Pressures and Constraints

3.2.1.1 Biodiversity

- Illegal harvesting of medicinal or other plants, including firewood.
- Natural fire regimes have been altered in the district due to an increased incidence of fires resulting from human activity and negligence. Fires thus occur more frequently than the historic interval of approximately 15 years. There is urgent need to prevent more frequent fires from occurring in Strandveld vegetation, as these will eliminate some species that have not evolved to adapt to such regimes.
- Hunting (snare and hunting with dogs).
- Loss and fragmentation of remnant natural habitat due to urban development pressure.
- Encroachment of invasive alien vegetation and fauna as well as development on rivers and wetlands.
- Illegal sand mining, especially in or near critical biodiversity areas.

3.2.1.2 Hydrology

- Demand for open space for cattle and goats – both of which have negative impacts on rivers and wetlands.
- Pollution of rivers and the aquifer.
- Development in areas identified as being potential aquifer water extraction points.
- Development pressures – specifically housing and associated services and infrastructure.
- Past land use activities (i.e. the landfill site and cemetery) that have polluted the aquifer and limited areas where water can be extracted.
- Potential for future changes in ground water and aquifer water quality and quantity due to climate change, in combination with increased hardening of surfaces due to development (potential for higher water table and possible ingress of sea water).
- Encroachment of informal settlements into storm water management areas, including detention ponds

3.2.1.3 Coastal Areas and Dunes

- Demand for more recreational areas on and access to the coast.
- Development pressures and demand for settlement/housing on the coast.
- Security issues (dunes overlooking residential areas). High crime rates constrain the potential for tourism development in the area.
- Encroachment of informal housing into dune areas as is happening in the dunes northwest of Monwabisi ('Monwabisi village') and the eastern edge of the Dagbreek dune ('Dagbreek informal settlement') and north west of Baden Powell Drive (Ekanini, which will be formalised).
- Illegal sand mining.

- Lack of capacity and resources to manage dunes and absence of an integrated dune management plan.
- Encroachment of development into coastal dune systems (e.g. the planned developments at Mnandi and Monwabisi).
- Inappropriate development along coast resulting in dune destruction (e.g. Monwabisi) and high maintenance costs associated with removing windblown sand.
- Costs (social and financial) of vandalism and crime constrain full utilisation of coast and its resources.
- High maintenance and management costs of inappropriately designed and located infrastructure (e.g. Monwabisi).
- The existing tidal pool and breakwater at Monwabisi create dangerous swimming conditions.
- Pollution of the southern portion of the Macassar dunes from the outflows of the pump station that is located in the dune area north east of the Monwabisi resort.

3.2.1.4 *Agricultural and Mineral Resources*

- Pressure to open more sand mining areas due to the demand for building sand (e.g. application to mine Dagbreek dune).
- Opportunity losses for future land use in the sand mining areas as mining is going so deep (into the water table) that post-mining land use options will be extremely limited.
- Presence of building sand in areas that are highly sensitive in terms of coastal dynamics and/or biodiversity, making it undesirable to mine this resource.
-

3.2.1.5 *Heritage and Cultural Resources*

- The development of natural heritage such as the Swartklip site as well as the coast.
- The Philippi East area has remnant clumps or avenues of large gum trees which also have heritage significance.
- Along the coast, there is evidence of Strandloper middens, and a paleaontological site occurs near Wolfgat Nature reserve (although vandalism and natural erosion have largely removed any evidence of the site).
- There are many contemporary heritage areas associated with struggle sites or meeting places (usually located in schools or halls) which have no protection status and which are vulnerable to alteration or loss.
- Many of the undeveloped open spaces are used for cultural practices, such as initiation. There are no formally recognised initiation sites.
- Lack of awareness of what constitutes an archaeological and/or palaeontological resource/site is likely to lead to accidental (or possibly intentional) destruction of possible sites. Many of the resources are likely to have been buried and only movement of dune sand or excavation activities (e.g. mining) are likely to reveal possible resources.
- There is a high risk of historical and cultural sites being overlooked in the rapid development process

3.2.2 Integrated Opportunities

Conservation of core environmental features and assets (including POS, beaches, rivers, wetlands, biodiversity etc.) will yield the following integrated benefits for the future growth of the city and its residents:

3.2.2.1 Economic Development

- Job creation and GDP growth through many different types of tourism possible in the area.
- Strategic and detailed planning for the Swartklip site (owned by ACSA) and the coastal nodes (Monwabisi, Mnandi, Kapteinsklip). Development of these areas should be geared to retention of their biodiversity value and creation of socio-economic opportunities.
- The coastal resort nodes of Monwabisi, Mnandi and Kapteinsklip (future) should aim to link the communities with the coast, but be designed in such a way as to maintain the east west coastal “green” corridor, which is critical for climate change adaptation and coastal protection.
- Sustainable harvesting of medicinal plants, selected flowers and fruits.
- The river and stormwater corridors present significant opportunities for multi-functional uses, including parks, recreation, and sport and, in some areas, urban agriculture. There is potential for managed and sustainable harvesting of wetland plant species (refer to the Metropolitan Open Space System reports).
- Protection and management of the Khayelitsha wetland park.
- Maximise cultivation and harvesting of indigenous plants for craft, medicinal and building purposes should be investigated. A medicinal garden has been proposed in the area west of Spine Road extension.
- There is significant potential for smaller-scale urban agriculture within Mitchells Plain, and particularly Khayelitsha
- Opportunity to use the sand resource must be realised in all areas where development is to take place (i.e. if there is sufficient sand that can be used)

3.2.2.2 Resilience

- Preservation of critical biodiversity and open space improves the city's ability to adapt to the impacts of climate change and mitigate risks associated with natural and unnatural disasters, by increasing our ecological footprint, diversifying natural resources, providing protection from storm surges and coastal erosion, etc.
- The Cape Flats Aquifer forms part of the water augmentation scheme as a potential source of water for Cape Town. This ground water source is critical for water security, especial in the context of more frequent droughts and a generally hotter, drier future climate in the Western Cape. The Cape Flats aquifer
- Rivers and wetlands provide flood control.

3.2.2.3 Social Development

- Creating a sense of place and belonging by preserving and enhancing the city's cultural identity.
- Outdoor and recreational spaces (i.e. POS, parks, beaches, vleis etc.) promote social contact and interaction.
- Environmental and heritage education (as is currently taking place in the Wolfgat Nature Reserve and Macassar dunes areas).
- Archaeological, paleontological research.

3.3 Spatial Implications for District Plan

Table 3.3 below documents the key spatial implications for the District SDF in order to mitigate any potential negative impact on the natural and cultural environment and enhance the opportunities associated with conservation of natural and cultural resources.

Table 3.3: Environmental Spatial Implications

NATURAL/CULTURAL RESOURCE	SPATIAL IMPLICATION
A. Biodiversity 	1. Conservation and appropriate sustainable utilisation of key biodiversity resources. A balance needs to be achieved between preservation in some areas and in others, conservation with sustainable use – e.g. harvesting of plants, ecotourism activities, particularly hiking and specialist ecotourism e.g. botanical or birding tours. 2. Retention and sustainable utilisation of 'green' corridors such as the coastal corridor linking Strandfontein to Monwabisi. 3. Ensuring developments face onto green corridors or conservation areas – for both security and amenity purposes. 4. Maintenance of indigenous vegetation types and habitat, particularly in green corridors. Topographical diversity must also be retained wherever possible to provide more varied habitats and provide wind shelter. 5. Conservation of specific vegetation remnants for endangered species. The Khayelitsha Wetlands support a multispecies heronry in its eastern section. It is used by migrant birds as a nesting site between September and January (Egrets, Herons, Ibises, African Spoonbills and Reed Cormorants). 6. Consideration of habitat requirements of key species when designing developments in Greenfield areas such as Mnandi and the Swartklip site.
B. Rivers, Wetlands and Ground Water 	1. Creation of viable river corridors with suitable buffer zones. 2. Restoration of river systems wherever possible, particularly through recreation of natural river systems which have both flood control and water cleansing functions (as opposed to canalised systems). 3. Prevention of inappropriate land uses next to or within the Kuils River, its floodplains and wetlands and any tributaries as well as over the aquifer. 4. Prevention of illegal dumping and littering, particularly in areas where dumped material can enter storm water or river systems. 5. Prevention of further encroachment of informal settlements into stormwater management areas and wherever possible, relocation of settlements that are currently located in flood zones

C. Coastal Areas & Dunes 	1. To manage, protect and sustainably utilise landforms that are of particular value, either scenically, or due to their ecosystem or other functions. 2. To restore landforms to either their previous state, or an agreed appropriate land use 3. Identification, conservation and sustainable utilisation of key dune systems. These include the dunes in the Wolfgat Nature Reserve, the Swartklip site, and the remaining dunes that have some conservation and socio-economic value in Mitchell's Plain 4. Retention, wherever possible of dune corridors – i.e. dune systems or systems that are linked to other ecological or river corridors 5. Retention and protection of the coastal cliffs at Wolfgat. 6. Wherever possible, relocation of coastal infrastructure and services into areas less vulnerable to coastal erosion and/or inundation. 7. Design and management of new coastal nodes (and any other coastal infrastructure). This will be particularly important at Mnandi and Monwabisi. 8. Retention of a functional ecological coastal corridor (including through the new coastal nodes) to maximise retention of biodiversity and faunal corridors and maintain opportunities for ecotourism. 9. Increase the safety and security of the coastal zone and amenities to encourage sustainable utilisation throughout the year. 10. Provide facilities for safe bathing.
D. Heritage and Cultural Landscapes 	1. Recognise and acknowledge living heritage practices and ensure the identification and protection of cultural landscapes associated with living heritage 2. Promote heritage and environmental education using archaeological and palaeontological heritage (information and sites where relevant) as illustration of eg effects of climate change, sea-level rise (coastal cliffs).

E. Mining and Agriculture



1. Extraction of sand in all areas where this is possible, taking the natural (biodiversity) and socio-economic conditions and status into account.
2. Prevention of illegal sand mining.
3. Adherence to EMPR conditions (rehabilitation plans for mining) – so as to enable desired post mining land use.

C.STATE OF THE BUILT ENVIRONMENT

4. LAND USE AND DEVELOPMENT TRENDS

As discussed in Section 1.11 District Overview, Khayelitsha, Mitchells Plain & Greater Blue Downs is characterised primarily by sprawling, low-density, dormitory residential neighbourhoods, designed and built in service of Apartheid racial segregation. As such, the district has very limited non-residential land uses (e.g. retail, commercial, office, social facilities and recreational) in comparison with the rest of the city. The district also has three industrial areas found in Blackheath, Eersterivier and Philippi, with some being more sought after than others in terms of development take-up.

Amidst this largely mono-functional development, large portions of “vacant” land are found across the district, zoned for agricultural purposes or as open space. However, these areas often coincide with the City's biodiversity network, including protected areas, water bodies and critical biodiversity areas. The most prominent pockets of remaining agricultural smallholdings are located along the Kuils River corridor as well as towards the boundary with Stellenbosch.

The following sections provide an overview of the key development trends per land use in the Khayelitsha-Mitchells Plain-Greater Blue Downs district. It is by no means meant to be an exhaustive list, but rather indicative of the status quo as well as emerging trends in the broader district.

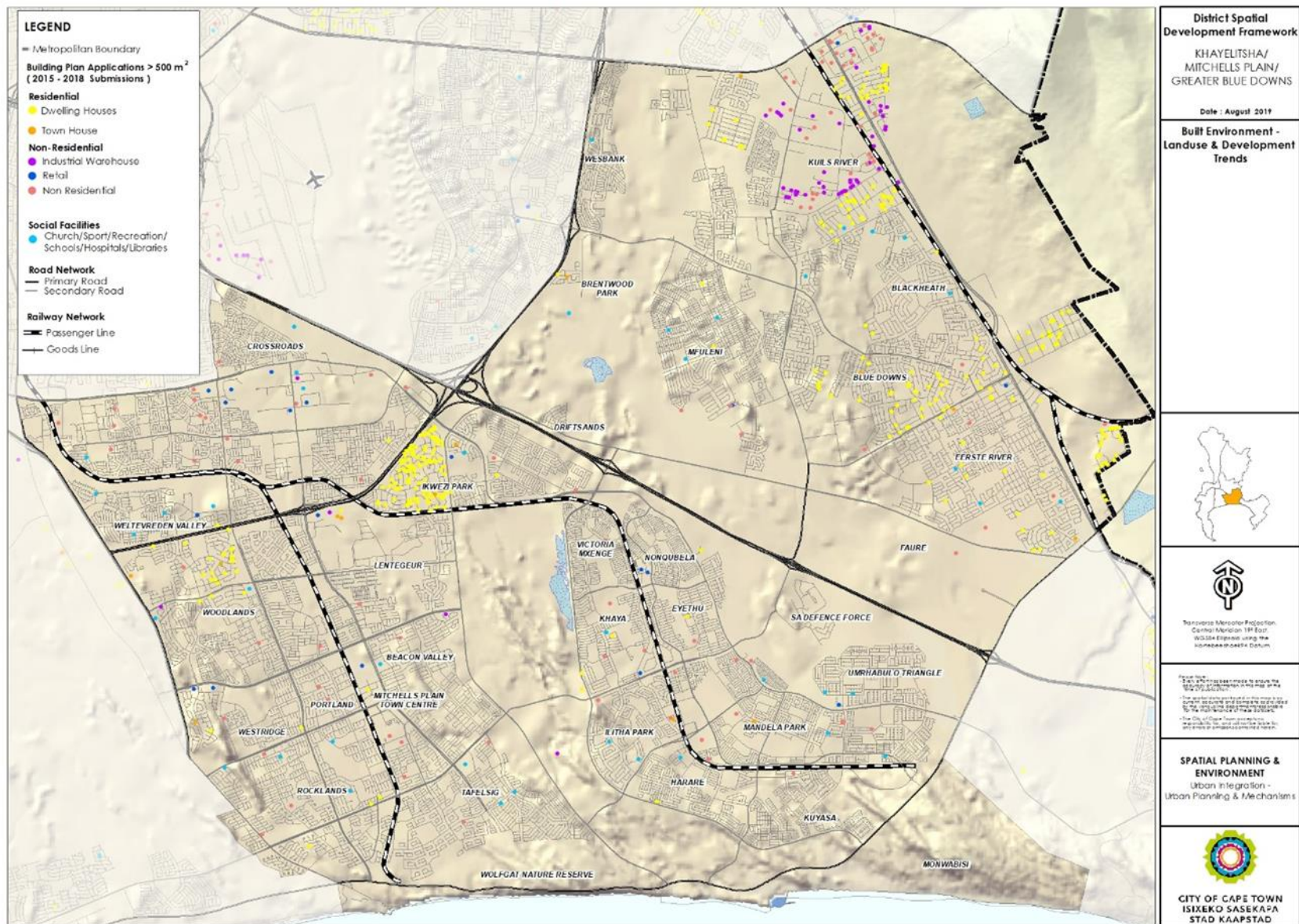


Figure 4.1: Khayelitsha, Mitchells Plain & Greater Blue Downs District building plan approvals according to land use type, 2015–2018 (CCT Development Management Department, 2019)

3.1 Residential

The district has seen a vast increase in residential development over the past five years, particularly in the form of GAP and subsidised housing typologies catering for low- to medium-income groups. There has been a trend of shifting towards more medium- to high-density developments. Incremental residential zonings (Single Residential 2) are predominantly found within Crossroads, Philippi, Mfuleni, Wesbank, Happy Valley and Khayelitsha.

The largest residential developments in the district over the past five years are outlined in Table 4.1 below:

Table 4.1: Largest residential developments in the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2014–2019 (CCT Human Settlements Department, 2019)

Development name	Sub-District	Housing typology	Status	Yield
Forest Village	Greater Blue Downs	Subsidy	Constructed	4 698 BNG 122 GAP
Watergate Village	Mitchells Plain	GAP	Constructed	260 GAP
Bardale Village	Greater Blue Downs	GAP	Constructed (8 phases)	Phase 1: 694 GAP Phase 2: 565 GAP Phase 3: 219 SR & 7 sectional title Phase 7: 420 GAP
Penhill	Greater Blue Downs (Blackheath)		Development authorisation granted	8 000 sites
Enkanini	Khayelitsha	Subsidy	Development application in progress	To be finalised
Happy Valley	Greater Blue Downs (Blackheath)	Subsidy	Constructed	
Belladonna	Greater Blue Downs (Blackheath)	GAP	Constructed	
Fountainhead	Greater Blue Downs (Blackheath)	GAP & Subsidy	Constructed	
Aloe Ridge	Mfuleni	BNG	Development application in process	1 368 BNG

In addition to the above, the Southern Corridor Human Settlement Programme focuses on the implementation of the N2 Phase 1 and 2 projects and upgrading of 27 linked informal settlements in the vicinity, which would benefit more than 50 000 households. The intention of the programme is to function as a joint initiative between the Western Cape Provincial Government and the City of Cape Town, which would include approximately 24 principal

projects. Figure 4.2 Figure 4.1 below indicates the locations of proposed projects that form part of the Southern Corridor Human Settlements Programme in relation to the location of informal settlements. It is noteworthy to mention that the district includes agglomerations of some of the largest of informal settlements within the city, including, but not limited to, Monwood, Kosovo, Marikana, Philippi TRA, Monwabisi, Enkanini, Green Point, Bosasa, QQ-, RR- and BM-Sections and Burundi.

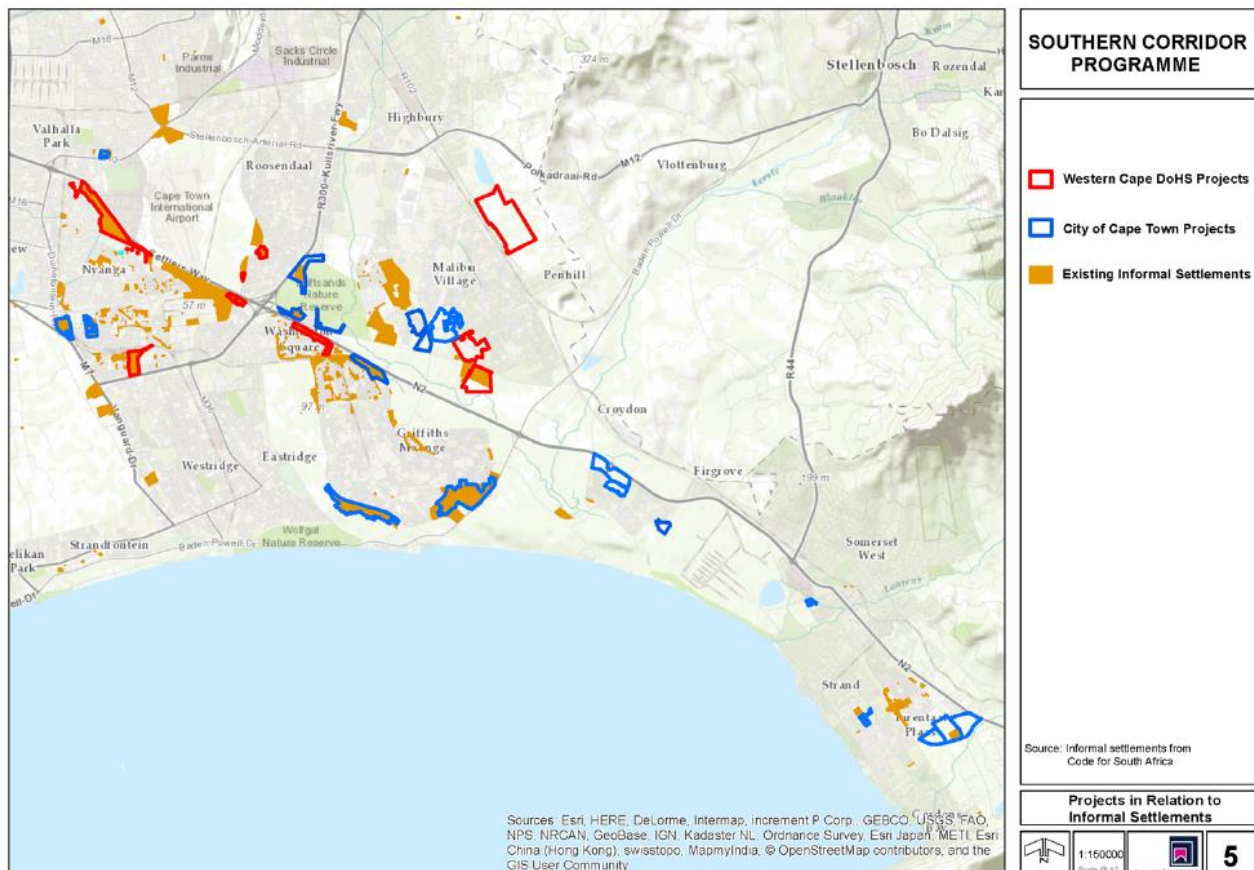


Figure 4.2: Proposed projects of the Southern Corridor Human Settlements Programme in relation to informal settlements

With the inclusion of second dwellings in Single Residential zoning as an additional use right, the process for obtaining such rights has been made significantly faster, in some instances only necessitating the submission of a building plan. The DAMS building plan data indicates that between 2012 and 2017, approximately 270 building plans have been submitted for second dwelling units. It should be noted that this is only an indication of formal submissions and does not provide an indication of the status or scale of informal and illegal constructions.

3.2 Industrial

There currently exist a several industrial nodes across the district, found in the Blackheath/Saxenburg, Philippi and Eersterivier areas. Smaller industrial pockets are also found in Khayelitsha (Spine Road and Ntlazane Road) and Blue Downs.

The Saxenburg and Blackheath industrial areas have been performing well over the past few years, as can be seen from the building plan data mapped in Figure 4.1. It can be

assumed that this is a result of their close proximity and accessibility to national freeways like the N1, N2 and R300. Furthermore, they are located slightly outside the heavily congested metropolitan centre, which makes these areas more attractive for many companies and entrepreneurs that do not need to be located within the city centre due to their nature of business, but still accessible in order to do business conveniently.

Other industrial activities are those associated with the Lafarge quarry and the adjacent defunct Eersterivier industrial area. The Lafarge quarry is very space-intensive and will still be operational for the next 40 years. However, it does not generate significant employment opportunities as with other similar types of industries. Furthermore, the Eersterivier industrial area to the south of the Lafarge quarry was rezoned in the late 1990s and the De Wijnlanden residential development was established on a portion thereof. The remainder was retained as industrial land and subdivided for that purpose, but due to no market uptake it was rezoned in 2018 for the purpose of mixed-use development, including residential, community, commercial/retail, open space and related infrastructure.

There has not been a large take-up of industrial land in Philippi. Furthermore, there is an apparent trend towards the provision of warehousing over more significant employment-generating industrial activity.

3.3 Retail and Office

There are very limited established commercial/retail developments within the district and the increase in retail developments has also been slow. It is noteworthy to highlight that a large retail development with a gross lettable area (GLA) of 25 000 m² was approved in Blue Downs in 2013 (corner of Hindle Road and Saxdown Road), but that this approval has never been acted upon.

The Khayelitsha CBD has not grown extensively and most of the land surrounding it is still vacant. Only Smaller retail developments such as the Site C Plaza and Harare Shopping Centre, which mainly serve their surrounding neighbourhoods, have been established since 2012. However, there have been initiatives from the private sector to intensify mixed uses adjacent to the Khayelitsha railway station in the form of residential mixed with retail opportunities. Similarly, Philippi has seen limited growth with the extension to the Philippi Shopping Centre and the new Philippi Plaza, while Mitchells Plain has seen the development of Watergate Shopping Centre on the corner of the R300 and AZ Berman Drive and additions to the Promenade.

3.4 Mixed Use

Applications that have been submitted for mixed-use development in the district have been predominantly small in scale and mostly comprise of retail on ground floor with residential accommodation above. There has not been a vast increase in mixed-use development in specific areas, but the trend has been to develop these uses primarily along main roads and movement corridors.

3.5 Home-Based Enterprises

The factors discussed above have resulted in a high unemployment rate and limited employment opportunities in the district, which has forced residents to find alternative sources of income. This is evident in the number of land use applications for house shops, liquor shops and early childhood development centres (ECDs). In addition to these, many property owners are submitting building plans for second dwelling units, which serves the dire need for additional housing opportunities whilst also creating additional rental income for property owners.

3.6 Agricultural Land and Smallholdings

The only areas in the district that has been actively, though not extensively, used for farming are located along its north-eastern edge, namely Jacobsdal, Penhill and Stellenbosch Farms. There have been enquiries from property developers for the potential rezoning of some of these properties for the purpose of light industrial uses.

Furthermore, Penhill also includes a smallholding area, located along Van Riebeeck Road and the Stellenbosch Municipal boundary. There have been a few applications for subdividing these smallholdings into smaller portions. The Penhill area has a development guideline which sets the minimum erf size at 2000 m² in order to protect its rural character, with a distinction between development areas closer to Van Riebeeck road and those closer to the edge of the city.

3.7 Monwabisi & Mnandi Coastal Areas⁹

The district has two identified coastal nodes, namely Monwabisi and Mnandi, which have historically been underserved. The Draft Coastal Economic and Spatial Framework for Cape Town has identified these as areas potentially developable as destination places, with a high volume of visitorship (recreation and tourism) through greater intensification within the existing coastal urban areas rather than transforming pristine coastal areas. The development of public transport infrastructure has also been highlighted as a key intervention in order to unlock the accessibility of these nodes.

3.8 Supportive Land Uses

There is a number of tourist-related features, including coastal nodes, nature reserves and local home enterprises, that is not attracting sufficient investment or gaining enough traction to promote and support the district's local destination places. The requests for the accommodation of telecommunication infrastructure (typically freestanding base telecommunication stations) are increasing, and the pressure on the development

⁹ Cape Town Draft Coastal Economic and Spatial Framework, November 2017

management offices to process these applications is high. Other supportive land use requests include home-based ECDs of varying scales, which primarily provide a source of income to unemployed community members.

3.9 Development Pressures

The areas that are currently experiencing the greatest amount of development pressures linked to limited capacity in terms of availability of land, services and infrastructure are listed below:

- Khayelitsha: Residential, retail for employment and initiation sites
- Mfuleni: Residential (formalisation of informal settlements), employment opportunities and initiation sites
- Blue Downs: Employment opportunities and development of the Blue Downs Rail Link
- Mitchells Plain: Employment opportunities and youth development initiatives
- Philippi: Residential and employment opportunities,

3.10 Vacant land

Figure 4.3 depicts all vacant land opportunities in the Khayelitsha, Mitchells Plain & Greater Blue Downs District. Vacant land has been grouped into four categories using criteria as outlined in Table 4.2. It must also be noted that land falling within the Critical Natural Assets and Discouraged Growth Spatial Transformation Areas (STAs), as designated in the CTMSDF, have been excluded from Figure 4.3

Most vacant land in the district is located either as part of nature reserves along river corridors or agricultural land. Properties shaded in blue and grey are land zoned for community or recreational use, and should ideally be reserved as such in order to accommodate existing communities and anticipated growth/intensification in residential development. However, there are some larger-scaled properties which can potentially accommodate additional mixed-use development (non-residential and residential land uses combined), other than only community or recreation. For example, the Swartklip site has been identified as a potential site for a mix of land uses and also to integrate the eastern and western halves of the district, which are currently being divided by this site. The development of this site would require extensive consultation between government and private sector, as the land currently is in private ownership. The majority of the red shaded sites are land parcels that has already been identified for human settlement development.

Table 4.2: Categories and their respective criteria used in the analysis of vacant land in the Khayelitsha, Mitchells Plain & Greater Blue Downs District

Code	Category	Description
------	----------	-------------

1	Underutilised vacant land:	Vacant Land without any of the following attributes: • reservations, • public projects (human settlements; social facilities etc.) • building plan approvals • rezoning land use approvals.
2	Potentially-utilised vacant land:	Vacant Land with any of the following attributes: • reservations, • pending building plan approvals, • any public projects in pipeline stage,
3	Utilised Vacant Land: (vacant land under development or a registered intent to be developed)	Vacant Land with any of the following attributes: • any public projects in planning or construction stage, • existing building plan approvals, • rezoning land use approvals
4	Vacant Land Reserved and/or Zoned for Community or Recreational use:	This will include vacant land currently zoned OS1, OS2, OS3, CO1, CO2. [Only applicable layers that did not fall within the utilised (3) of potentially-utilised (2) categories]
5	Vacant Land Zoned for Transport Use:	This will include vacant land currently zoned TR1, TR2 and Utility. [Only applicable layers that did not fall within the utilised (3) of potentially-utilised (2) categories]

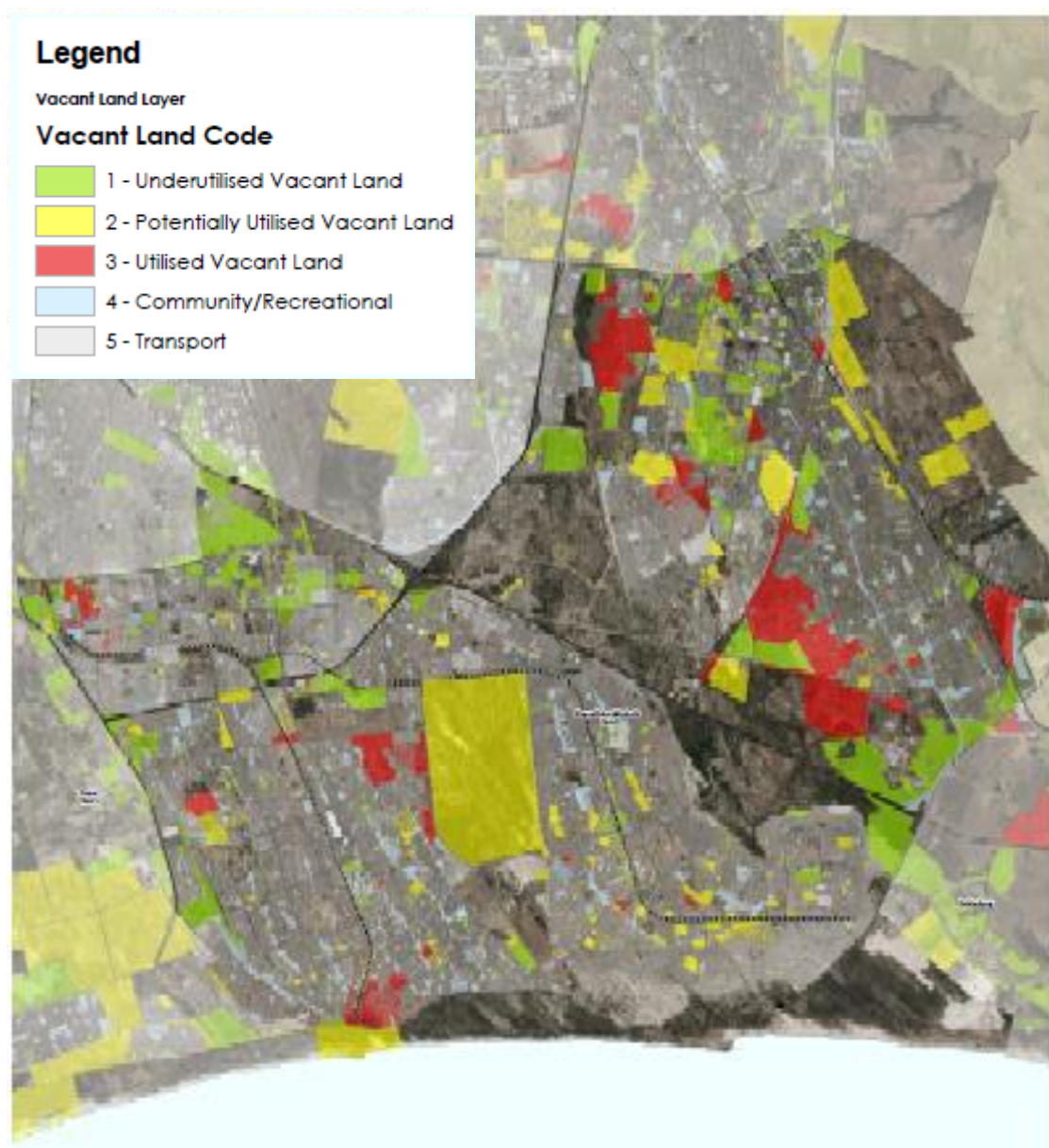


Figure 4.3: Vacant land distribution across the Khayelitsha, Mitchells Plain & Greater Blue Downs District

3.1.1 Key Opportunities and Constraints

3.3.1 Opportunities

- The area is attractive for lower- to medium-income groups in the form of subsidised and market-related housing.
- The Blue Downs Rail Link and associated planned transport infrastructure creates an opportunity to improve the public transport and improve mobility for residents.
- There are significant parcels of vacant land that could be optimally used for upliftment in the area.
- Private investor confidence is still prevalent in the number of housing developments (especially in the Greater Blue Downs Area) and this should be further facilitated, supported and directed.
- Capacity for viable and at-scale economic and job creation opportunities.
- Provide proposals to support small businesses.
- Growth Nodes: Two Urban Hubs identified in the MSE IZ is located in this district namely Philippi East and Mitchell's Plain Town Centre. There are numerous smaller nodes including Khayelitsha CBD. The City's ECAMP platform monitors performance and potential of the following nodes including Khayelitsha, Mitchell's Plain and Philippi East and North.

3.3.2 Constraints

- Large-scale development of residential opportunities without sufficient support services such as community facilities and infrastructure.
- Lack of capacity at the Zandvliet Waste Water Treatment Works in order to accommodate the growing need in the catchment area.
- The anticipated Blue Downs Rail Link has already been on the planning horizon for decades and the current projections indicate its earliest completion in 2025–2030. This makes it difficult to facilitate the current investor confidence in proposed nodes in the hope that their potential will be realised through public transport infrastructure in 10–15 years' time.
- Lack of employment opportunities for residents.
- Some informal settlements are located in flood-prone areas. This is exacerbated by a lack of planning for the formalisation of these settlements and/or the relocation of their residents.
- Safety and security are problematic in many of these areas as they are located within gangster territories.

4 TRANSPORT AND ACCESSIBILITY

4.1 Introduction¹⁰

This chapter provides an overview and analysis of the status quo of the mobility and accessibility networks within the Khayelitsha, Mitchells Plain, Greater Blue Downs District. There is a strong focus on transport as an informant of the CTMSDF, based on the principles of the Transit Oriented Development (TOD) Strategic Framework. This is in line with international planning trends, recognising the need for spatial planning tools to support public transport and non-motorised transport options, as well as reduce the need to travel. The CTMSDF now needs to be translated “down” in scale to a district level. This section therefore focuses on the application of TOD to a district/corridor level. Figure 4.1 below is useful in this regard, illustrating TOD at various scales.

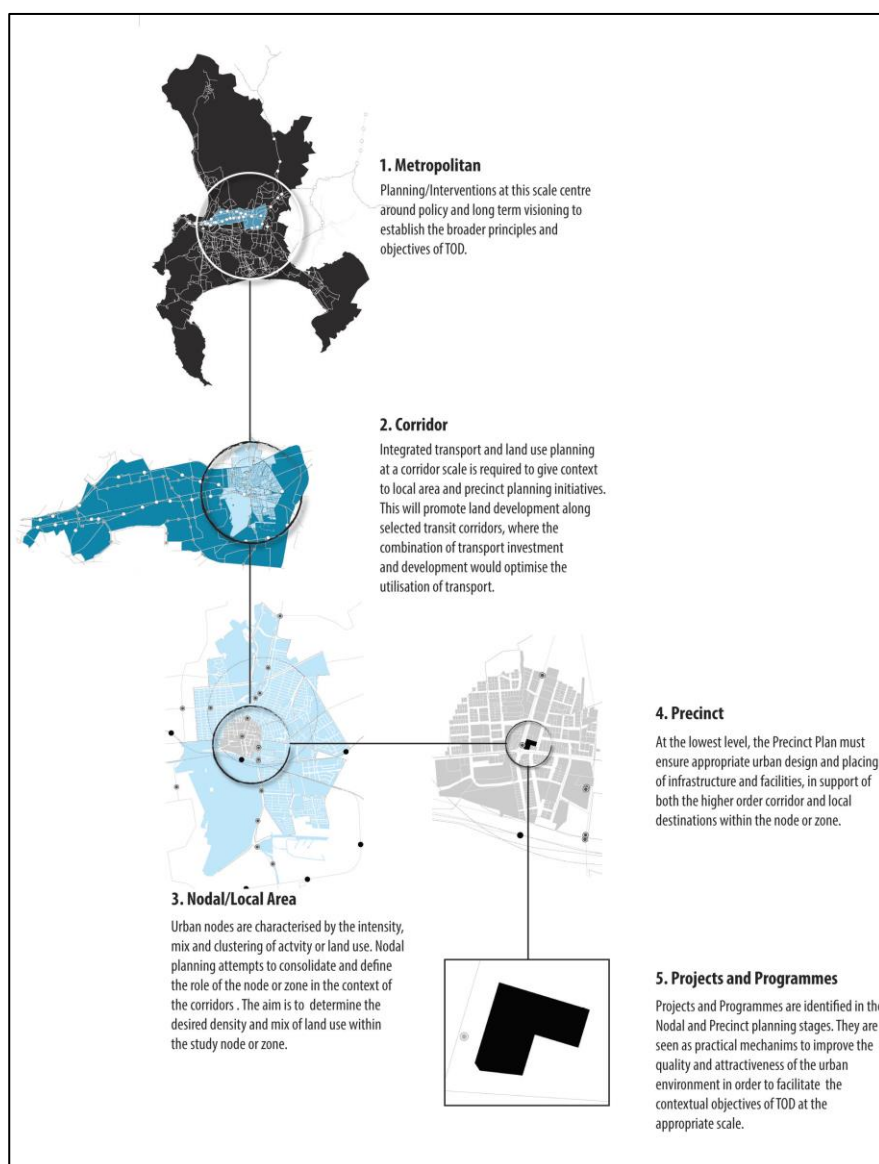


Figure 4.1: Transit oriented development concept illustrated at various scales (TOD Strategic Framework, 2016: 24)

¹⁰ Cape Town Transit Oriented Development Strategic Framework, 2016

At a metropolitan scale, there is a need to balance and shorten trips through:

1. Maximising the residential opportunities in and around the Cape Town CBD;
2. Maximising the work and other non-residential opportunities (e.g. education, recreation, etc.) in the Metro South-East; and
3. Enabling greater *internal* trip generation (i.e. balancing trip producers and attractors) in Atlantis, the greater Somerset West area and the far south of the city.

At a corridor scale, TOD requires the generation of bi-directional flow (to replace the current “tidal” commuter patterns), reduced travel distances to public transport and higher seat renewal (multiple origins and destinations along the route). Among other functions, the revised District SDF will identify which corridors in the district should be reinforced through appropriate land use proposals.

4.2 Strategic Parameters & Informants

Based upon various strategic intents and objectives, the City of Cape Town has developed a host of strategies which aim to guide the delivery of an efficient transport system and outline the primary framework within which the system develops. Further strategies address other transport needs such as non-motorised transport, universal accessibility, parking, operations, etc. These strategies are highlighted in the sections below.

3.3.3 District-Specific Transport Strategies

4.2.1.1 Blue Downs Integration Zone

The Khayelitsha, Mitchells Plain & Greater Blue Downs District comprises a substantial portion of this Integration Zone, which is a priority investment area for government facilities and services and has been the subject of an ongoing planning process and investment strategy (Figure 4.2). The revised District SDF will take cognisance of these plans, which contribute towards integrating the district with adjacent areas to the west and north. This integration is supported by the two major transport routes planned in this zone: the rail link between Khayelitsha and Bellville (via Blackheath), and the MyCiTi BRT trunk route along Symphony Way.

4.2.1.2 Metro South-East Integration Zone

The National Treasury enables metropolitan areas to identify and plan for corridors which serve to integrate previously separated parts of the city, through enabling and encouraging the spatial targeting of public investment into these areas. The Metro South-East Integration Zone (MSE IZ) is a combined plan and investment strategy to enable human settlement, social development, economic development and TOD. As above, a substantial portion thereof falls within the Khayelitsha, Mitchells Plain & Greater Blue Downs District (Figure 4.3). It is therefore an important informant of the revised District SDF. The priority local areas within the integration zone are Philippi, Mitchells Plain CBD, Lentegour, the Khayelitsha CBD and industrial hive and the Denel site in addition to two coastal nodes.

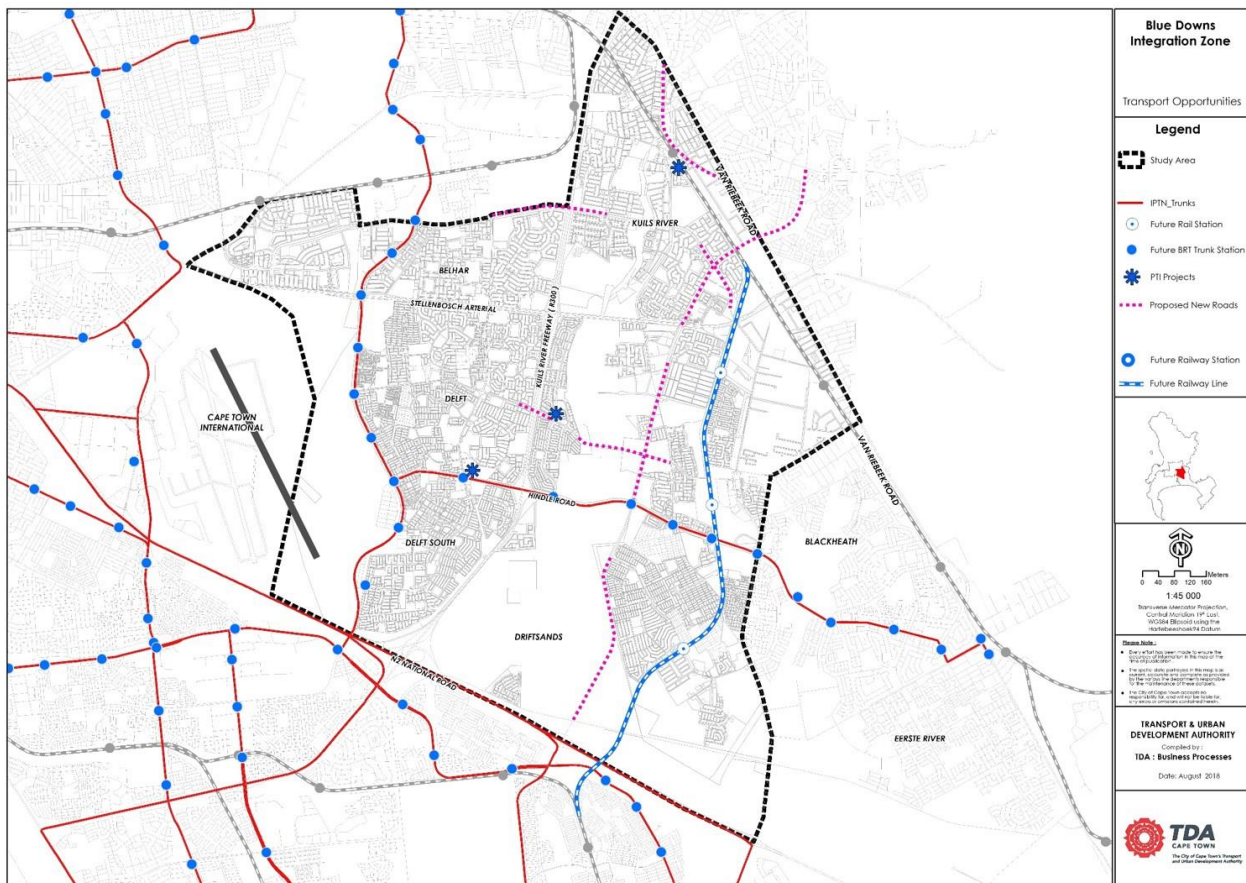


Figure 4.2: Blue Downs Integration Zone transport concept

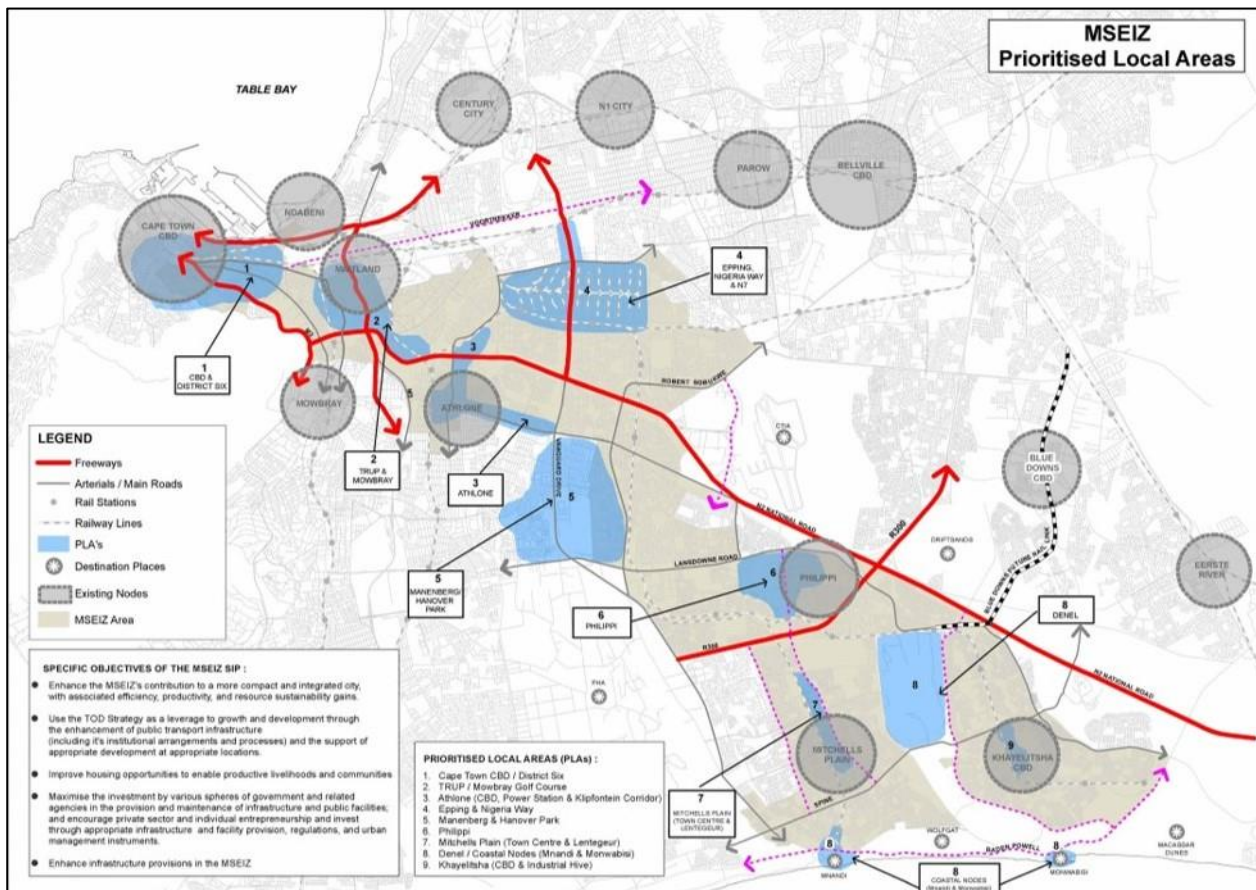


Figure 4.3: Metro South-East Integration Zone, showing prioritized local areas

4.3 State of Public Transport

3.3.4 Existing Infrastructure and Services

4.3.1.1 High Order Public Transport

(a) Rail

Transport in the southern part of the district is relatively well-provided for by passenger rail with eight rail stations located in the area along the Khayelitsha and Mitchells Plain lines, which split after Philippi Station (Figure 4.4). Several of these stations form significant interchanges with road based public transport including Philippi, Mitchell's Plain, Nolungile and Nonkqubela Stations. The north-western portion of the district is served by the northern line, linking Strand to Bellville and the Cape Town CBD. This includes a Business Express service, which attracts choice users and can be accessed at Eersterivier station in the district.

While the service has deteriorated since 2012, as a result of institutional failure, lack of maintenance and investment and ongoing vandalism and crime, the system will endure, and it is expected that service improvements will eventually attract back choice users, even if this is only in the medium term. Hence, the rail network continues to be an important structuring element in the District SDF.

(b) Bus rapid transit

An express bus rapid transit (BRT) service connects both Mitchells Plain and Khayelitsha to the Cape Town CBD (Figure 4.4). This does not enjoy a dedicated lane at this stage. It was provided to compensate for the reduced rail passenger services. Its future is thus dependent on future demand.

4.3.1.2 Low Order Public Transport

(a) Non-motorised transport

Most of the non-motorised transport (NMT) infrastructure and activity in the district is concentrated in low-income areas, along major routes which are safer (Figure 4.5). Despite high levels of NMT activity due to lack of affordability of other modes of transport, mobility is suppressed because of safety due to gang activity and crime. NMT connectivity across the district is also hampered by large parcels of undeveloped land, the railway lines and the N2 freeway. Furthermore, there are no NMT routes along the river courses through the district, although the Kuils River transverses much of the district. There is currently a program in place to identify where pedestrian bridges are needed to cross these barriers.

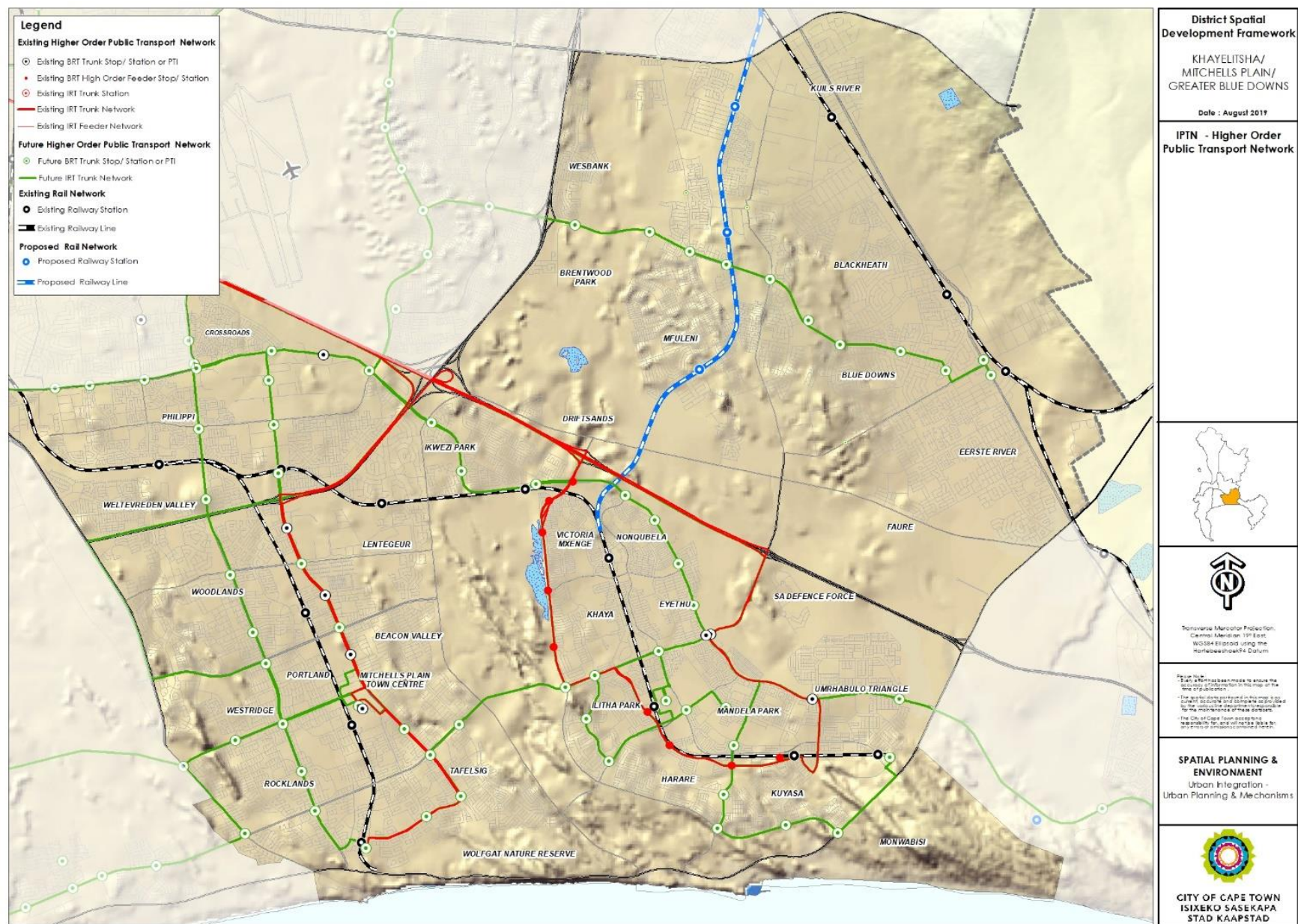


Figure 4.4: Existing and future high-order public transport services in the Khayelitsha, Mitchells Plain & Greater Blue Downs District



Figure 4.5: Existing and planned cycle routes across the Khayelitsha, Mitchells Plain & Greater Blue Downs District

(b) Minibus taxis and Golden Arrow Bus Service

Figure 4.6 below illustrates the main boarding and alighting activity of the main road-based public transport services: minibus taxis (MBTs) and the Golden Arrow Bus Service (GABS). The main road-based public transport networks are concentrated on higher-order routes. Jeff Masemola Road, Bongo Drive, AZ Berman Drive, Delft Main Road and Govan Mbeki Road are most significant in terms of high-frequency commuter-based services.



Figure 4.6: Intensity of boardings and alightings for road-based public transport

The public transport interchanges (PTIs) and MBT ranks that serve the district are outlined in Table 4.1 below. The strong reliance on public transport is reflected by the fact that several public transport facilities in the district are amongst the busiest in the city, including Mitchells Plain PTI, Nolungile PTI, Nonkqubela PTI and Philippi Station – all facilitating more than 30 000 passenger trips per day.

Table 4.1: Overview of public transport interchanges and minibus taxi ranks in the Khayelitsha, Mitchells Plain & greater Blue Downs District

No	Name	Formal/ Informal	Any plan for upgrading
1	Khayelitsha (Harare) Minibus-taxi Rank (Mitchells Plain Route)	Informal	
2	Khayelitsha (Kuyasa) Station Transport Interchange	Formal	
3	Khayelitsha (Makhaza) Minibus-taxi Terminus	Informal	Construction phase
4	Khayelitsha (Nolungile Station) Transport Interchange (Site C)	Formal	Orio funded project
5	Khayelitsha (Nonqubela Station) Transport Interchange (Site B)	Formal	Scoping
6	Khayelitsha Station Transport Interchange	Formal	Orio funded project
7	Khayelitsha Vuyani	Formal	Orio funded project
8	Mandalay Minibus-taxi Terminus	Informal	
9	Mandela Park (Khayelitsha)	Informal	
10	Mfuleni Public Transport Interchange	Formal	Planning
11	Mitchell's Plain (Lentegeur - Clocktower) Minibus-Taxi Rank	Informal	
12	Mitchell's Plain (Lentegeur Station) Transport Interchange	Formal	Upgrade completed (2017)
13	Mitchell's Plain (Montrose Park) Minibus-taxi Rank	Informal	
14	Mitchell's Plain (Tafelsig) Minibus-taxi Rank	Informal	
15	Mitchell's Plain (Westgate Mall) Public Transport Interchange	Formal	
16	Mitchell's Plain Promenade Mall	Formal	
17	Mitchell's Plain Station Transport Interchange Eastern Side N	Formal	
18	Mitchell's Plain Station Transport Interchange Eastern Side S	Formal	
19	Mitchell's Plain Station Transport Interchange Western Side	Formal	
20	Philippi Joburg Stores Minibus-Taxi Terminus	Informal	
21	Samora Machel Minibus-taxi Terminus	Informal	
22	Stock Road	Formal	
23	Blackheath Station Transport Interchange	Formal	
24	Devon Park Minibus-taxi Terminus	Informal	
25	Eerste River Shoprite Minibus-taxi Terminus	Formal	
26	Eerste River Station Transport Interchange	Formal	Upgrade completed (2016)
27	Forest Heights Minibus-taxi Terminus	Informal	
28	Happy Valley Minibus-taxi Terminus	Informal	
29	Malibu Village Minibus-taxi Rank (Southbound)	Formal	
30	Melton Rose Station Transport Interchange	Formal	
31	Wesbank Minibus-taxi Terminus (Northbound)	Formal	scoping

3.3.5 Planned Public Transport Infrastructure

4.3.1.3 BRT Trunk and Feeder Routes

This district is planned to benefit the most from the planned MyCiTi BRT roll-out. As part of Phase 2 of the City's public transport network plan (IPTN), three MyCiTi trunk routes and a number of feeder routes are proposed for the district. In Phase 2A, which is currently being planned for implementation, trunk routes will run from Mitchells Plain and Khayelitsha into Claremont and Wynberg (Figure 4.7). A Trunk route (T17) is also planned to run between Khayelitsha and Century City via Milnerton. A district route (D12) is planned in a further phase along Klipfontein Road, from Mitchell's Plan to the Cape Town CBD via Mowbray.

The Phase 2A feeder routes are only indicative at this stage, but are planned to give greater access to the trunk service. This service will substantially benefit the district. Stations are planned for Stock Rd, Eisleben, Swartklip (Denel), Nolungile, Mitchell's Plain CBD, and Khayelitsha CBD.

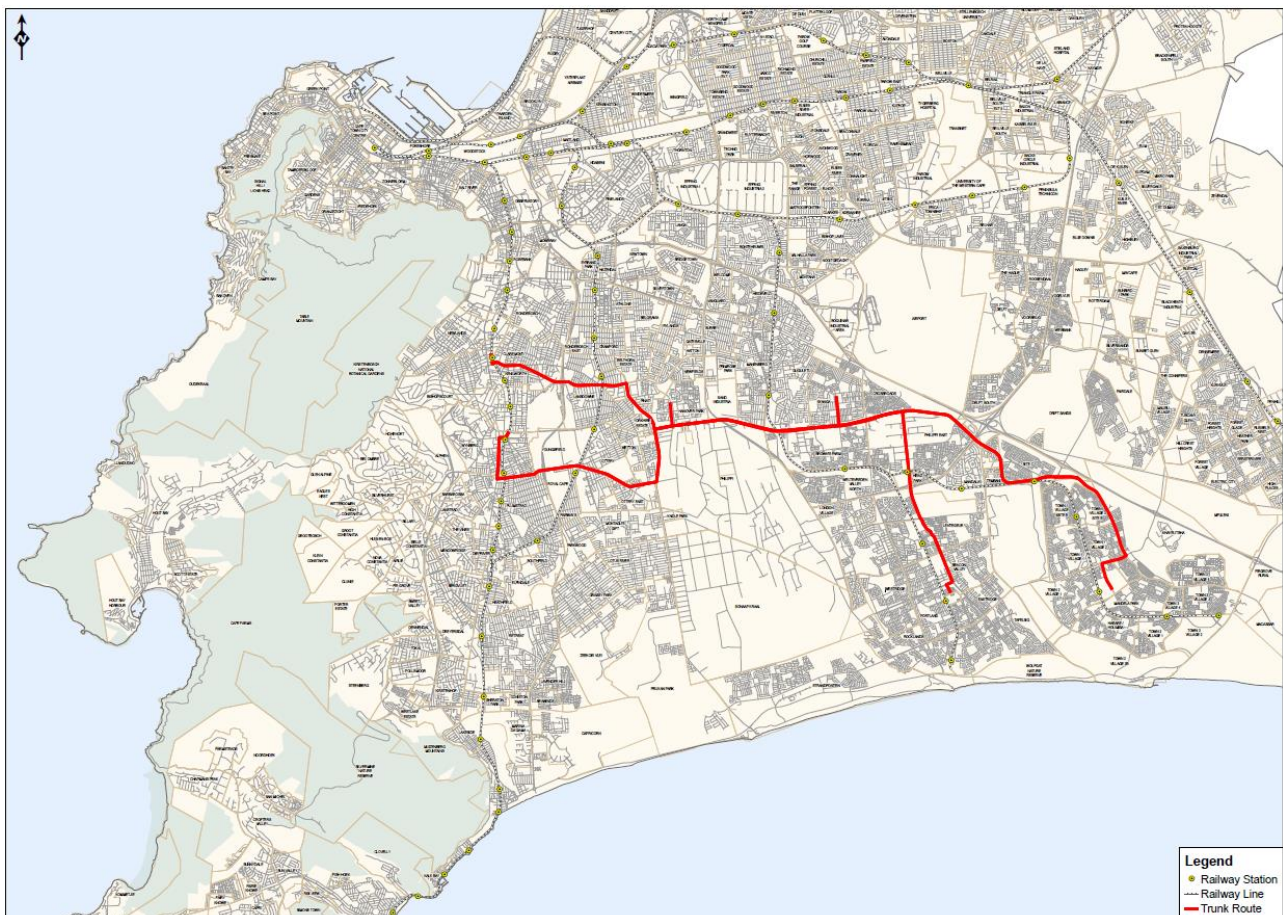


Figure 4.7: Planned IPTN Phase 2A MyCiTi BRT trunk routes

3.3.6 Rail

The main planned improvements to transport infrastructure in the district include the Blue Downs Rail Link (BDRL). The Final Report of the Blue Downs Rail Link Stations study (2018: 1) summarises the project as follows:

"The Blue Downs Rail Link project aims at creating a new railway connection in the Blue Downs area, in the Eastern part of Cape Town. The project includes about 10 km of new line and three new railway stations: Mfuleni, Blue Downs and Wimbledon."

The following conclusions (2018: 96) are relevant to the revised District SDF:

"A coordinated joint urban-and-transport approach at corridor scale is paramount for the success of the BDRL.

First, the ridership of the railway line will remain low if the urban density is not increased around the stations, mostly Wimbledon and Blue Downs, as Mfuleni is already densely inhabited. Then, these new developments must be designed to allow easy access to the stations, to save enough space for mobility functions (intermodal hubs, pedestrian ways and spaces), to integrate economic activities and services that can benefit from and to the train riders.

More, the activity and movements generated by the stations, as well as the increase of accessibility offered by the train, are an opportunity to boost and structure the urban development in the corridor. The train can be the reason why investments are made in the corridor, but this must be planned, coordinated, promoted and properly targeted.

Urban development around the station is a financial challenge. The business analysis shows that a significant involvement of public funding will be required. This must include the construction of public facilities that are needed in the area. Incentives of different kinds will be required in addition.

A specific structure appears necessary to implement the project with a proper coordination of its different dimensions (railway line, urban transportation, urban planning and developments). It will also be required for the future management of the stations areas.

The Blue Downs rail link is a very promising project. It is also a hybrid object, implemented in a context of limited economic dynamism. A strong political involvement at City and national levels is necessary to succeed."

3.3.7 Public Transport Interchanges

Nolungile, Khayelitsha, Vuyani and Makhaza PTIs are subject to an integrated planning processes to ensure their proper functioning, not only as safe PTIs, but as well-managed precincts including places for trade, social services, and quality NMT.

3.3.8 Level of Public Transport Accessibility

As part of the Transit Oriented Development Comprehensive Land Use Model (TODC), a scoring of the various transport-accessible precincts (TAPs) around stations and stops in the city was conducted (Figure 4.8). The overall score provides a measure of the level of accessibility of the City's current public transport network using the following indicators:

- C1. Status of station: Existing or Proposed
- C2. Status of network: Existing or Proposed

- C3. Connectivity: Accumulative Travel time to the City's top 10 employment destinations
- C4. Capacity: Capacity of stations to accommodate passenger volumes
- C5. Modal Integration: Level of integration between modes of public transport (Rail/BRT/PTI/Feeder)
- C6. Intensity: Number of people within 500m of a station/core feeder stop

Note that this scoring methodology does not take into account the *functionality* of the public transport services. The measure is purely a *locational* score. Based on these scorings, the following patterns are highlighted for the district:

- The TAPs related to the rail system have particularly high accessibility.
- The Mitchells Plain CBD, Nolungile railway station and surrounding areas have the largest cluster of high accessibility scores in the district.
- The future T16 MyCiTi corridor will service the greater Blue Downs area well.

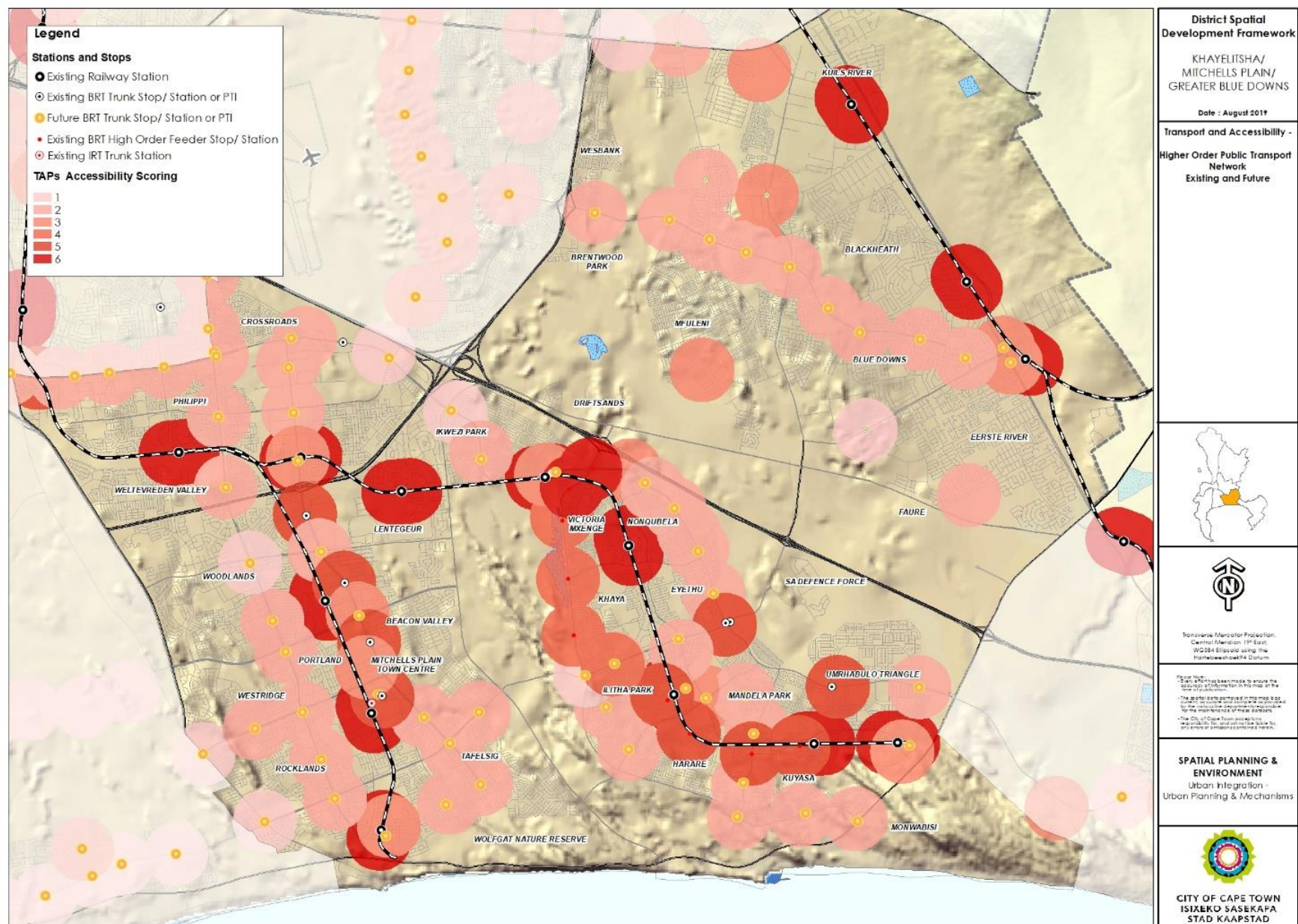


Figure 4.8: Scoring of transport-accessible precincts in relation to the higher-order public transport network

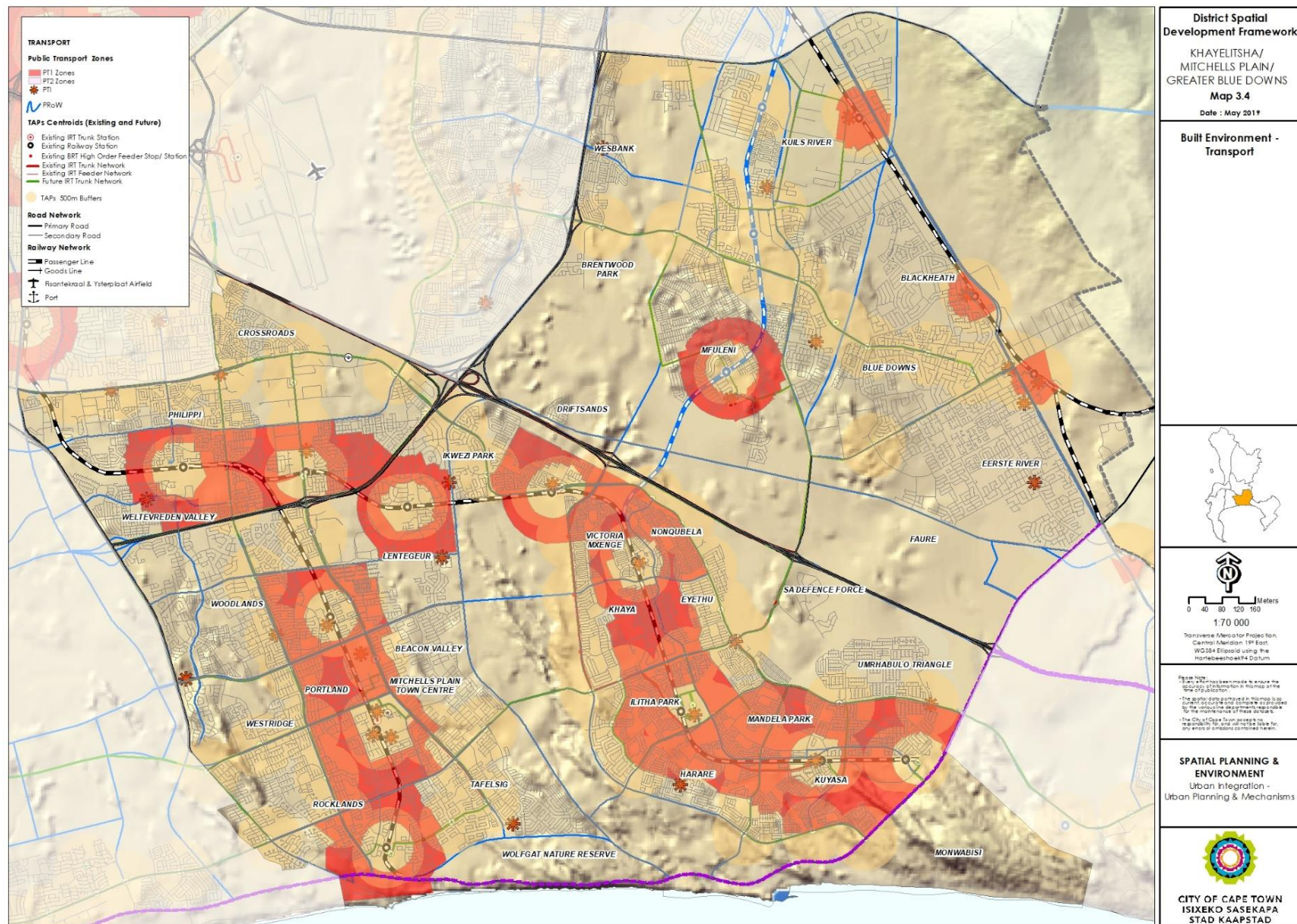


Figure 4.9: Composite map of existing public transport and related infrastructure in the Khayelitsha, Mitchells Plain & Greater Blue Downs District

4.4 State of Road Infrastructure

3.3.9 Overview of District Road Network

The road network in the district is characterised by clear road hierarchies and a strong provision of mobility routes, most evident in Mitchell's Plain and Khayelitsha. The most significant routes in terms of the road hierarchy can be seen on Figure 4.10, which shows a loose grid pattern, to which the adjacent neighbourhoods have limited access in order to maintain the mobility of these routes. Being modern developments, the areas have all been completely pre-planned, based on the principle of motorcar dominance, such that:

- Road access is strictly hierarchical;
- Neighbourhoods are cellular/insular, with limited access points and connections to adjacent neighbourhoods;
- Phased neighbourhood development of areas like Mfuleni has resulted in missed opportunities for connector routes to connect adjacent areas;
- Most higher-order streets do not have active frontages onto adjacent land uses, making them dangerous to pedestrians when they are not busy;
- The high mobility routes, which are actively used by volumes of pedestrians, result in high incidents of pedestrian-related accidents; and
- There are few opportunities for TOD, which has to be "retrofitted".

4.4.1.1 Recent Road Projects

The following roads have been constructed over course of the past five years (Figure 4.10):

- Link of Saxdown Road to Nooiensfontein Road (Blue Downs);
- Dualling of Stock Road between the R300 and Sheffield Road; and
- Connection of Walter Sisulu Rd east to Baden Powell Drive.

4.4.1.2 Current Road Projects

The following road projects are currently under in the planning or construction phase (Figure 4.10):

- Planning is underway for the dualling of Hindle Road (R300 to Raymond Ackerman Ave); and
- The route alignment and conceptual design of the Spine Road extension within the de-declared N7 reserve in the Blackheath area, as well as the elimination of the Buttskop Road level crossing is complete. Depending on the availability of funding and subject to a funding agreement with PRASA, the proposed grade separation should be implemented in the short to medium term.

4.4.1.3 Historic Road Schemes to Be Reviewed

There are no historic municipal road schemes which need to be removed or amended. The alignment of the Spine Road extension was recently amended through the Blackheath area, between Albert Philander Road and Van Riebeeck Road.

3.3.10 Parking

Generally, there are no parking issues in the district because of low levels of private vehicle ownership. It is not known to what extent the Development Management Scheme (DMS) requirements with respect to parking inhibit potential but marginally viable developments.

3.3.11 Planned Road Infrastructure

As this district has some of the fastest growing areas in the metropolitan area, there is an increasing demand for road capacity. This has been addressed in the following short- and medium term road infrastructure projects (Figure 4.10).

4.4.1.4 *Short-Term Projects*

The following planned road infrastructure upgrades are required in the short term (the next five years):

- Link of Mew way with Saxdown Road (Class 2 road); and
- Dualling of Bade Powell Drive with traffic lights.

4.4.1.5 *Medium-Term Projects*

Provision has been made for several new road connections, which have an impact on the district, in the medium term (next ten years). These are as follows:

- Extension of Morgenster Road through to Pama Road;
- Extension of Sheffield Road west through the northern portion of the PHA; and
- Extension of the R300 west across the PHA.

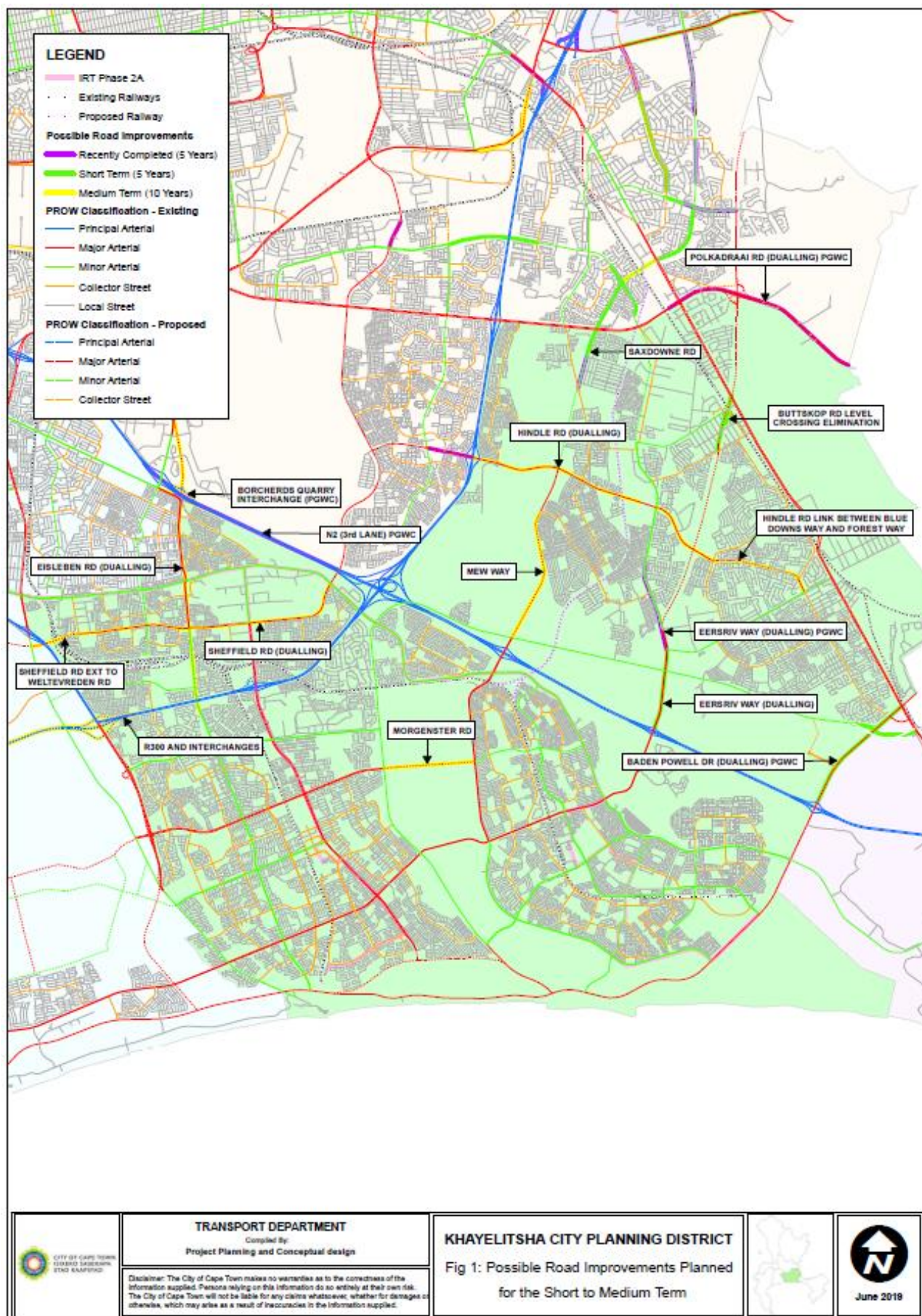


Figure 4.10: Existing road network and planned public right-of-way upgrades or new roads in the Khayelitsha, Mitchells Plain & Greater Blue Downs District

4.5 State of Freight

The freight sector is critical to the efficient movement of goods in support of the economy and the provision of services. At the same time, road-based freight movement can be a hindrance to traffic flow, and trucks place a disproportionate maintenance burden on road infrastructure. Furthermore, the impacts of freight-related accidents are severe.

Road-based freight movement in the city as a whole is illustrated in Figure 4.11 below. The largest volumes of freight are on the national roads, with the N2 linking the district to the port at Table Bay. Cape Town's deep water port processes ± 15 million tons of freight per annum, with around 95% of freight movement on the land-side being road-based. The port, together with over 30 industrial areas located in various parts of the City, contributes to a high number of trucks on the municipal road network. By contrast, the district experiences relatively low freight volumes apart from the N2, and to a lesser extent on the R300.

The City's Freight Management Strategy addresses the planning and management of freight operations within the city's functional region. It recognises the need to shift the modal split back towards rail where possible.

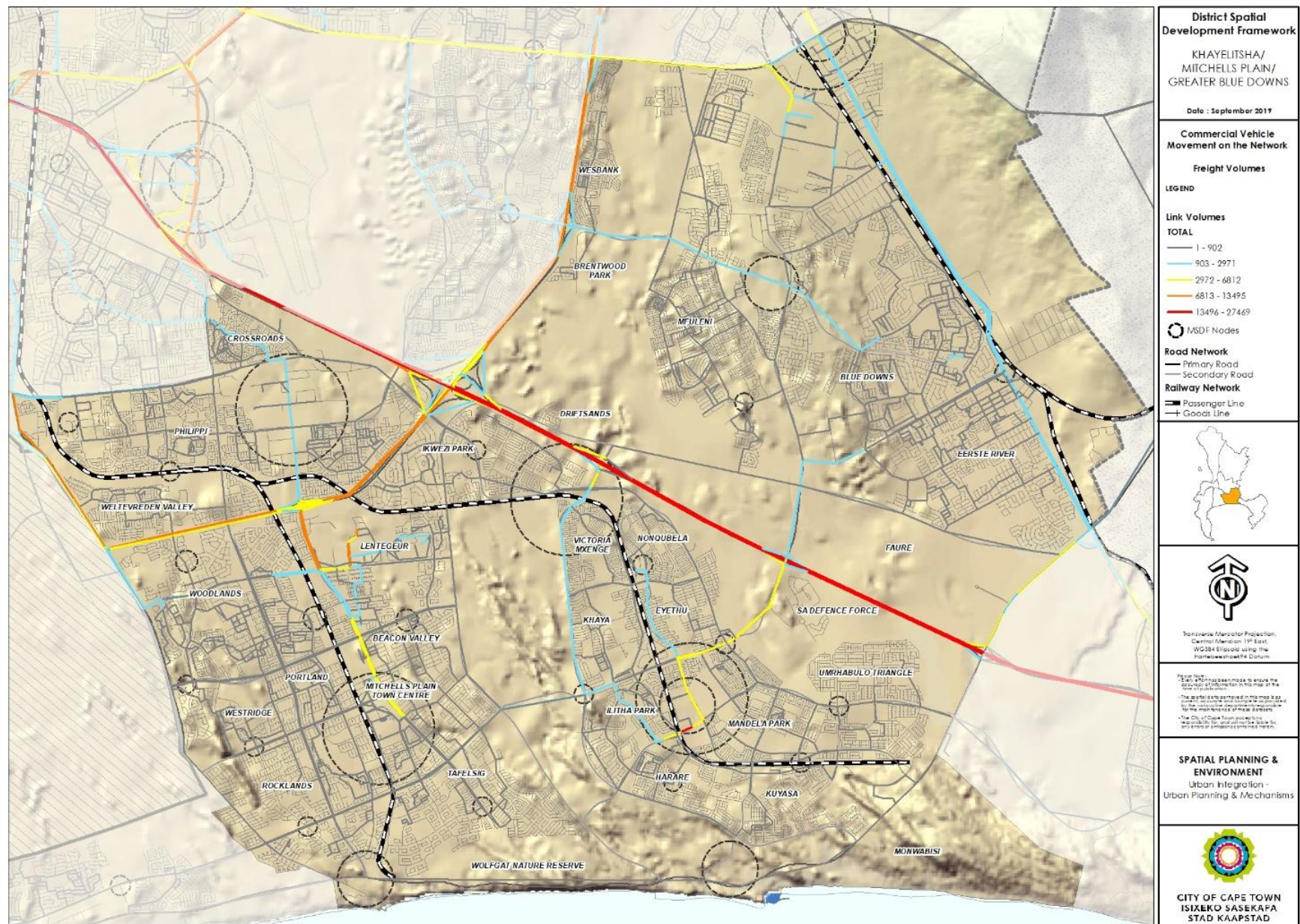


Figure 4.11: Main freight vehicle movement routes in the Khayelitsha, Mitchells Plain & Greater Blue Downs District

4.6 Travel Patterns

3.3.12 Current Travel Patterns

4.6.1.1 Travel Demand

The following trends in travel demand patterns can be observed across the district as a whole (Figure 4.12):

- The district is dominated by trip generators (i.e. residential development) in almost every transport zone, except in the industrial areas to the north-east.
- The intensity of trip generators is high from Philippi, Crossroads, Blue Downs, Mfuleni and Khayelitsha (particularly Ikwezi Park).
- Trip attractors (work and education opportunities) are spread thinly across the district, but are highest in the Blackheath industrial area.
- The result is a net outflow of commuters in the morning from the district on a daily basis.

4.6.1.2 Travel Origin and Destination

The metropolitan origin-destination mapping of Figure 4.13–Figure 4.14 and Table 4.2 displays the following patterns:

- This district generates the vast majority of trips out of the area in the morning, into the Cape Town CBD and surrounds as well as to the northern areas.
- The vast majority of these trips are by public transport.
- Mitchells Plain generates a significant number of trips by privately owned vehicles, and Blue Downs some, but Khayelitsha only a negligible number.
- There is negligible movement into the area.

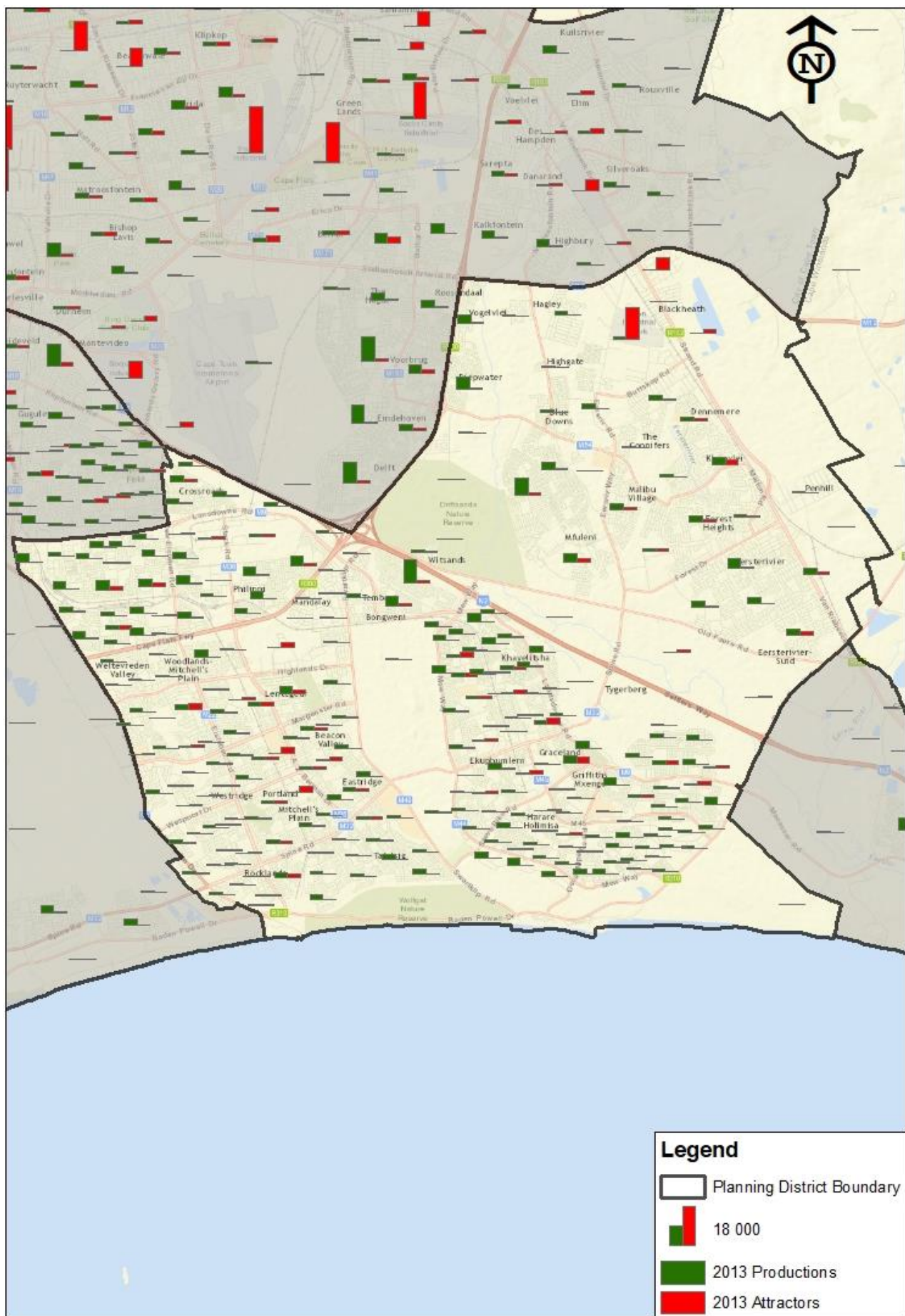


Figure 4.12: Trip generators versus trip attractors across the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013 (EMME Travel Demand Modelling, 2013)

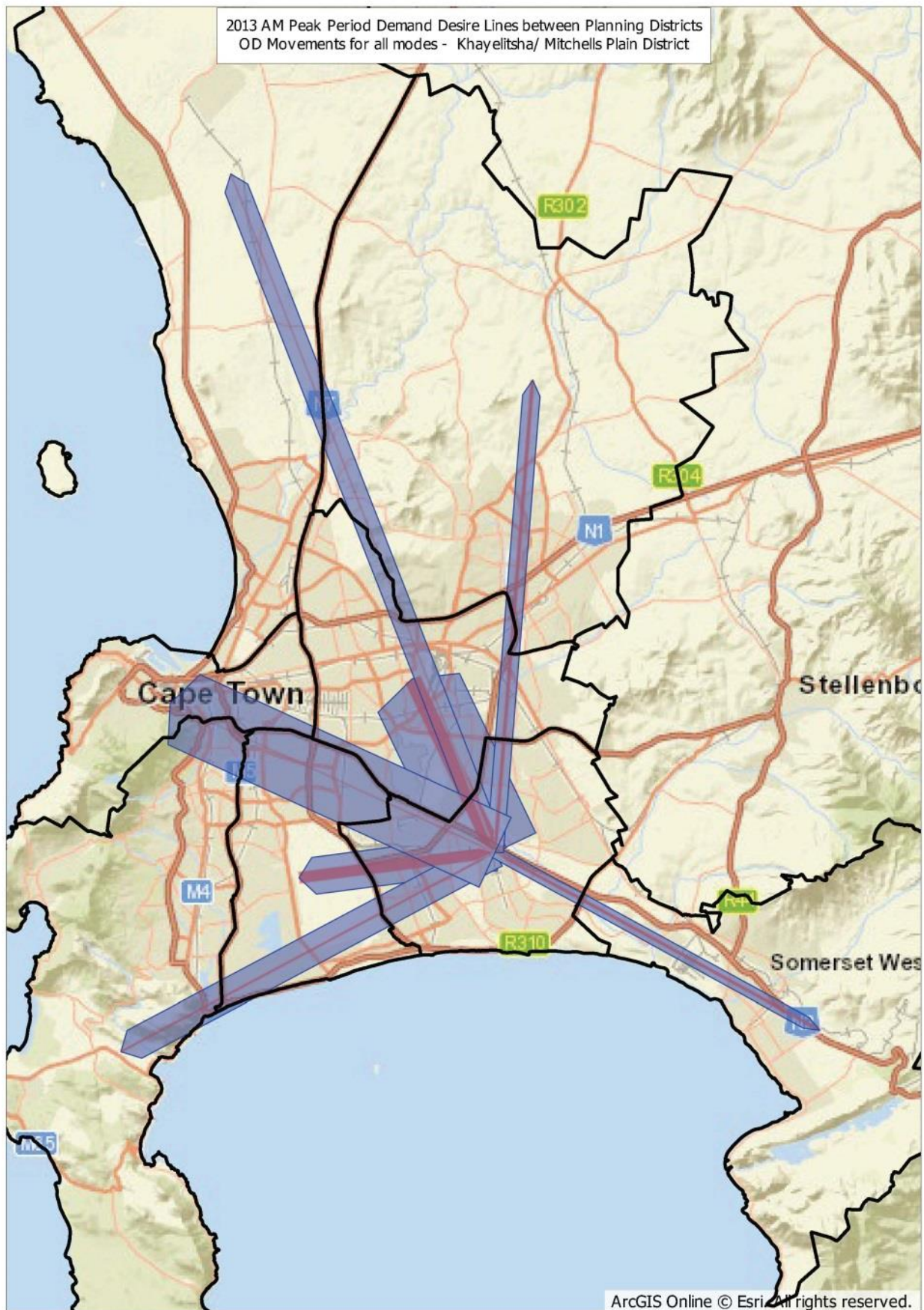


Figure 4.13: Origin-destination mapping of peak morning commuter trips for all modes of transport in relation to the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013

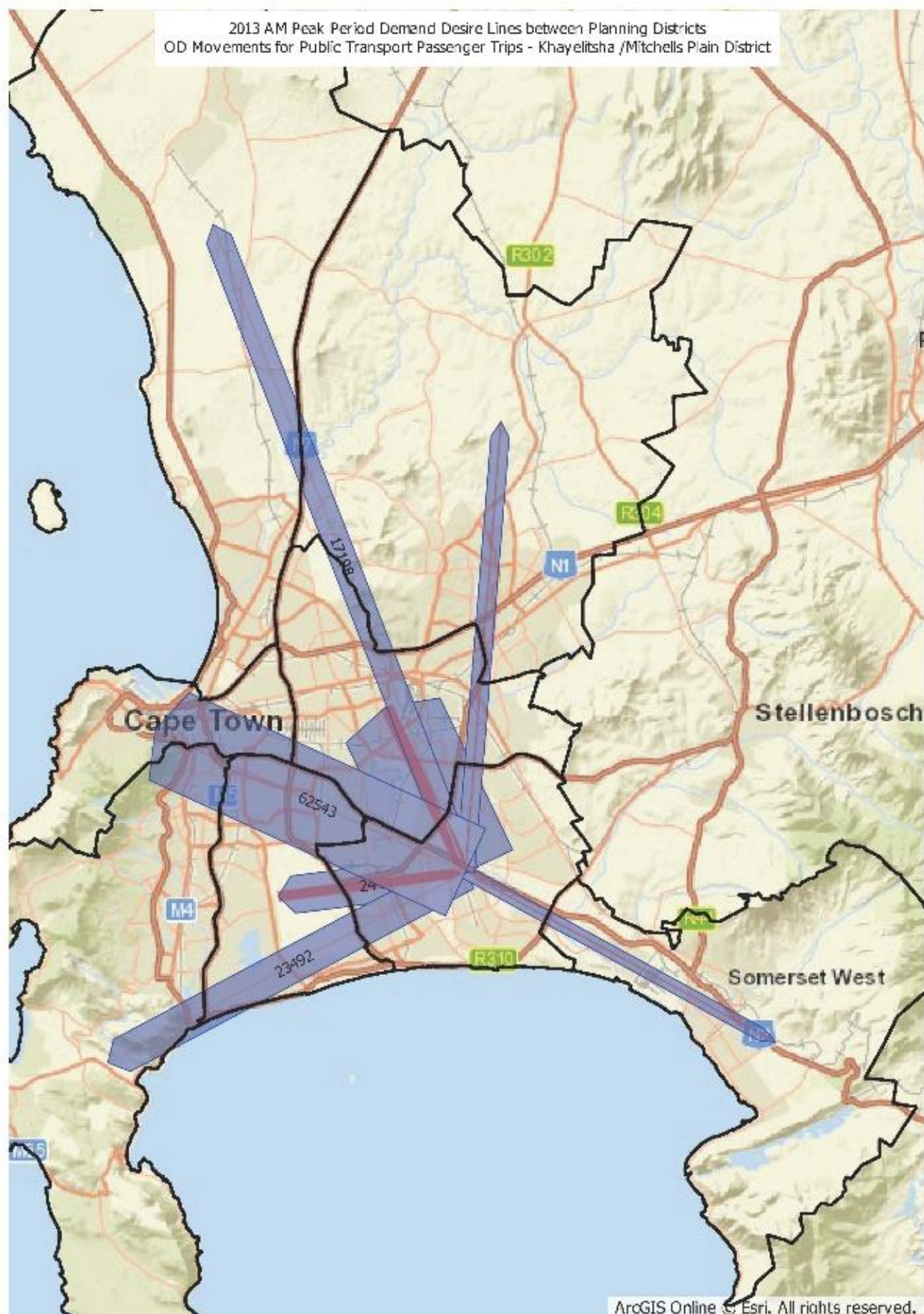


Figure 4.14: Origin-destination mapping of peak morning commuter trips by public transport in relation to the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013



Figure 4.15: Origin-destination mapping of peak morning commuter trips by private car in relation to the Khayelitsha, Mitchells Plain & Greater Blue Downs District, 2013

Table 4.2: Peak morning travel patterns from and to the Khayelitsha, Mitchells Plain & Greater Blue Downs (KMPBD) District

Origin	Destination	NMT	Private car	Taxi	Bus	BRT	Train	Public transport (taxi, bus, BRT & train)	Total
KMPBD	Table Bay	4	411	6 355	7 098	3 357	5 874	22 684	23 099
KMPBD	Blaauwberg	0	351	2 133	1 967	1 030	396	5 526	5 877
KMPBD	Northern	0	1 279	1 560	1 982	0	2 030	5 572	6 851
KMPBD	Tygerberg	296	4 317	7 922	9 508	92	4 945	22 467	27 080
KMPBD	Helderberg	452	1 744	2 538	4 611	0	2 741	9 890	12 086
KMPBD	Cape Flats	767	2 379	3 095	4 939	1	2 779	10 814	13 960
KMPBD	Southern	12	950	2 754	3 670	22	3 376	9 822	10 784
KMPBD	All districts	1 531	11 431	26 357	33 775	4 502	22 141	86 775	99 737
KMPBD	KMPBD	6 291	2 327	3 547	7 644	1 024	3 359	15 574	24 192
Table Bay	KMPBD	0	292	109	54	55	326	544	836
Blaauwberg	KMPBD	0	28	49	58	72	32	211	239
Northern	KMPBD	0	294	80	100	0	442	622	916
Tygerberg	KMPBD	214	795	1 743	820	3	613	3 179	4 188
Helderberg	KMPBD	468	760	729	1 040	0	1 312	3 082	4 309
Cape Flats	KMPBD	232	920	814	1 169	0	750	2 733	3 885
Southern	KMPBD	0	396	77	101	2	511	690	1 087
All districts	KMPBD	914	3485	3601	3342	132	3986	11061	15460

4.6.1.3 Cost of Travel

The nature of tidal movement across the city results in an inefficient use of public transport and of the road-space – people traveling into the CBD in the morning, and out in the afternoon. This has a significant cost, which can be broken down into the following:

(a) User costs

The newly-developed Urban Development Index (UDI) measured the cost of travel for different income groups, different travel modes, and to their top five destinations¹¹ in terms of travel time, travel distance, and direct costs.

Modal choice is influenced by a range of factors: not simply direct costs, but indirect costs such as safety (of the service itself), security (on the service, as well as accessing it), level of flexibility (of the service), reliability (of the service), and the impact of congestion on the service. The high rate of NMT as the primary mode of transport as evidenced in poorer areas has less to do with short travel distances, and more to do with affordability.

Generally, this district scores poorly in terms of travel distance, time and costs for its residents. In terms of distance, the southern and south-eastern parts of the district are furthest by public transport from the top five destinations, equivalent in the distance from those destinations to other far-flung areas such as Noordhoek, Kommetjie and even Simon's Town.

Travel time to these top five destinations is very long from the northern areas of Mitchells Plain and Khayelitsha by their main transport modes of private car and MBT (33–36 minutes). Travel time from northern Mitchells Plain is even higher by bus as 55 minutes. A similar trend in travel time is observed from southern Khayelitsha by its main transport modes of bus (111 minutes), MBT (34 minutes) and MyCiTi (53 minutes). This is reflected in high direct travel costs as a percentage of income on public transport: approximately 22% for most low-income users of the district, 40% for low-income users by private car from southern Mitchells Plain and 23-24% for most medium-income users. The only positive indicators are found in the Blackheath, where travel time by MBT to the closest of the top five destinations is a very low 7 minutes.

(b) Operational costs

There is a high cost to operate public transport in a sprawling urban environment. If the travel demand patterns of the city remain at current variables, this will translate into a deterioration of the recurrent annual operating deficit for the whole MyCiTi system by approximately R1 billion (IPTN Business Plan, 2017). Up to 54% of the MyCiTi N2 Express Service costs are being recovered¹². Therefore, ridership levels need to be increased through increasing the passenger population in order to improve its financial viability.

(c) Environmental and economic costs

The main costs of inefficient public transport (and the consequent ubiquity of private vehicle use) to the physical environment and economy are as follows:

- Serious constraints on economic growth and development (congestion currently costs Cape Town R2.8 billion per year);
- Air pollution; and

¹¹ The top five commuting destinations were identified for each area based on employment and education patterns.

¹² Ridership has been severely impacted on by three successive bus driver strikes in 2017, 2018, and late 2018/early 2019).

- CO₂ emissions and energy consumption.

3.3.13 Future Ideal Distribution of Trip Generators and Attractors (2032)

In modelling the future land use patterns which would generate the demand for trips to be served by the IPTN, an “ideal” scenario, namely the Transit Oriented Development Comprehensive Land Use Model (TODC), was run for 2032. The TODC response is to try to balance trip attractors and trip producers in all areas, to theoretically eliminate/minimise the need to travel by locating jobs and residences in the same area. Figure 4.16 below shows this ideal future state to work towards, with growth in the right locations to minimise travel time.

From a transport optimisation perspective, the large quantity of anticipated residential units (trip producers) in some locations that are far from existing trip attractors needs to be countered/matched by new non-residential land uses (trip attractors) in order to achieve this goal. From a spatial planning perspective, this translates to a need for mixing/diversifying land uses. The revised District SDF must therefore use this model as a guide and determine how this is achievable.

The following changes for the district as whole are required:

- It is recognised that the district will remain dominated by trip generators in almost every transport zone.
- The intensity of trip generators will remain high in the district, particularly from Philippi, Crossroads and Khayelitsha.
- Trip attractors will remain thinly spread across the district, but should increase significantly in the Blackheath industrial area (an established work destination), the proposed Aerotropolis on the Denel site, Eersterivier (where there is potential due to available land), and around the Lentegeur hospital precinct.
- The net outflow of commuters from the district on a daily basis will persist, but should be reduced.

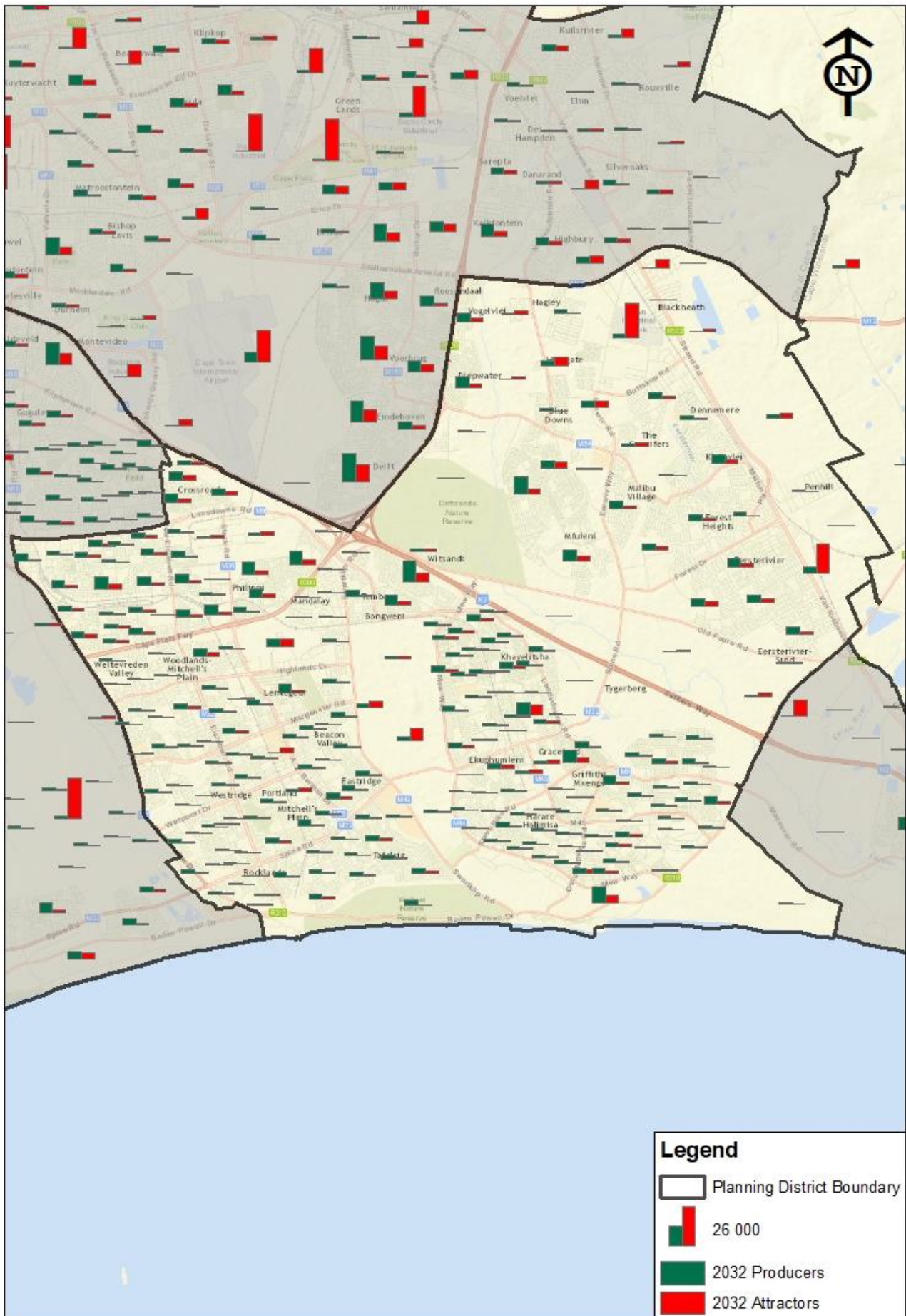


Figure 4.16: Transit Oriented Development Comprehensive Land Use Model ideal distribution of trip-attracting and trip-producing land uses, 2032

4.7 Key Opportunities and Constraints

4.7.1 Opportunities

- One of the district's constraints could be its greatest opportunity. Currently car ownership levels are low, resulting in lower private trip generation, and high public transport trip generation. This modal split should be entrenched by providing quality public transport at reasonable rates.
- The IPTN will be exploring an incremental approach to the BRT roll-out, with the possible inclusion of the current bus and MBT services. It will therefore explore the opportunities for prioritizing these services in the road space, for example "queue-jumping" at intersections.
- The Catalytic Land Development Programme (CLDP) includes several sites from the district, namely the Blue Downs CBD/station, Kuils River node, Khayelitsha CBD/Industrial Park and Swartklip/Nolungile station (between Mitchell's Plain and Khayelitsha). These sites will benefit from priority planning attention, particularly focused on attracting investment and stimulating private sector investment.
- The planned rail and MyCiTi routes through the area will represent the largest type of public transport interventions available presently in South Africa. The BDIZ planning intervention is ensuring that this investment is capitalised on, through guiding land use decisions.

3.3.14 Constraints

- The district is characterized by long commuting distances, low seat renewal (travellers getting on and off along the route) and little bi-directional flow (travellers moving in both directions within the peak). The implication is that any form of public transport improvements will be expensive to operate, with little prospect of cost-recovery due to low levels of affordability.
- This is the district most in need of spatial transformation, requiring significant investment in trip attractors (jobs and education), and the creation of middle-class residential opportunities to increase the number of internal trips.

3.3.15 Spatial Implications

As demonstrated in the 2032 TODC (Figure 4.16), the need for educational and job opportunities in built-up areas is high – from a transport as well as a spatial integration perspective. This is the challenge for the revised District SDF, as there is low investment appetite in the district, and the current market trend is for the roll-out of more mono-functional, low-density and low- to middle-income cluster residential developments in new areas. Economic opportunities and community services should be located in close proximity to transport interchanges to maximize TOD benefits.

As this is a socially vulnerable district, it may well be worthwhile aligning with the Resilience Strategy process; some of its related pathfinding questions have relevance to the district:

- How can we improve the design and co-location of public facilities to achieve multiple resilience dividends?

- How can we incentivise city residents to become more involved in resilient place making?
- How can partnerships in society be leveraged to contribute to reducing the stress of traffic congestion?

5 INFRASTRUCTURE¹³

The sections below provide an overview of the current level of supply of bulk electrical, water, sanitation and stormwater infrastructure in the district, as identified in the Medium-Term Infrastructure Investment Framework, 2017 (MTIIF).

5.1 Electricity

Bulk electrical infrastructure includes the following components:

- Existing main transmission substations (MTSs)
- New MTSs
- Existing 132/11 kV distribution substations
- New 132/11 kV distribution substations
- Existing 132 and 66 kV underground (UG) cables and overhead lines (OHLs)
- New 132 kV UG cables

Most of the information used for the assessment of bulk electrical infrastructure capacity has been sourced from 2014 peak loads at distribution stations. The information was processed and each substation supply area classified according to its level of existing capacity. There are currently 114 substation supply areas in the metropolitan area. Of these, 82 are within the City of Cape Town's distribution area, while 38 are within Eskom's area of distribution. Table 5.1 below outlines the definitions used to classify the capacity of a substation area. The assessment was done using Transport Analysis Zones (TAZs), which have different geographical delineations when compared to the substation supply areas.

Table 5.1: Classification of electrical substation supply areas by level of existing capacity (MTIIF, 2017)

Capacity status	Definition
Severe lack of capacity	Over 100% of firm substation capacity
Slight lack of capacity	90% to 100% of firm substation capacity
Adequate capacity	70% to 90% of firm substation capacity
Spare capacity	Less than 70% of firm substation capacity

In the Khayelitsha, Mitchells Plain & Greater Blue Downs District, the following populated areas are experiencing a **severe lack of capacity** (Figure 5.1):

- The area south of Denel/Swartklip – mostly vacant, including the decommissioned Khayelitsha landfill site
- Central Khayelitsha, including southern Victoria Mxenge, Khaya, Eyethu, Graceland and Ilitha Park – predominantly residential

¹³ Medium-Term Infrastructure Investment Framework, 2017 (MTIIF)

- The south-eastern outer edge of Khayelitsha, namely Silvertown and Umrhabulo Triangle, Enkanini and Monwabisi – residential, including informal settlements
- Eersterivier, De Wijnlanden Estate and Penhill – residential
- Welmoed Cemetary and Jacobsdal Smallholdings – rural and agricultural
- Kuils River – largely residential
- Blackheath – residential and industrial

Populated areas with a **slight lack of capacity** are concentrated generally along the N2, including (Figure 5.1):

- Northern Victoria Mxenge and Nonqubela – largely residential, including an informal settlement, and including some commercial development
- Ikwezi Park, eastern Philippi and Crossroads – primarily residential, including large informal settlements in Philippi and adjacent to the N2 as well as minor industrial land uses in Philippi

The following populated areas have **adequate capacity** (Figure 5.2):

- Central and eastern Mitchells Plain, including Lentegeur, Portland, Beacon Valley, the Mitchells Plain CBD and Tafelsig – largely residential, with notable commercial and industrial land uses in the Mitchells Plain CBD
- Harare, Kuyasa, Mandela Park and eastern Graceland – largely residential
- The Khayelitsha CBD – commercial
- The north-western portion of the Driftsands Nature Reserve, seeing formal and informal residential development in close proximity to the Visitor's Centre

Significant portions of the district have **spare capacity** (Figure 5.2):

- The western edge of Mitchells Plain, including Woodlands, Westridge and Rocklands – largely residential
- The majority of the Greater Blue Downs and Mfuleni Sub-Districts (excluding Kuols River, Blackheath and Eerste River) – predominantly residential, interspersed with some commercial

A project to add additional major Eskom intake points in the district is planned. This is highlighted in Figure 5.4 below.

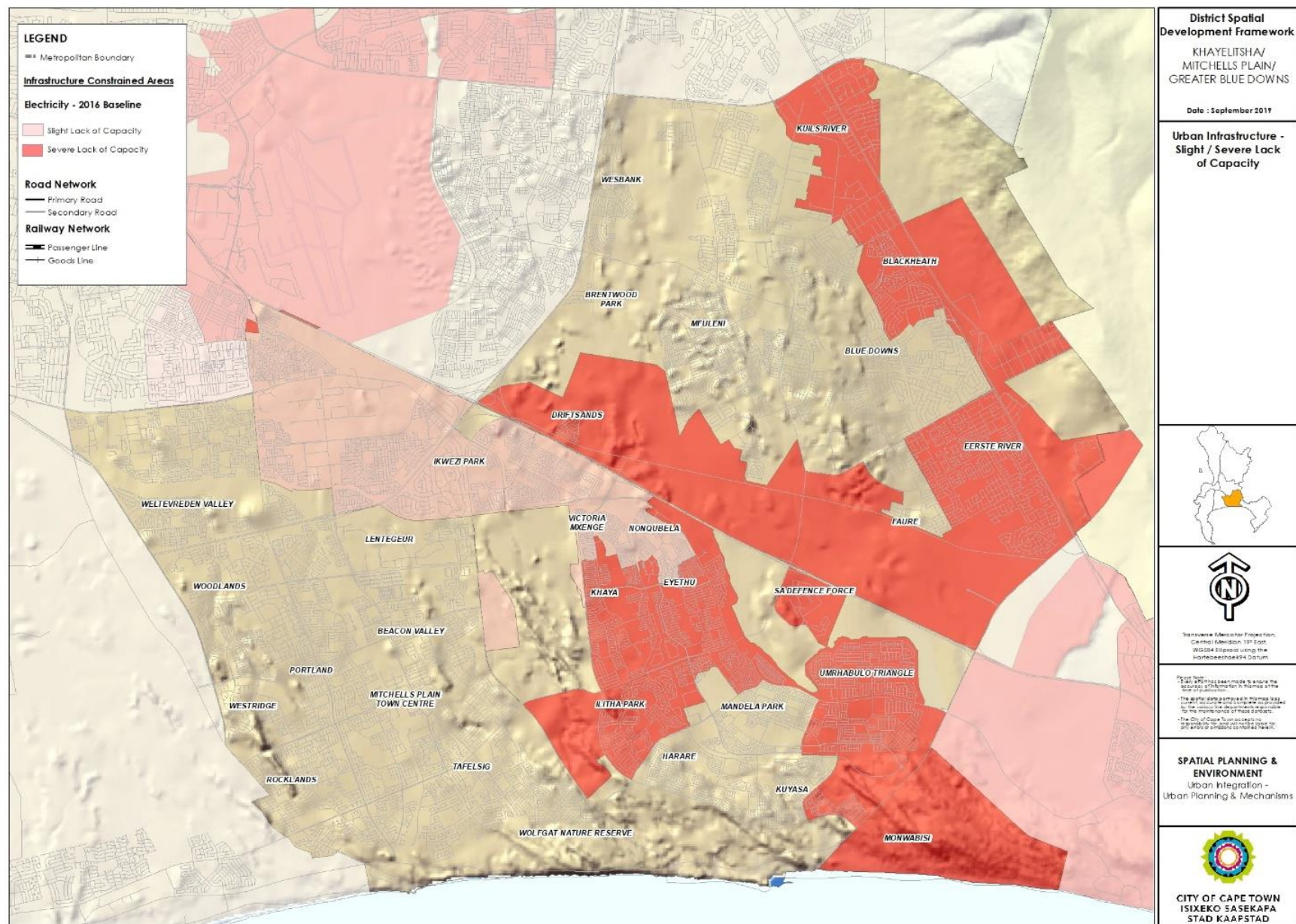


Figure 5.1: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk electricity infrastructure: slight and severe lack of capacity, 2016 (MTIIF, 2017)

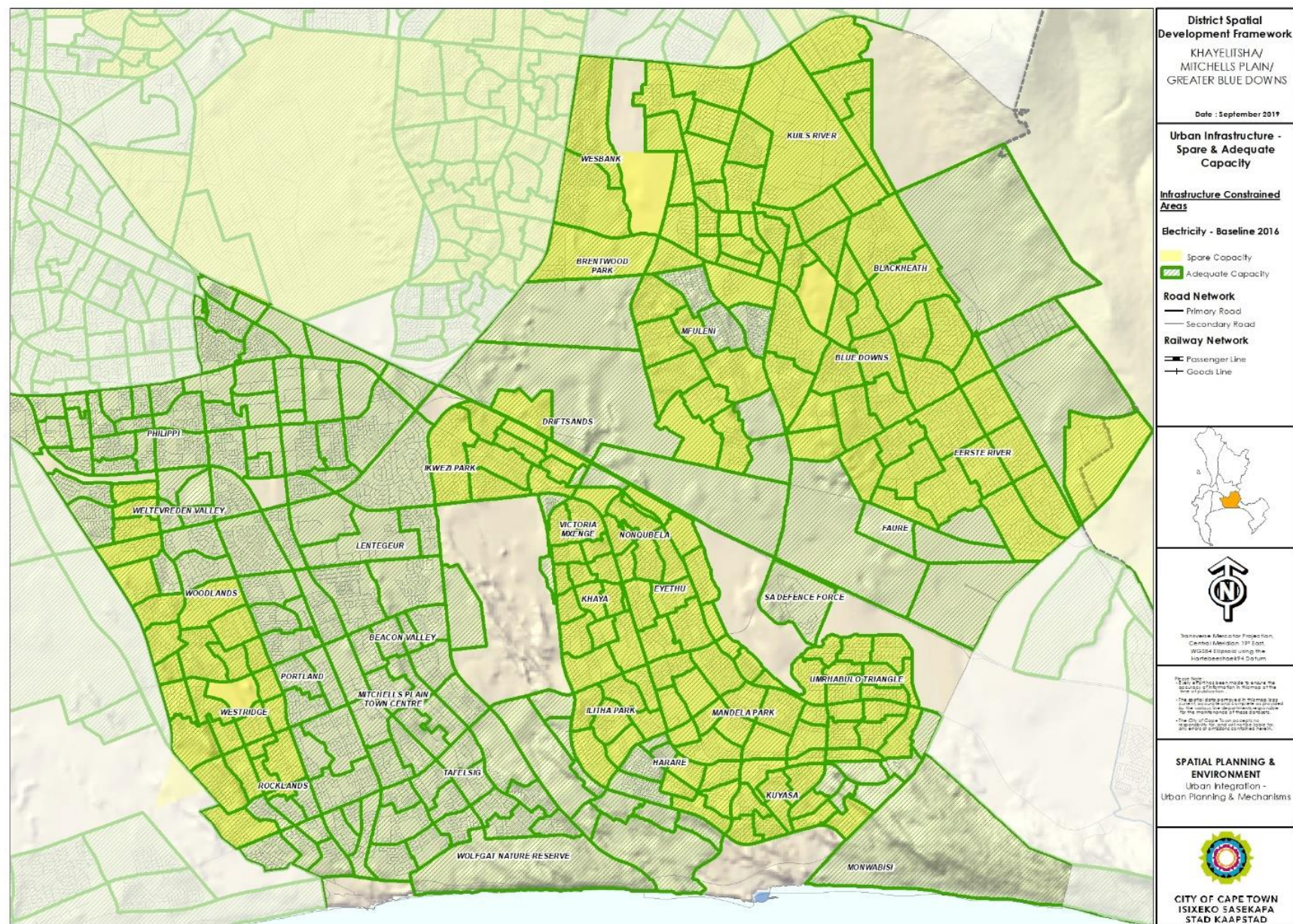


Figure 5.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk electricity infrastructure: spare and adequate capacity, 2016 (MTIIF, 2017)

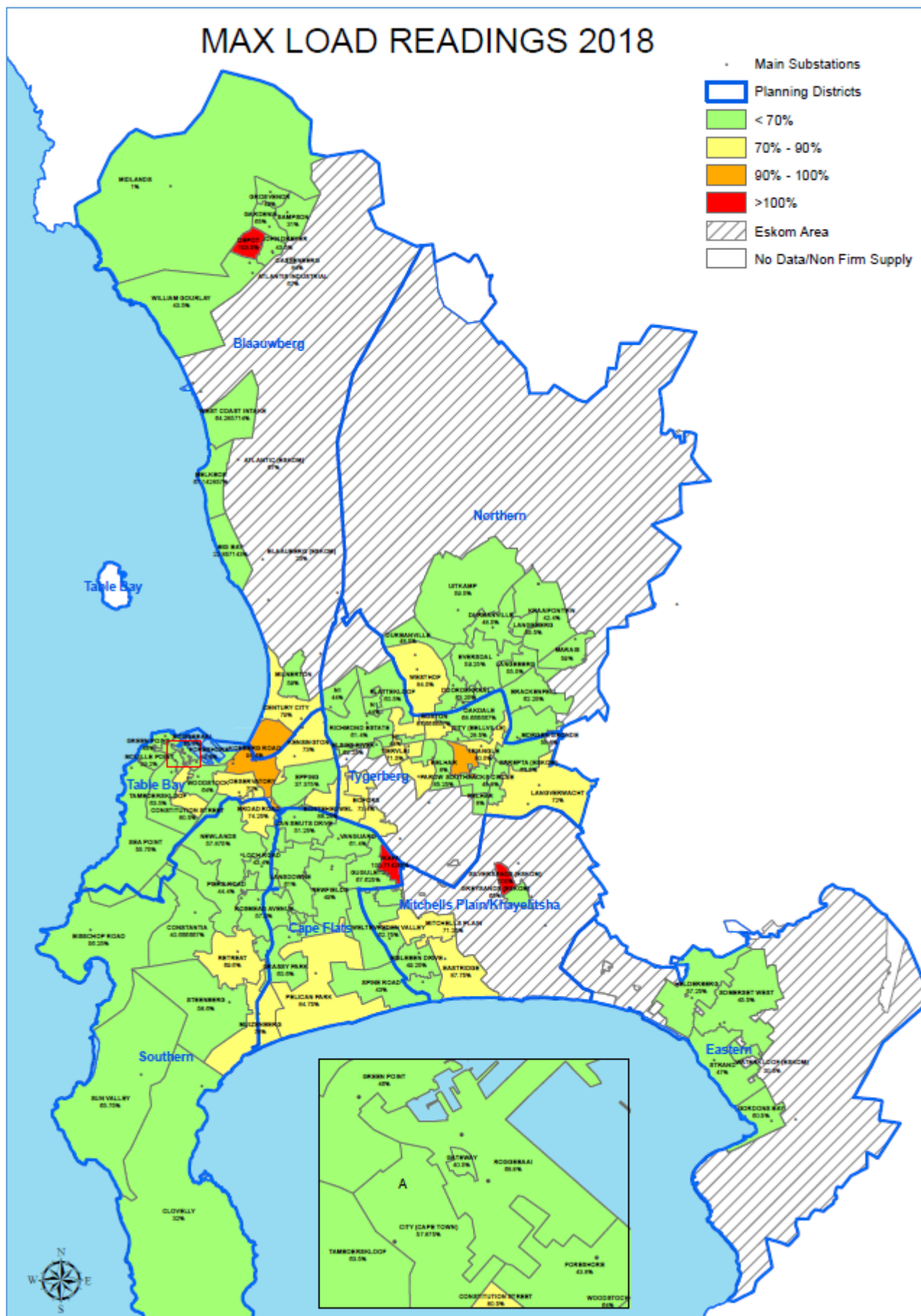


Figure 5.3: Substation loading across the metropolitan area, 2018

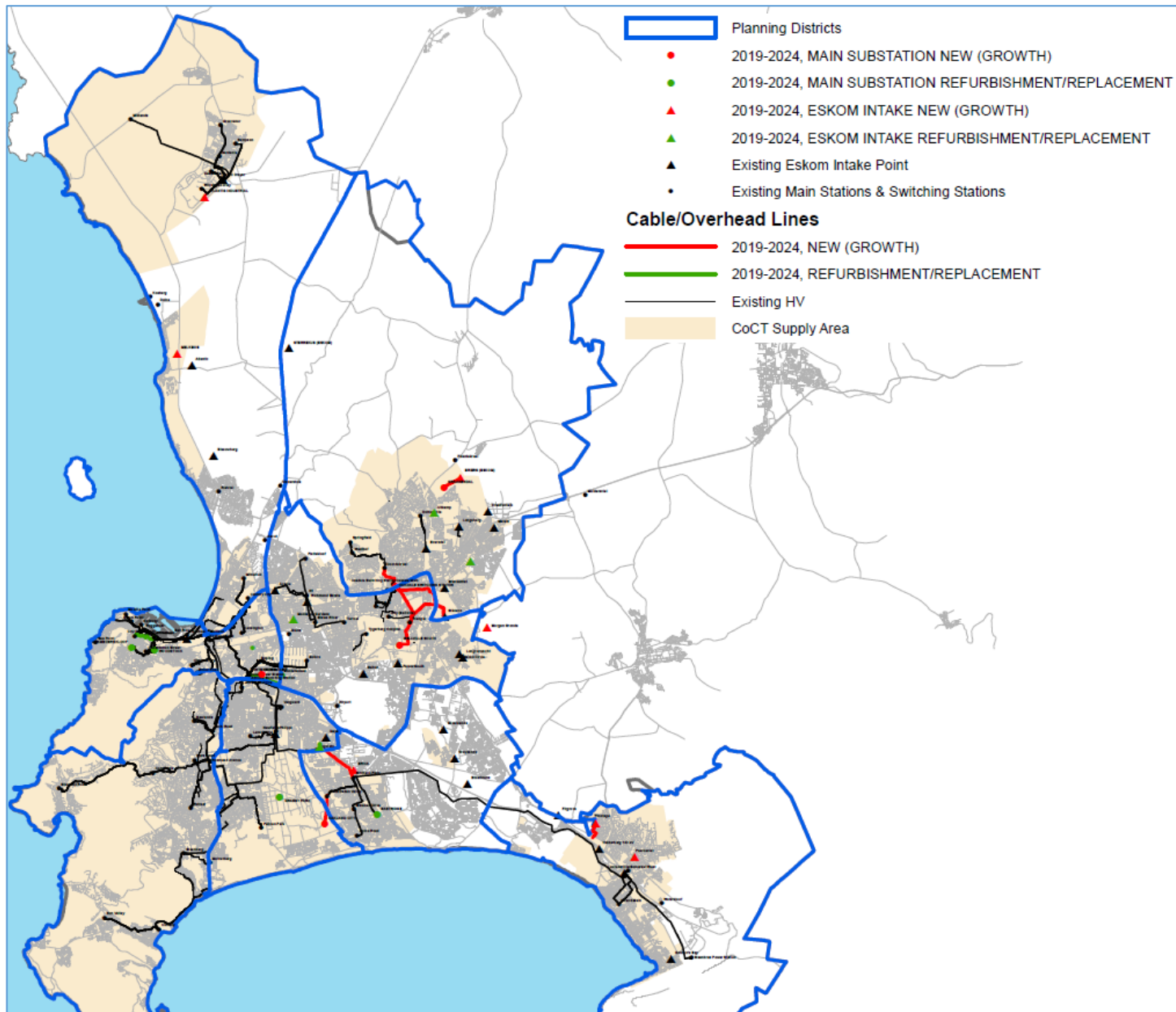


Figure 5.4: Proposed electricity infrastructure projects, 2019–2024

5.2 Water

This district covers a large geographical area with high housing densities of low- to middle-income residents and a large population. The region is relatively flat and serviced by the 110m reservoir system, creating supply flexibility. This area was aggressively pressure managed during the drought. The high housing densities, coupled with the prevalence of backyard dwellings, places a high demand on infrastructure. There are numerous infill projects to accommodate informal dwellers and notable future developments include Penhill, Forest Village, Blueberry Hill, iThemba, the formalisation of the Enkanini, Kosovo and Taiwan informal settlements, the Mahama infill projects and the Highlands Drive and Swartklip developments. With further development, water supply zones need to be reconfigured and PRVs adjusted.

The information used for this baseline assessment relies on 2011 and 2015 data which was processed for the MTIIF. The status of bulk water supply areas has been categorised according to the definitions outlined in Table 5.2 below.

Table 5.2: Classification of bulk water supply areas by level of existing capacity (MTIIF, 2017)

Capacity status	Definition
Severe lack of capacity	0 - 15 m residual pressure in the reticulation networks < 36 hours x AADD reservoir storage
Slight lack of capacity	15 - 24 m residual pressure in the reticulation networks 36 - 48 hours x AADD reservoir storage
Adequate capacity	25 - 60 m residual pressure in the reticulation networks 48 – 72 hours x AADD reservoir storage
Spare capacity	> 60 m residual pressure in the reticulation networks > 72 hours x AADD reservoir storage

In the Khayelitsha, Mitchells Plain & Greater Blue Downs District, there are no areas with a **severe lack of capacity** in the bulk water infrastructure system. Only several areas are currently experiencing a **slight lack of capacity** (Figure 5.5). These include:

- A portion of Brown's Farms, Weltevreden Valley, Colorado, the Kosovo informal settlement and Heinz Park – residential
- The southern edge of Harare – residential, now bordering the Endlovini informal settlement to the south
- Umrhabulo Triangle – residential

The vast majority of the district has **adequate** or **spare capacity** in the bulk water infrastructure system (Figure 5.5). **Spare capacities** are found in a variety of populated areas, including:

- The N2-bordering edge of Crossroads – formal and informal residential
- Large areas of Mitchells Plain, including Lenteguur, Beacon Valley, the Mitchells Plain CBD and the interface between Rocklands and Tafelsig – largely residential, with notable commercial and industrial uses in the CBD
- Central Khayelitsha, including Victoria Mxenge, Nonqubela, Khaya, Eyethu and Silvertown – largely residential
- Ekuphumuleni – the Khayelitsha CBD

- Previously vacant land south of Harare, now home to the Endlovini informal settlement
- Southern Eersterivier and De Wijnlanden Estate – residential

In pursuit of water security, the City has looked into the viability of utilising the Cape Flats Aquifer. To that end, five injection points are planned to recharge the aquifer with treated effluent. Recharging is required to reinstate pore pressure to maintain the sea wall barrier. There are treatment works planned at the extraction points, which will be realised over the next 10 years. During the drought period, temporary desalination plants were established at Strandfontein and Monwabisi. Furthermore, a permanent 50-70 million l reuse plant is planned in Zandvliet.

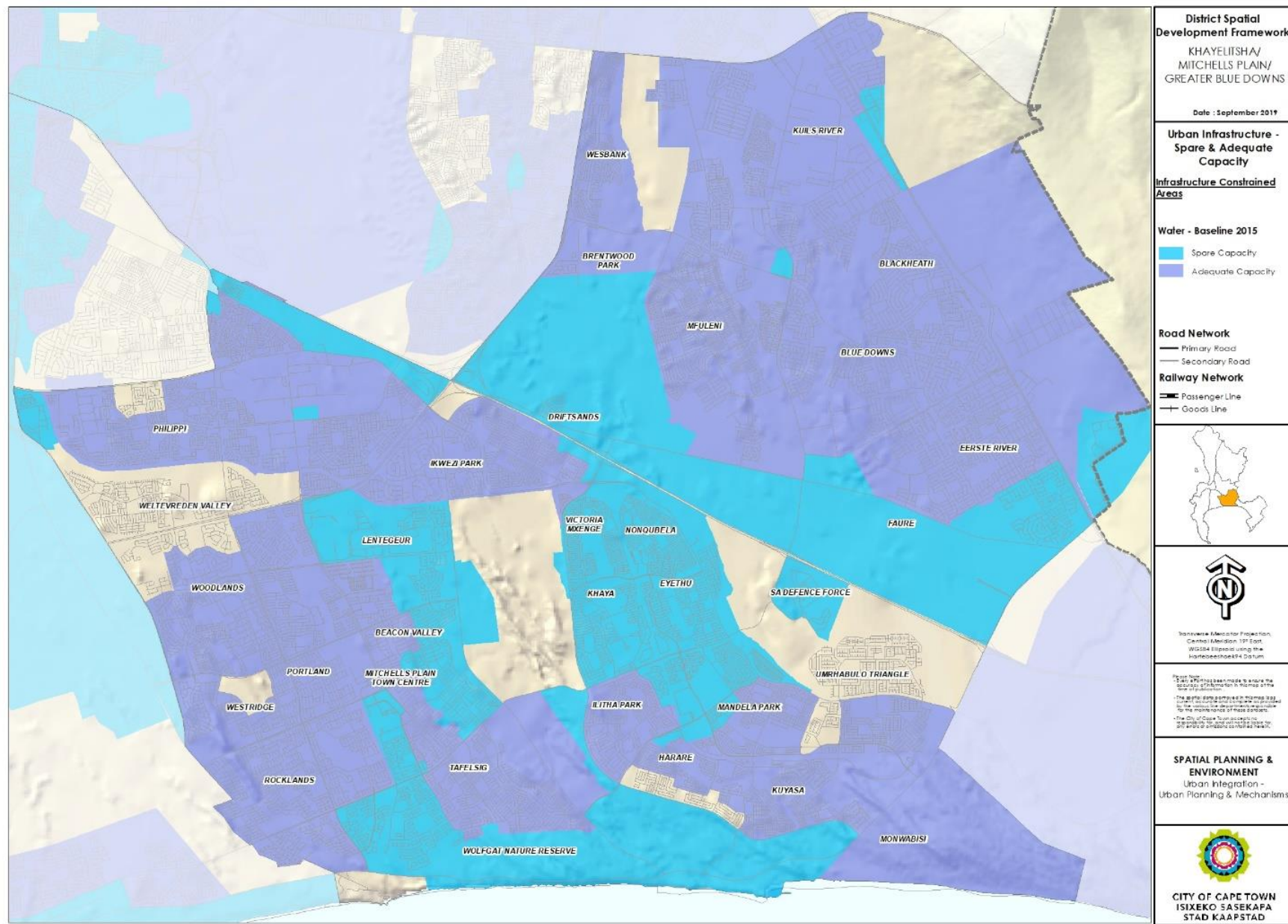


Figure 5.5: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk water infrastructure: spare and adequate capacity, 2015 (MTIIF, 2017)

5.3 Stormwater and Sanitation

3.3.16 Wastewater

Wastewater infrastructure includes the following components:

- All wastewater treatment works (WWTWs)
 - Pump stations (≥ 50 l/s duty flow)
 - Rising mains (≥ 250 mm diameter (nominal))
 - Gravity pipelines (≥ 250 mm diameter (nominal))

The information used for this baseline assessment relies on 2011 and 2015 data, which was processed for the MTIIF. The status of bulk wastewater infrastructure has been categorised according to the definitions outlined in Table 5.3 below.

Table 5.3: Classification of bulk wastewater management areas by level of existing capacity (MTIIF, 2017)

Capacity status	Definition
Severe lack of capacity	WWTW: Capacity exceeded (major drainage areas) Gravity mains: < 15 % relative spare capacity
Slight lack of capacity	WWTW: Capacity exceeded (minor drainage areas) PS: Required pump flow 105% - 115% of current capacity Gravity mains: 15% - 30% relative spare capacity
Adequate capacity	WWTW: 95% - 100% of treatment capacity required Gravity mains: 30% to 50% relative spare capacity PS: Required pump flow 95% - 105% of current capacity
Spare capacity	WWTW: < 95 % of treatment capacity required PS: Required pump flow < 95 % of current capacity

The Zandvliet WWTW is currently at full operating capacity and completion of an 18 million l capacity upgrade to the works is expected in early 2024. This has limited development in the Zandvliet catchment. The development of Kosovo, which was not previously identified in the master plans, and Swartklip will require upgrades to the Mitchells Plain WWTW due to limited capacity.

In the Khayelitsha, Mitchells Plain & Greater Blue Downs District, the following populated areas have a **severe lack of capacity** in terms of bulk wastewater infrastructure (Figure 5.6):

- The western and eastern edges of Philippi – primarily residential
- Ikwezi Park – primarily residential
- North-eastern Mitchells Plain, including Lentgeur and Beacon Valley, as well as Woodlands and the eastern edge of Tafelsig – primarily residential.

A **slight lack of capacity** of bulk waste water infrastructure is also concentrated in the eastern portion of the district (Figure 5.6), namely

- The majority of Philippi – primarily residential, with a significant informal component and some industrial development
- Central Mitchells Plain, straddling the railway line – primarily residential, with notable commercial and industrial land use in the Mitchells Plain CBD
- Harare – residential.

While no areas in the district have **spare capacity** in its bulk wastewater infrastructure, the majority of the district has an **adequate capacity** (Figure 5.7). This includes the following areas:

- Weltevreden Valley
- The western edge of Mitchells Plain
- Ikwezi Park
- Khayelitsha
- The majority of Greater Blue Downs

5.3.1 Stormwater

The stormwater system of the CCT consists of a wide range of infrastructure components. The CCT's Management of Urban Stormwater Impacts Policy, 2009 defines the stormwater system as:

"both the constructed and natural facilities, including pipes, culverts and watercourses, whether over or under public or privately owned land, used or required for the management, collection, conveyance, temporary storage, control, monitoring, treatment, use and disposal of stormwater."

The stormwater infrastructure applicable to this study therefore includes the following:

- Piped networks (excluding provision for minor drainage system associated with road provision)
- Culverts
- Open channels, lined and unlined, including watercourses
- Detention and retention facilities
- Energy dissipation structures
- Water quality management facilities
- Outfalls to watercourses or the sea
- Storm surge and flood protection infrastructure

In the Khayelitsha, Mitchells Plain & Greater Blue Downs District, there are **no known slight or severe constraints** to bulk storm water capacity (Figure 5.7). There is, however, a significant backlog of attenuation facilities, the majority of which are concentrated in the following areas:

- Along the northern edge of Mitchells Plain
- Straddling the railway line through Khayelitsha

In addition, the main backlogs of stormwater conduits are spatially distributed as follows:

- Along Merrydale Avenue and to the west of Eisleben Road, Mitchells Plain
- Along the southern and eastern portions of Swartklip and Spine Roads, respectively
- The south-western edge of Mew Way, Khayelitsha
- The land adjacent to the N2 corresponding with Site B, Site C & TR Section

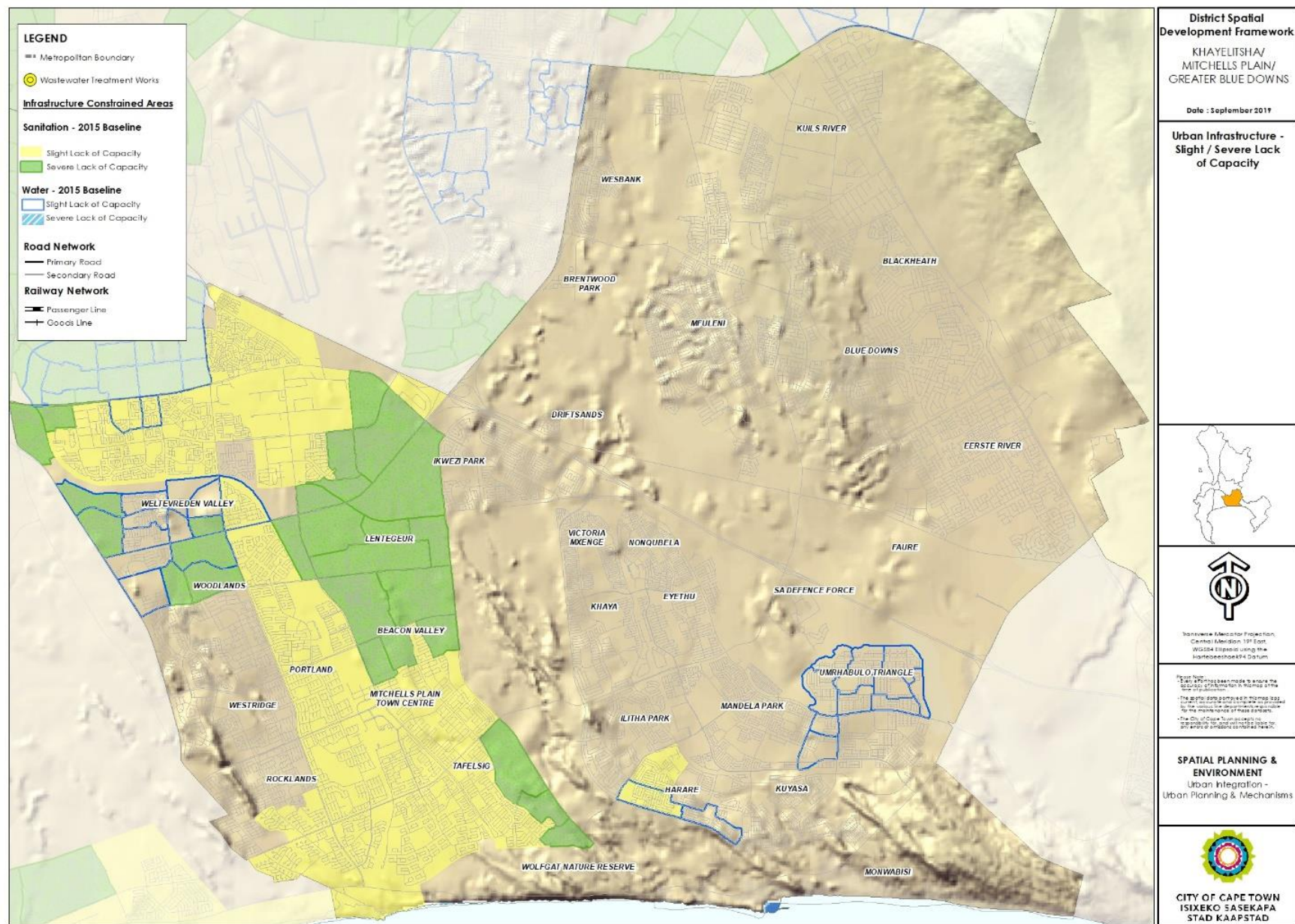


Figure 5.6: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk wastewater infrastructure – slight and severe lack of capacity, 2015 (MTIIF, 2017)

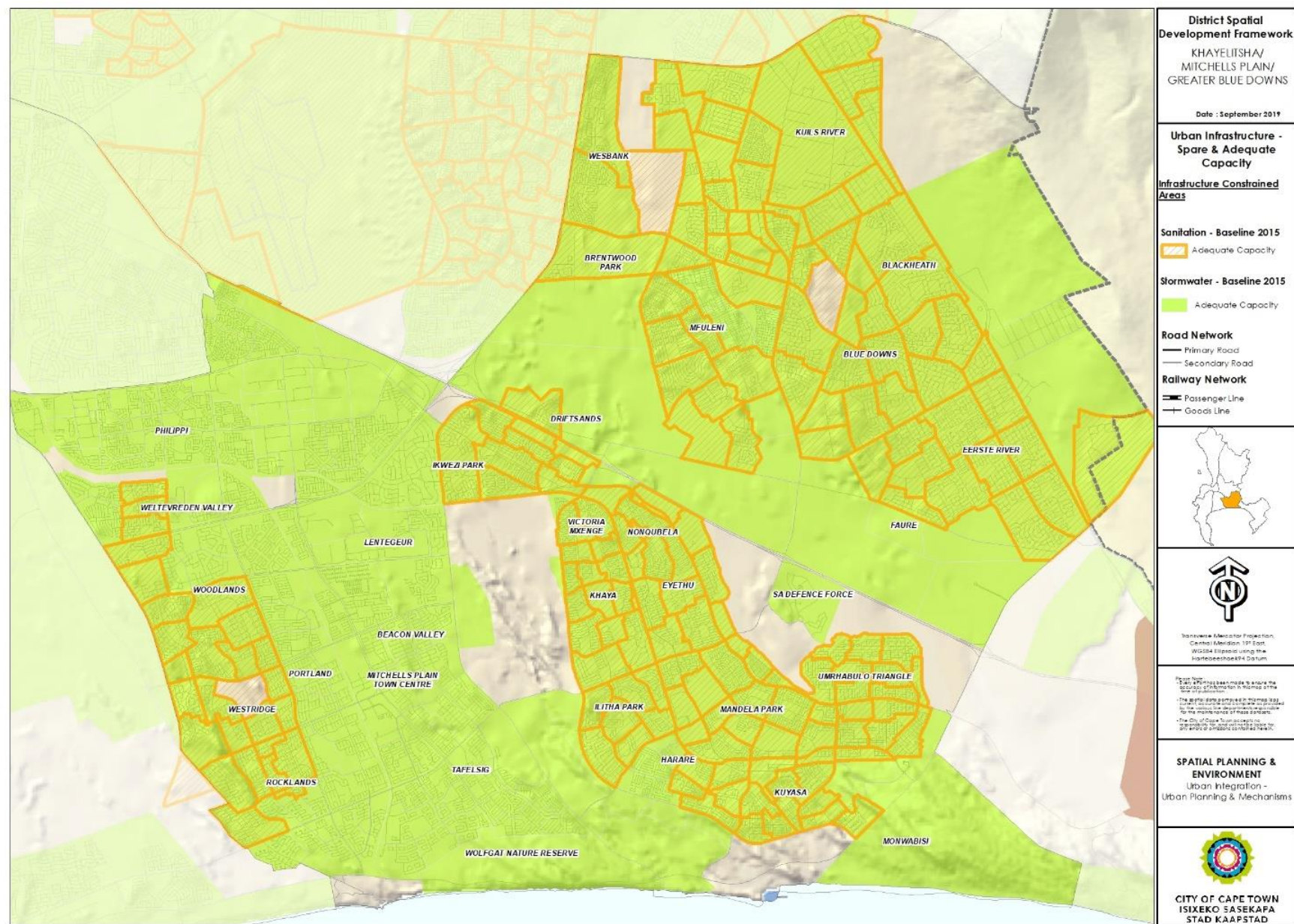


Figure 5.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District bulk wastewater and stormwater infrastructure – spare and adequate capacity, 2015 (MTIIF, 2017)

5.4 Solid waste

Bulk solid waste infrastructure considered for the purpose of this report consists of the infrastructure required to provide current waste management services to existing and future developments and new infrastructure associated with evolving legislative requirements. This includes:

- Landfills and associated mechanical plant
- Refuse transfer stations
- Drop-off facilities (garage waste, greens, building rubble, recyclables, household hazardous waste)
- Buy-back centres
- Fleet (workshop, collection vehicles, cleansing vehicles)
- Material recovery facilities
- Alternative treatment technologies

The information used for the purposes of this report is based on data sourced from 2019. This has been categorised in terms of the definitions and capacity statuses outlined in Table 5.4 below.

Table 5.4: Classification of bulk solid waste infrastructure by level of existing capacity

Solid waste infrastructure type	Capacity status	Comment
Landfills and mechanical plant	The total banked airspace is >10 years in the city, but less than the international benchmark of 15 years. Excludes regional landfill site of which the authority is under consideration.	Landfill sites are not area bound. The city only has 3 operational landfills. Due to limited capacity at landfills, based on license conditions. All landfills have a limited life, per their specific license, and hence will close as the said conditions are met. Infrastructure, plant and equipment at all landfill sites are sustainable managed and compliant with License Authority regulated audits. The Regional landfill will receive most household/business waste via RTSs.
RTSs	The total transfer capacity available currently meets the demand capacity. Additional RTSs are being planned and included in the SWM IWM Plan. RTSs are primarily designed for the waste compactor fleet servicing household/businesses.	RTSs are strategically located throughout the city and hence do not necessarily coincide with the city area model. RTSs service large catchments, structured in terms of resource economic models. Due to the sensitivity of obtaining land/authority of these type of activities closer to high demand areas, they are in most instances built at landfill sites or on main roads to improve accessibility.

		More RTSs are however required as existing centralized landfills are closing. At an RTS the waste collected by refuse compactors are downloaded, re-compacted, containerized and then hauled to landfill sites. These new required additional RTSs will where practically possible be developed on landfill sites (operational or closed) or be strategically located on city owned land.
Drop-off facilities	Currently the city has adequate capacity in terms of drop-off floor area. The actual number of drop-offs are significantly less than what is required to improve accessibility.	The need for drop-offs closer to communities is a major challenge. The current spread is a drop-off within 7km of each household. Due to many economic and social factors communities find it difficult to effectively utilize these facilities. To improve accessibility and to decrease illegal dumping the planned spread of drop-offs should not be one within 3km of each household, with even a higher density in poorer communities. It is extremely difficult to find suitable land that is compliant with city policies and by-laws, additional to the resistance from adjacent or close-by property owners. Pressure is on SWM to close existing facilities as development is allowed closer to the same.
Buy-back centres/ recycling facilities	Nil	There is a huge desire to develop buy-back centres or recycling facilities, to be operated by SMME's, CBO's, NGO's or the city in poorer communities throughout the city. Whilst the land requirement is <1000m², it is difficult to secure city land within communities that are compliant with city policies and bylaws. Support for these type of facilities is increasingly provided by Councillors and lately also from City Urban Renewal and Sub-Councils.
Fleet - Collection vehicles	Adequate number of collection compactors	Replace and supplement Collection fleet in accordance with city growth and service requirements (different communities, local conditions, different vehicle types). Ensure collection fleet has an average replacement age of < 7 years

Fleet - Workshop	Adequate capacity	City operates own dedicated workshop for servicing at Hillstar. Emergency repairs & maintenance, tyre services and overhauls are outsourced.
Cleansing vehicles	Lack in capacity of the correct vehicles, heavy plant and equipment	Replace and supplement Cleansing fleet in accordance with city growth and service requirements (different communities, local conditions, different vehicle types). Ensure cleansing fleet has an average replacement age of less than the 5 years, 7 years and 12 years respectively. The number of vehicles need to increase significantly, also the type of vehicles in use., such as mechanical cleaning equipment, loaders and tippers.
MRFs	Lack of capacity in the city	Growth in recycling is hampered due to the unavailability of MRFs. The city has developed a MRF in Kraaifontein and 2 more are planned for development, at Coastal Park and at ARTS. The city will supplement these larger MRFs with mini-MRFs to increase capacity, to improve accessibility by all and to create SMME opportunities. Current larger drop-offs are earmarked for this added function.
Alternative treatment technologies	No capacity	In terms of legislative requirements, the city is obliged to meet stringent diversion targets for several waste types. Organic and food waste diversion is a major challenge that falls in this category for alternative treatment technologies. Best technologies, required infrastructure and business requirements are being investigated in an effort to identify the basic requirements. Where practically possible existing land at landfills or RTSs will be used to host the new integrated waste infrastructure.

5.5 Key Opportunities and Constraints

In terms of the assessment above, areas that have spare capacity signify opportunities, while those with a severe lack of capacity are the most constrained areas. The information contained in the MTIF needs to be further updated and verified by line departments, which should include new projects to address the existing backlogs in the district.

6 HUMAN SETTLEMENTS

The concept of integrated human settlements goes beyond providing housing, but rather speaks to creating environments that support the social, physical, and economic integration of housing developments into the existing urban fabric and establishing quality living environments that are sustainable. This means that housing is merely one of the basic infrastructure components required to build integrated and resilient communities. Housing must be integrated within areas through housing mix, typologies, design and income, and be close to transport routes supporting transit-oriented development. These principles are illustrated in Figure 6.1 below.

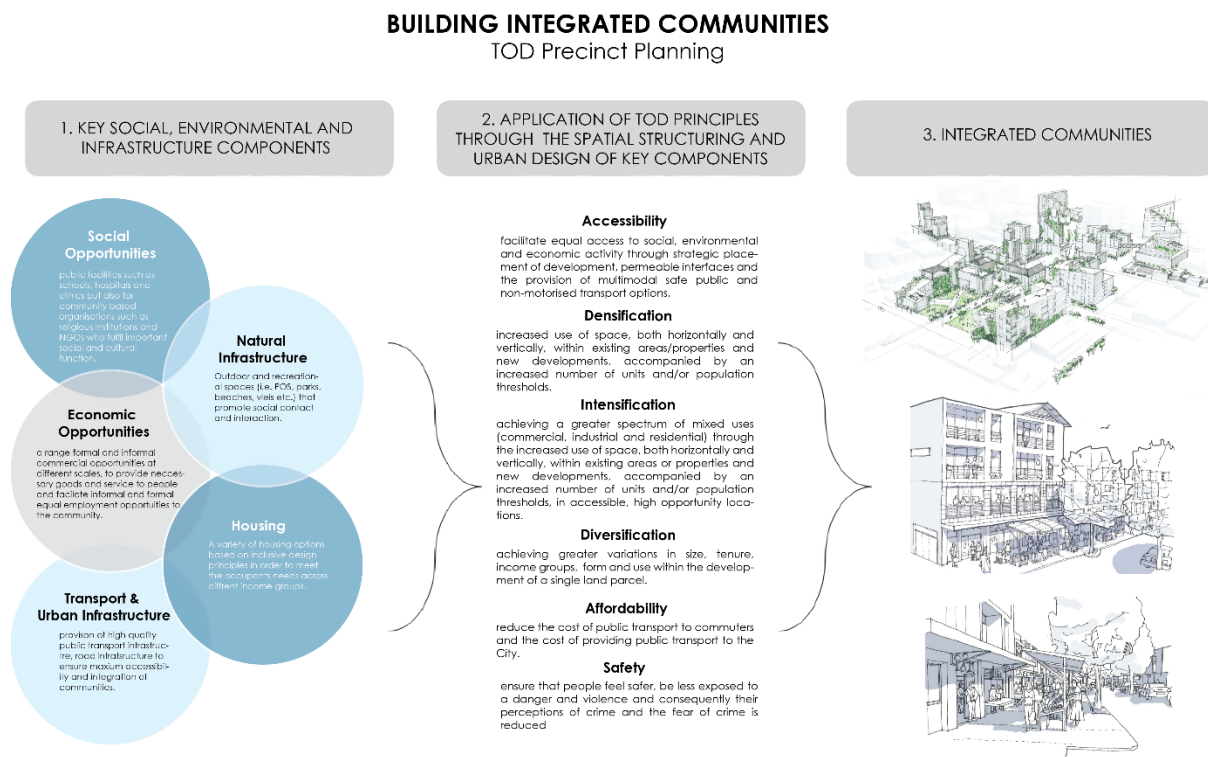


Figure 6.1: Building integrated communities (TOD Strategic Framework, 2016)

6.1 Housing Overview

3.3.17 Housing Typologies

As of 2011, there are a total of 307 445 dwellings in the Khayelitsha, Mitchells Plain & Greater Blue Downs District. Of those, 61% (187 555) are formal in nature, while 39% (119 890) are informal structures – the highest proportion among all districts by approximately 20% (Figure 6.2). Of these, almost $\frac{3}{4}$ (28.92% of total district households) are freestanding informal dwellings, while the remaining $\frac{1}{4}$ (10.08% of total district households) are informally constructed backyard dwellings. In light of its exceptionally large population, the district comprises of a staggering 61.82% of all freestanding informal dwellings in the Cape Town metropolitan area.

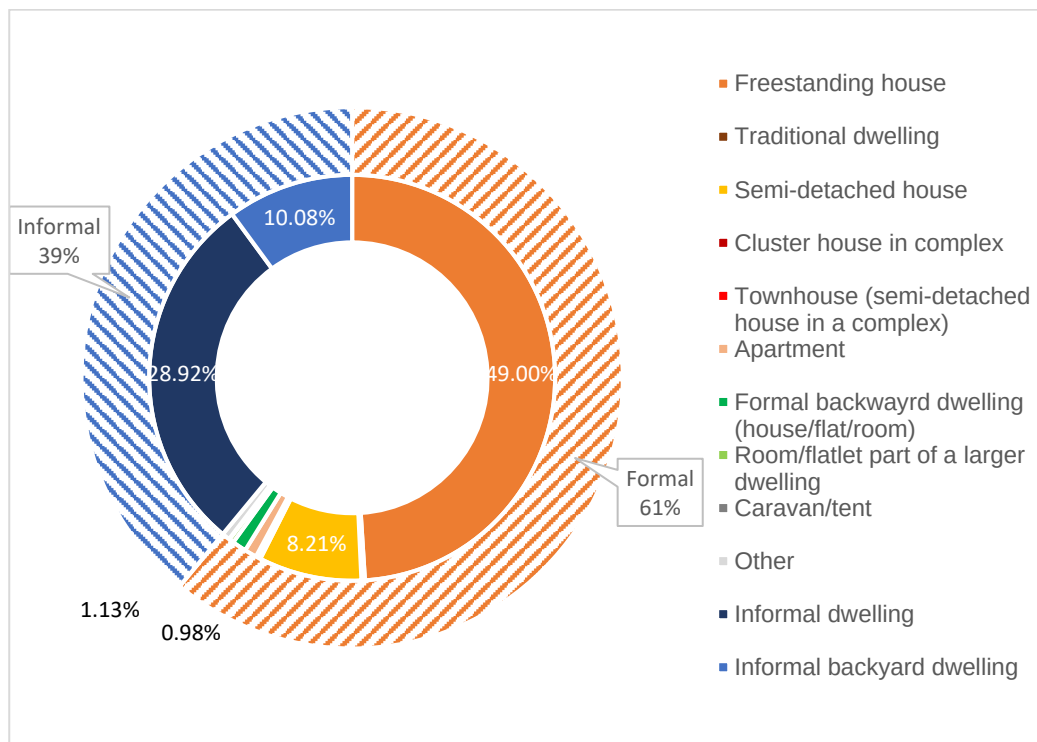


Figure 6.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District housing typology distribution (2011 Census)

The 187 555 formal dwellings in the district are comprised overwhelmingly of freestanding houses, accounting for approximately half (49.00%) of total district dwellings (Figure 6.2). This is coupled with smaller numbers of semi-detached houses (8.21%), formal backyard dwellings (1.13%) and apartments (0.98%). Other housing typologies make up only a negligible percentage of total dwellings.

In terms of spatial distribution, freestanding structures dominate the formal residential fabric in the vast majority of areas across the district (Figure 6.3). This is a significant contributor to the overall low household densities in these areas. One exception to this trend is the Mitchells Plain Sub-District. Here, one observes a mixture of semi-detached and freestanding houses (often in the favour of the former) and account for almost all semi-detached dwellings in the entire district. Formal backyard structures are sparsely, but relatively evenly spread across the Khayelitsha, Site B, Site C & TR Section, Mitchells Plain and Philippi Sub-Districts, while the meagre number of apartments in the district are concentrated primarily in Philippi East.

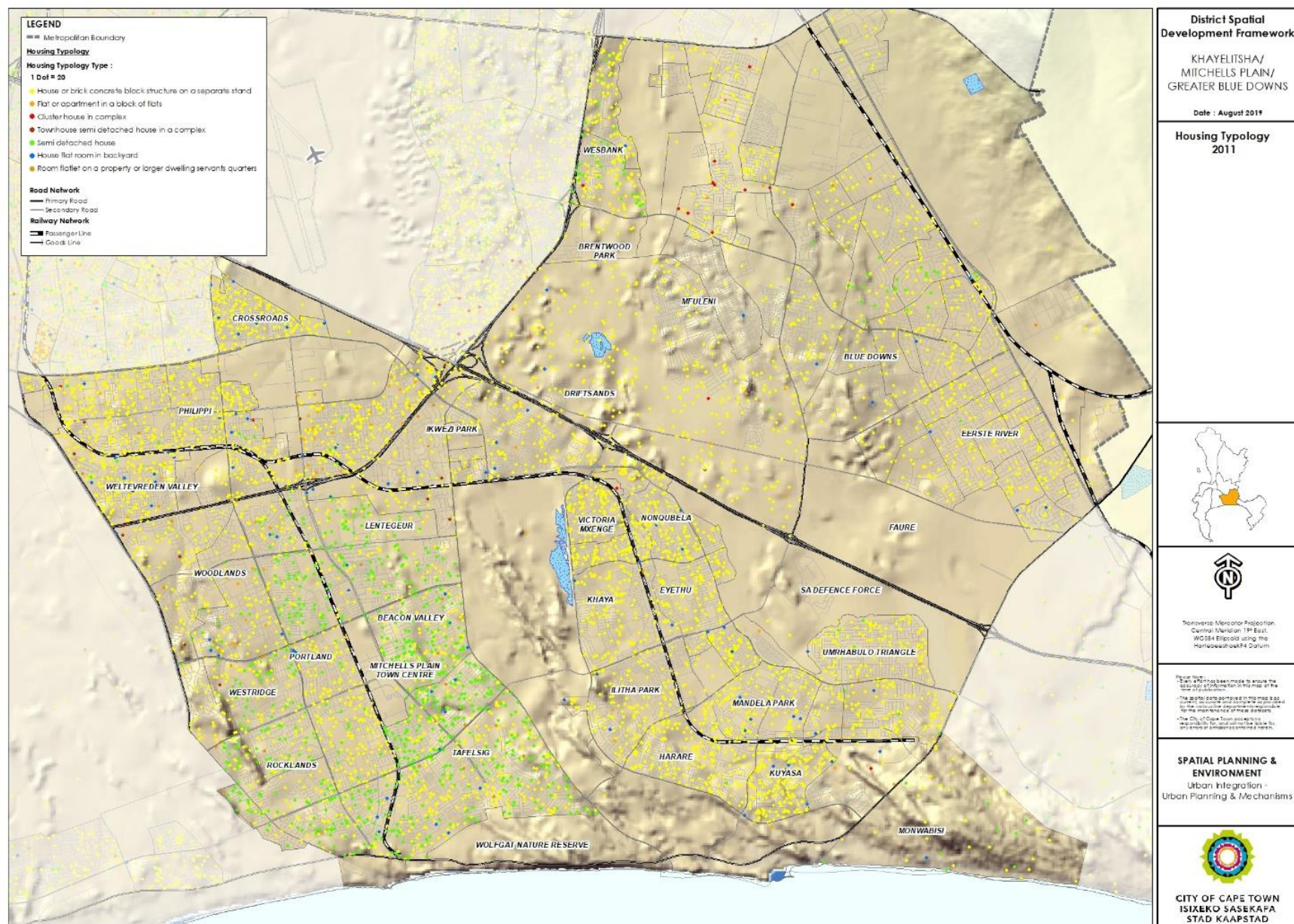


Figure 6.3: Khayelitsha, Mitchells Plain & Greater Blue Downs District distribution of dwelling typologies (2011 Census)

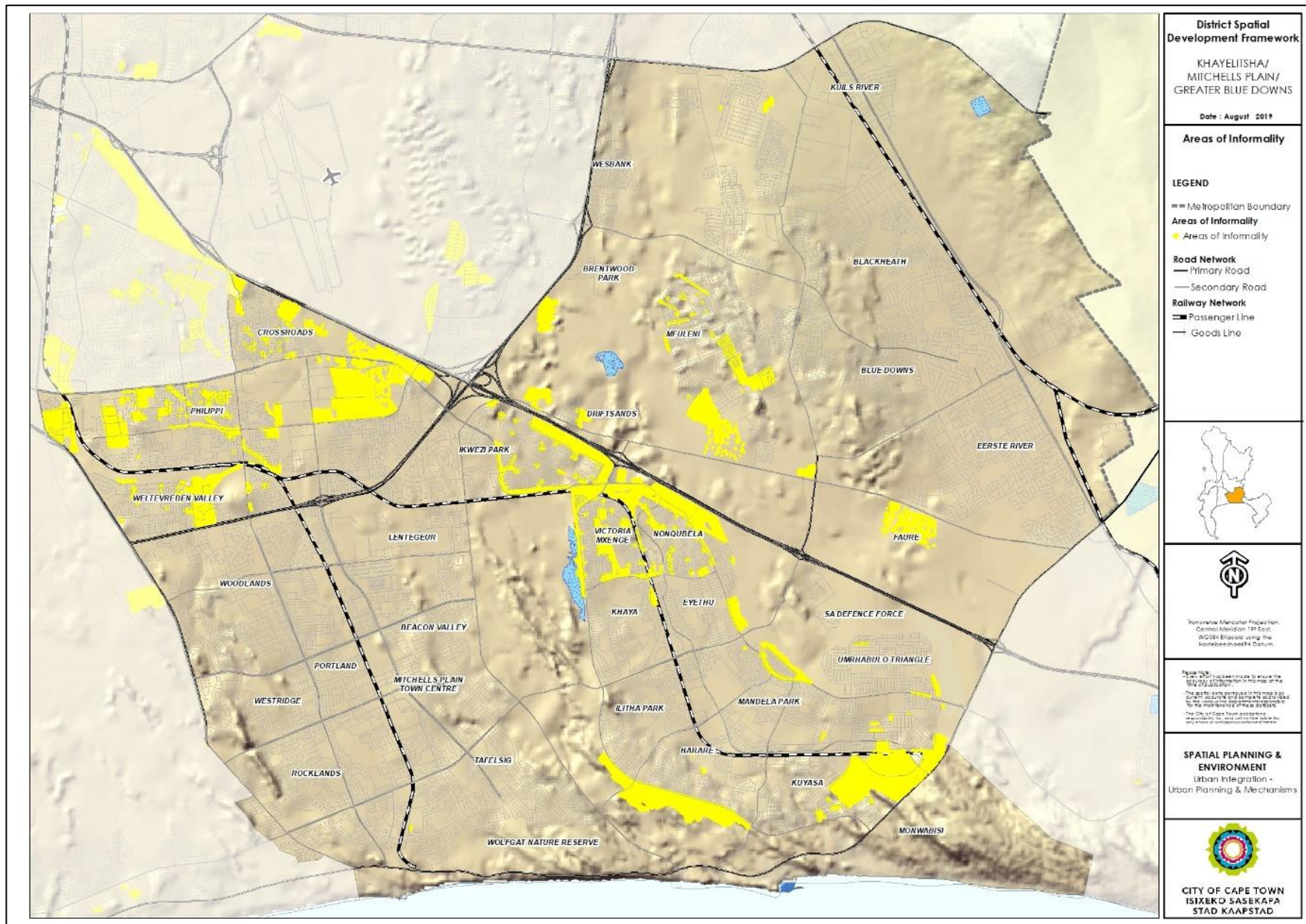


Figure 6.4: Khayelitsha, Mitchells Plain & Greater Blue Downs District informal dwelling distribution by (CCT Informal Structure Count, 2018)

Freestanding informal dwellings are widespread throughout the district (Figure 6.4). Such settlements are most highly concentrated within (and in some cases comprise) the following areas, where they generally make up the significant majority of residential structures:

- Philippi Sub-District
 - Sweet Home
 - Browns Farms (western Philippi)
 - Philippi SP1 (eastern Philippi)
 - Kosovo (Weltevreden Valley)
 - Boys Town (Croasroads)
- Coastal Sub-District
 - Monwabisi (Endlovini Informal Settlement, south of Harare)
- Site B, Site C & TR Section Sub-District
 - Ikwezi Park
 - Victoria Mxenge
 - Nonqubela
- Khayelitsha Sub-District
 - Bongani TR Section (north-eastern edge of Denel/Swartklip)
 - Khayelitsha T3-V2 (Enkanini Informal Settlement, east of Kuyasa)
 - Silvertown and Khayelitsha SP (east of Eyethu and Mandela Park)
- Driftsands Sub-District
 - Blue Downs SP2 (Faure)
- Mfuleni Sub-District
 - Mfuleni; the edges of Driftsands Nature Reserve

Especially pertinent are the informal settlements located within Mfuleni, Faure, Ikwezi Park, Silver Town, Khayelitsha SP, Khayelitsha T3-V2, Khayelitsha T2-V2b and Monwabisi. The continued expansion of these settlements poses a significant threat to the integrity of the Driftsands Nature Reserve, the Kuils River, Khayelitsha wetland system and the parabolic dune systems along the False Bay coastline, all of which home to critically endangered Cape Flats Dune Strandveld vegetation and ecosystems. Similarly, the unchecked growth of informality in Sweet Home and western Philippi has potentially significant implications for the management and protection of the Philippi Horticultural Area.

Lastly, as of 2011, the highest number of informal backyard dwellings is located in Happy Valley (Greater Blue Downs Sub-District), accounting for 38.49% of all households. This is an outlier within the Greater Blue Downs Sub-District, however, where informal backyard dwellings amount to merely 0–10% of total dwellings in the vast majority of sub-places. On the whole, informal backyard dwellings are concentrated most strongly within the Philippi Sub-District, accounting for 25%–30% of all households in the sub-places of Browns Farms, Weltevreden Valley North 1, Heinz Park and Philippi East. The second highest concentrations of informal backyard dwellings are generally found in areas on the outer edge of the Khayelitsha Sub-District, namely Khayelitsha T3-V4 (east of Mandela Park, accounting for 32.50% of total households) and Trevor Vilakazi, Harare, Khayelitsha T3-V3 and Khayelitsha T3-V5 (Umrhabulo Triangle), accounting for 21–25% of total households.

3.3.18 Tenure Status

At 57.69%, the Khayelitsha, Mitchells Plain & Greater Blue Downs District displays the second highest rate of home ownership in the city (as measured in 2011), trailing behind the Northern District by a very narrow margin. In effect, just over ½ of the households in the district own their homes (Figure 6.5). This is made up largely of paid off home ownership at 41.26% – significantly above the metropolitan average of 33.24%. Conversely, the district has the lowest rate of bond-secured home ownership at 16.43%. In light of the exceptionally low incomes earned by households in the district (see State of the Population), the former indicates the ubiquitous necessity of state-subsidised housing provision in the district, while the latter speaks to the financial inability of most households in the district to secure a housing bond.

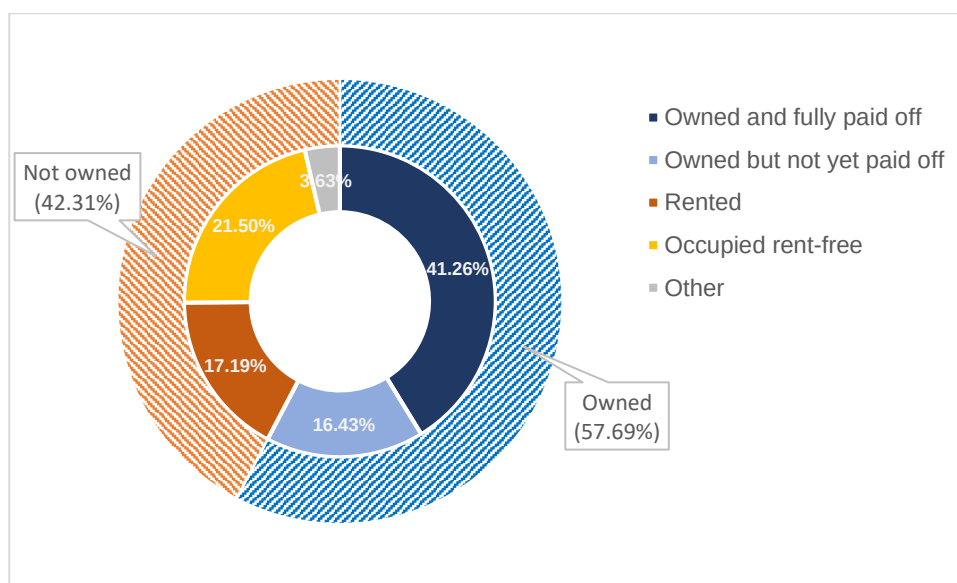


Figure 6.5: Khayelitsha, Mitchells Plain & Greater Blue Downs District distribution of household tenure status (2011 Census)

From the above, it follows that the district has the lowest percentage of unowned homes in the metropolitan area, accounting for just under half (42.31%) of households (Figure 6.5). Among these, only 17.19% of homes are rented – the lowest rental rate in the city by a wide margin. The metropolitan average percentage of rented homes sits at 29.88% and the district with the next highest rental rate is the Northern District at 29.52% – nearly double that of Khayelitsha, Mitchells Plain & Greater Blue Downs. The above disparity is a direct representation of the lack of affordable rental and social housing opportunities in the district. Conversely, at 21.50%, the district is home to the largest percentage of homes occupied rent-free by a comparatively wide margin. Such a dynamic is representative of the ubiquity of informality in the area.

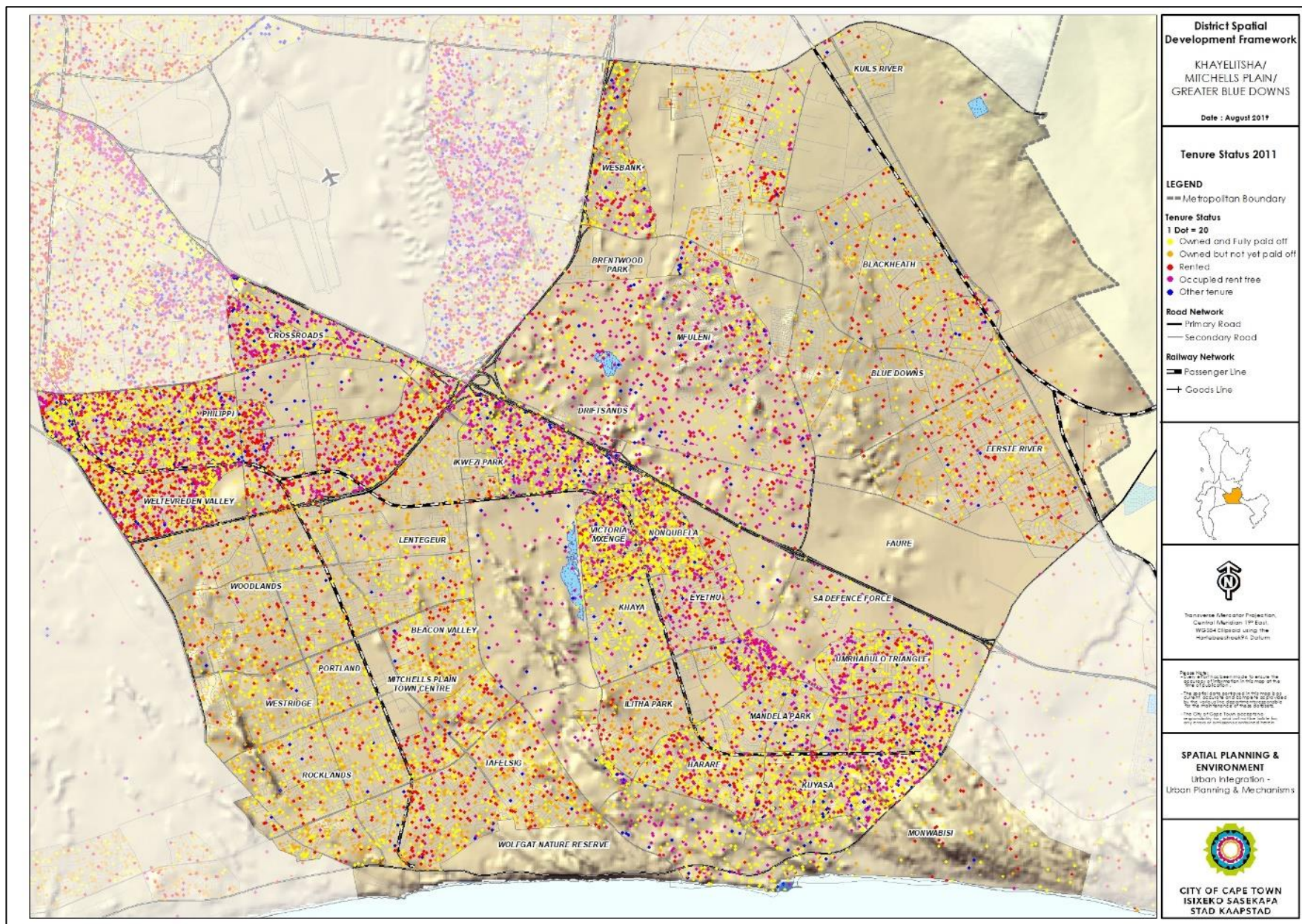


Figure 6.6: Khayelitsha, Mitchells Plain & Greater Blue Downs District spatial distribution of household tenure status (2011 Census)

With relative presence across the district as a whole, full home ownership is concentrated mainly in the Philippi, Mitchells Plain, Site B, Site C & TR Section and Khayelitsha Sub-Districts, where it accounts for up to 50%–70% of households in some areas (Figure 6.6). In addition to other characteristics, these areas have seen the bulk of state-subsidised housing provision and are also home to the majority of informal settlements. Far more spatially polarised is the distribution of bond-secured ownership. These households are found almost exclusively in Mitchells Plain and Greater Blue Downs, where household incomes are generally higher. Homes occupied rent-free display almost the inverse distribution, corresponding closely with informal settlement patterns and areas of lowest incomes. Lastly, excluding areas of informality, rental is fairly evenly distributed across the district, accounting for the tenure status of merely 10%–20% of households in most areas.

6.2 Housing Demand

Housing demand in the Khayelitsha, Mitchells Plain & Greater Blue Downs District is assessed using a proxy of the number of informal structures in the district, as well as the number of people that have registered with the City's Housing Needs Register.¹⁴ However, there are limitations to the housing demand data cited in this section, as outlined below:

- Records marked as "Assisted" – this is not a true reflection on supply per financial year as records are not regularly updated. For this reason, there is a difference between the figures (per financial year) for "Assisted" records and "Total Supply".
- Furthermore, "Assisted" records primarily refer to the supply of BNG, PHP and CRU housing opportunities as not all housing products supplied are currently captured on the Housing Needs Register.
- Records marked as "Waiting" – this only refers to persons who came forward to express their housing need and not necessarily person who will qualify for a state subsidized housing opportunity. The qualification verification process will only occur once a person is selected for a housing opportunity.

As of the end of 2018, there are a total of 98 943 freestanding informal dwellings in the district, an increase of 10.14% (10 035) from 88 908 freestanding informal dwellings in 2011. According to the above proxy, this represents a net increase in housing demand. While still home to the highest number of freestanding informal dwellings, the district now comprises just over half (53.47%) of all freestanding informal dwellings in the city, a significant decrease from 61.82% in 2011. This implies relative growth in housing demand in other districts in the metropolitan area.

As discussed in Section 7.1.1 Housing Typologies, the highest concentrations of freestanding informal dwellings are found in the areas within Philippi; Site B, Site C & TR Section; the outer edges of Khayelitsha and Coastal; Driftsands and Mfuleni. Within these sub-districts, the highest numbers of freestanding informal dwellings (and by implication, housing demand) are found in:

- Browns Farms (8 700)

¹⁴ Note that people who have registered their need for housing might also be living in informal settlements in the area. Additionally, the proxy of freestanding informal dwellings omits the potential additional housing demand represented by those living in formal *backyard* dwellings.

- Philippi (11 518 dwellings)
- Ikwezi Park (9 042 dwellings)
- Khayelitsha T3-V2 (8 909 dwellings)

Somewhat more moderate numbers are found in:

- Khayelitsha T2-V2b (6 788 dwellings)
- Nonqubela (6375 dwellings)
- Kosovo Informal (6 156 dwellings)
- Mfuleni (5 404 dwellings)

Despite generally below-average district population and household growth rates between 2011 and 2018, and high growth rates in areas of small base populations and household numbers (see Chapter 2 Demographics), the exceptionally high population growth rates observed in the areas of Blue Downs SP2 (780.95%), Philippi SP1 (427.63%), Sweet Home (47.18%) and Khayelitsha T2-V2b (48.67%) – all of which occupied primarily by informal settlements – represents growing unmet housing demand. (However, as has been noted, the large percentage growth rates observed in Blue Downs SP2, Philippi SP1 Sweet Home are largely attributable to their small base populations in 2011.) By contrast, the moderate to high population growth rates observed between 2011 and 2018 in Hagley (44.80%), Stratford Green (46.43%), Delro (67.65%), The Connifers (143.29%) and Fountain Village (549.04%) represents an increase in housing supply, as they are linked to greenfield formal housing projects.

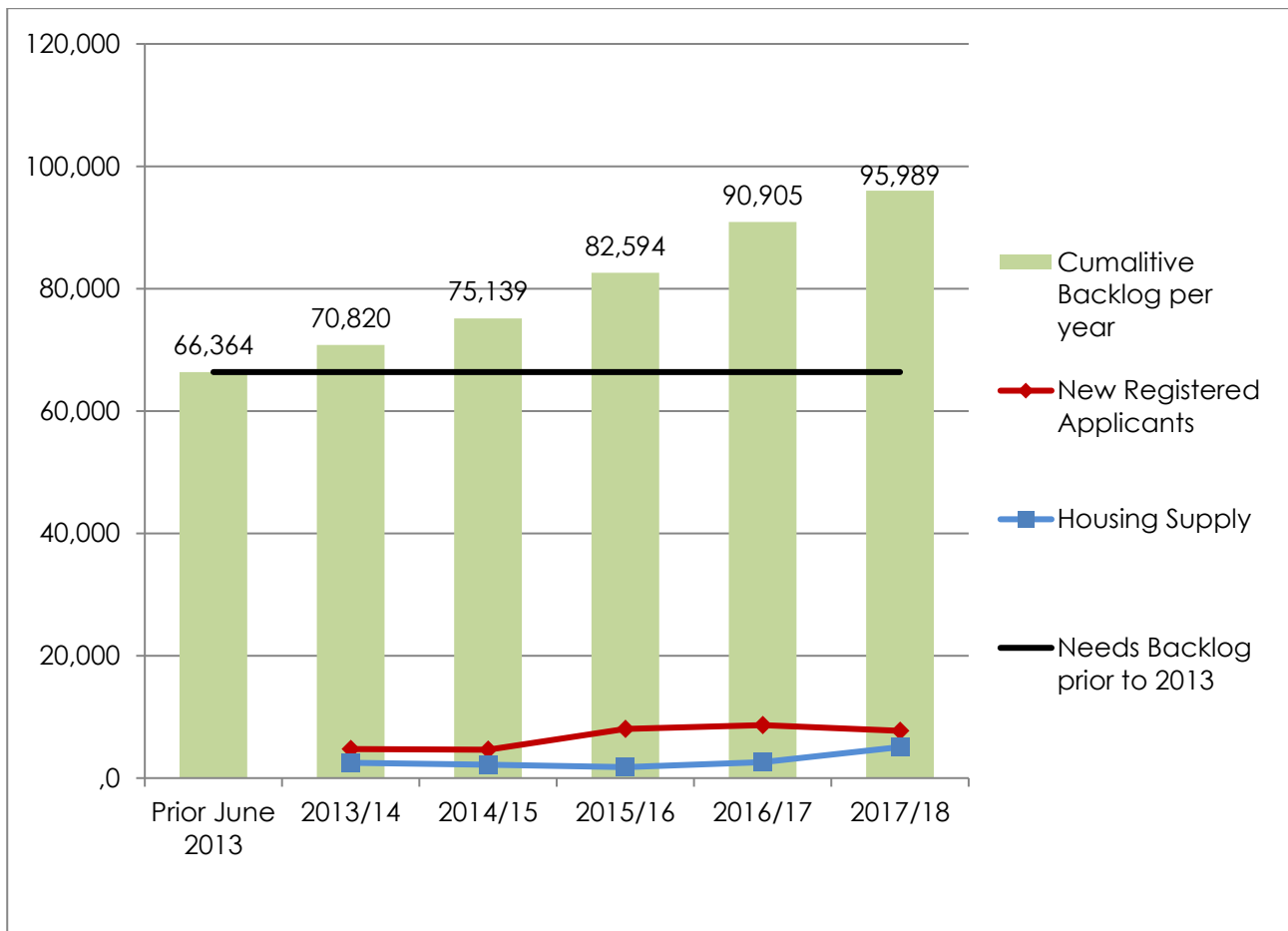


Figure 6.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District housing supply and demand trends, 2013–2018 (CCT Housing Needs Registry)

Further illustrating housing demand patterns, the district housing needs backlog stood at a staggering 66 364 people prior to 2013, based on figures from the City's Housing Needs Register (Figure 6.7). Between 2013 and 2018, an additional 33 826 people had registered, accounting for 34.79% of all people who have registered their need across the City during that time period.¹⁵ When considering the supply of housing opportunities (see Section 7.3 Housing Supply), this translates into an average growth in housing demand of 8% per annum – more than double the average housing delivery rate of 3% per annum. Consequently, by the end of 2018, the district had an even greater cumulative housing needs backlog of 95 989.

Ultimately, the housing demand as measured by the number of freestanding informal dwellings in 2018 (98 943) and as measured using the Housing Needs Registry in 2018 (95 989) are relatively similar and in alignment. This provides a semi-accurate overall indication of the level of housing demand in the district.

6.3 Housing Supply

This section outlines the current state of housing supply in the district. However, the data cited is subject to the following limitations:

- UISP – persons who are beneficiaries within an Upgrading of Informal Settlements Project are not necessarily registered on the City's Housing Needs Register as this is not a mandatory provision as per the prescripts of the National Human Settlements Policy. The idea is to upgrade the identified Informal Settlements regardless of a person's eligibility criteria. A person's eligibility criteria are, however, taken into account during the transfer of ownership of a services site and/or top-structure.
- GAP – person who are beneficiaries within the GAP market are not necessarily registered on the City's Housing Needs Register. Eligible persons apply directly to the developer to purchase the property and will apply directly to the Western Cape Department of Human Settlement for the Financed Linked Individual Subsidy Programme (FLISP) subsidy.
- Land Restitution/ Institutional - persons who are beneficiaries within this housing programme are not necessarily registered on the City's Housing Needs Register.
- Social and rent to buy - persons who are beneficiaries within this housing programme are not necessarily registered on the City's Housing Needs Register as this housing programme caters for households with an income up to R15 000 per month. Prospective tenants apply directly to the respective Social Housing Institutions for rental vacancies.

¹⁵ Note that anyone is able to register their need for housing on the Housing Needs Register; however, many of the people registered might not qualify for housing, or might have experienced a change in circumstances and need since registering. Therefore, this information needs to be interpreted and used with caution, as a background check of beneficiaries registered on the database is only done at project inception.

3.3.19 Constructed and Delivered

Between 2013/14 and 2017/18, a total of 14 130 state-funded housing opportunities were created in the Khayelitsha, Mitchells Plain & Greater Blue Downs District (Figure 6.8).¹⁶ This accounted for 37.79% of all state housing delivery in the metropolitan area in that time frame and reflects the fact that the district accounts for 34.79% of all new registrations on the City's Housing Needs Register (see Section 7.2 Housing Demand).

The significant majority of the delivery of housing opportunities was driven by People's Housing Projects (PHPs), which comprised 37.83% (5 345) of all housing opportunities created in the district (Figure 6.9). These projects entail the management of housing construction by a registered community-led and registered team on behalf of beneficiaries by way of a Business Plain, appointing their own contractor, with financial assistance from the Urban Sustainability Development Grant (USDG) and in compliance with minimum PHP regulations. The implementation of PHPs saw an especially noteworthy spike in 2016/17 (Figure 6.8). During this time 2 314 top structures were constructed, the majority of which were part of the Bardale projects.

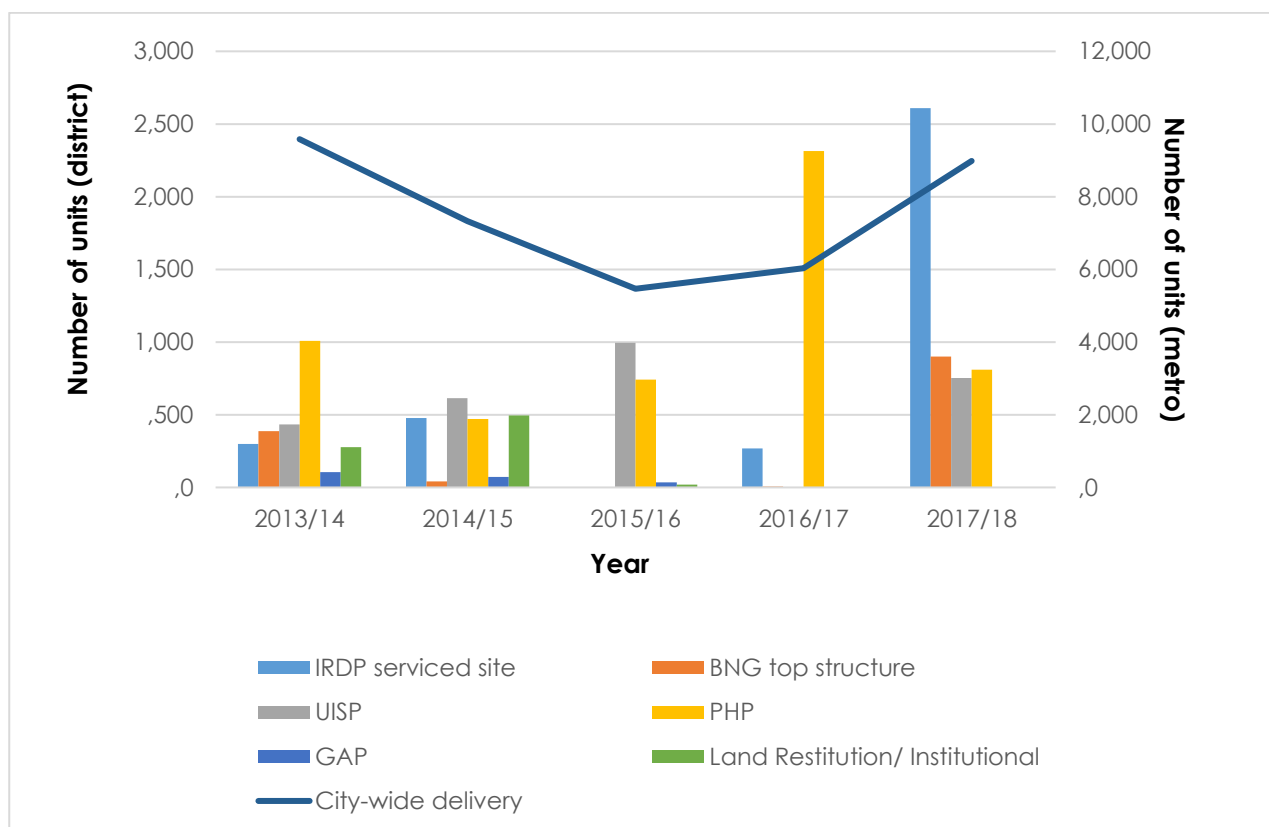


Figure 6.8: Khayelitsha, Mitchells Plain & Greater Blue Downs housing delivery over time by number and typology, 2013/14–2017/18 (CCT Human Settlements Department, 2019)

¹⁶ While government is a key provider of housing to households earning lower incomes – particularly those who earn below R3 500 per month – the private sector also plays a crucial role in the provision of housing at all income levels. The private sector delivery of housing has not been factored into this analysis.

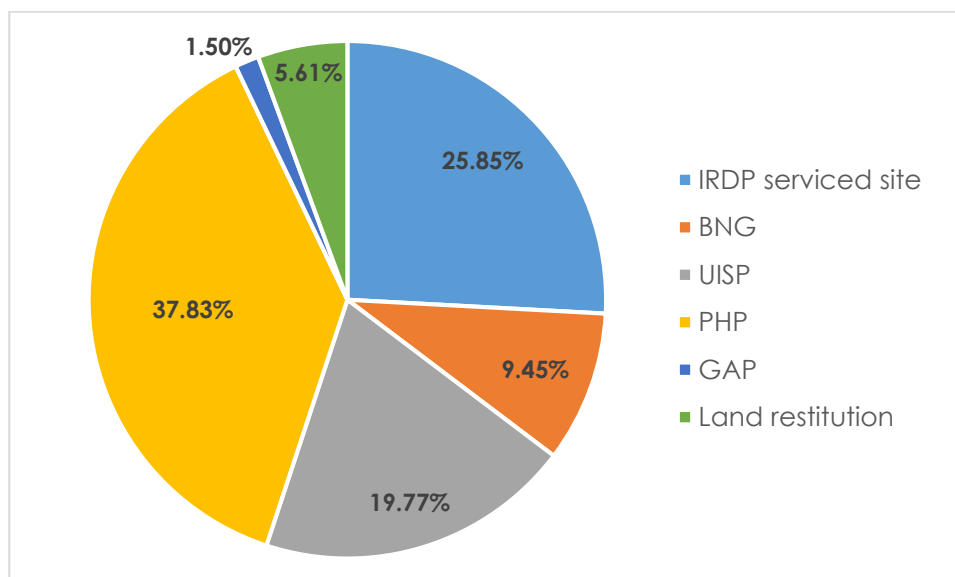


Figure 6.9: Khayelitsha, Mitchells Plain & Greater Blue Downs District housing delivery distribution by type, 2013/2014–2017/2018 (CCT Human Settlements Department, 2019)

The next largest contribution was made by the Integrated Residential Development Programme (IRDP), which supplies serviced plots to households earning an average monthly income of R7 000 or less. Over the 2013/14–2017/18 period, serviced sites made up 25.85% (3 653) of new housing opportunities in the district. Of note is the tremendous spike in the provision of serviced sites during the 2047/18 year, yielding a total of 2 610 (Figure 6.8 & Figure 6.9.)

Although driven by state capital, neither PHP or IRDP projects include state-constructed top structures. Combined, these programmes accounted for over half (63.68%) of all new residential opportunities (Figure 6.9). Most significant is the high number of PHPs, representing a distinct drive on the part of local communities to play an active role in addressing the district's housing crisis.

At 19.77%, the incremental Upgrade of Informal Settlements Programme (UISP) made up the next highest percentage of housing supply (Figure 6.9), yielding a total of 2 793 opportunities, most notably in Mfuleni, Bardale and Sweet Homes. However, the majority of these constituted the provision of sites, not completed top structures.

Constituting only 9.45% of all new housing supply during this time, Breaking New Ground (BNG) projects (catering to households earning an average monthly income below R3 500) yielded 1 335 units (Figure 6.9). As with IRDP serviced sites, it is noteworthy to see that the delivery of BNG housing was exceptionally low between 2013/14 and 2016/17, after which it saw an enormous spike in 2017/18 with the delivery of 900 top structures (Figure 6.8), 851 of which were part of the Forest Village project. The delivery of BNG housing units was complemented by a marginal supply of 212 GAP housing structures, accounting for merely 1.50% of new housing supply in the district (Figure 6.8 & Figure 6.9).

Of final note is the lack of any social housing/rental projects. This trend can be tied to the exceptionally low household incomes as well high employment rate of the district, representing a lack in stable and consistent household incomes to make rental stock a viable typology.

3.3.20 Pipelined, Planned and in Construction

While the preceding section outlines the completed housing projects, Figure 6.10 below outlines human settlements projects that are either under construction, planned (meaning budget has been allocated to them) or pipelined (future developments that will be planned next). The majority of projects in planning or construction are located in Blue Downs, Eerste River, Mfuleni, Khayelitsha (Enkanini) and to a lesser extent in Mitchells Plain and Philippi. Land that has been reserved for housing and is subject to further investigations are located mostly in Eerste River/Mfuleni and Khayelitsha along Mew Way. The Southern Corridor Human Settlement Programme would focus on the implementation of the N2 Phase 1 and 2 projects and upgrading of 27 linked informal settlements in the vicinity, which would benefit more than 50 000 households.

6.4 Key Opportunities and Constraints

6.4.1 Generic constraints:

- A key constraint with human settlements implementation across the City, has been a lack of integrated planning of budget cycles, which impacts on the prioritisation of projects by City Directorates. This has undermined the attempt to create integrated communities in some areas of the City.
- The development of integrated human settlements requires the use of well-located land for government subsidised housing. Well-located land is expensive, in short supply, and often more appropriate for infill development than the large-scale BNG developments that are often on cheaper land.
- Most of the government subsidised housing programmes implemented by the City are nationally funded programmes, which come with strict conditions and legal parameters. These human settlements programme parameters constrain the development of affordable housing that meets the spatial goals of the City – particularly the densification and diversification of typologies.
- Capacity constraints regarding the social facilitation of human settlements developments can impact negatively on the outcomes of projects.
- Land invasion has increased, and represents a significant challenge to the City. Land invasion sterilises land which was otherwise earmarked for human settlements, or other social or economic activity. It represents a challenge to the City's human settlements project pipeline through redirecting resources. It also results in community conflict between those who have invaded land, and those who are waiting for long periods of time on the Housing Needs Register.
- In situ upgrading of informal settlements is a challenge, as firstly the land might not be suitable for development (e.g. area that is prone to flooding, environmentally sensitive areas etc.), and secondly, some areas of the City might be too dense so that de-densification becomes necessary in order to enable formalisation of areas.

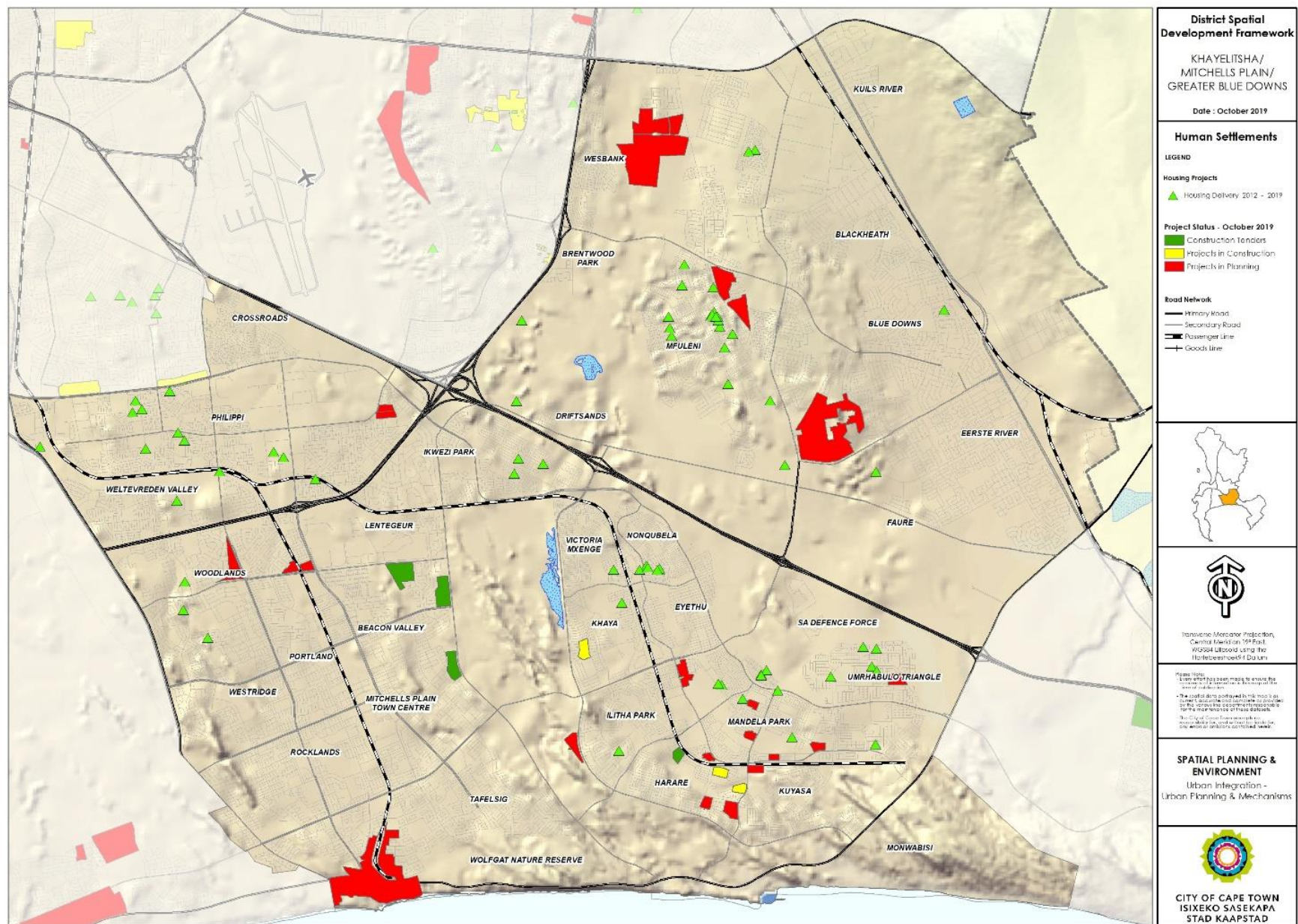


Figure 6.10: Status of Human Settlements projects in the Khayelitsha, Mitchells Plain & Greater Blue Downs District

3.3.21 Local Constraints

- Housing demand in Khayelitsha, Mitchells Plain & Greater Blue Downs is outstripping supply, as is evidenced by the increase in those living in informal settlements. This trend, together with a proportional increase in household numbers, as well as an increase in households earning no income suggest that government housing interventions need to be targeted.
- The population of the district is relatively young with many of the young adults which would want to enter the housing market within the medium to longer terms.
- The high unemployment rate in this district is putting further pressure on the government to provide subsidised housing to poorer communities and much denser populated areas.
- Population growth is experienced in the informal settlements of Sweet Home, Khayelitsha T2-V2b, Philippi SP1 and Blue Downs SP2. These areas are incredibly dense, which makes utilising in situ upgrading through the Upgrading of Informal Settlement Programme a challenge
- There is an existing threat of land invasion and encroachment into the Driftsands, Swartklip and Coastal areas due to high demand. The City should therefore concentrate on enabling formalisation by the local community, and encourage the development of an affordable property market in the area.
- Limited developable land for greenfield developments.
- Expectations for the number of freestanding government subsidized housing from beneficiaries are constantly increasing.

6.4.2 Opportunities

- Medium and higher density housing typologies must be encouraged
- Mixed land uses with opportunities for employment creation should be encouraged.
- Alternative and mixed housing typologies and mechanisms to be investigated.

7 PUBLIC FACILITIES

7.1 State of Supply and Demand

The following analysis and proposals on Community Facilities are informed by the updated Community Facility Guidelines and Standards for Facility Provision reviewed in 2020. Each facility has a set of planning standards for providing facilities which have been articulated by line departments, work-shopped and agreed to with key stakeholders. The facilities guidelines and standards were incorporated into a modelling exercise that sought to understand sufficiency or insufficiency in the distribution of community facilities and build a hierarchy of civic clusters (a network of nodes with community facilities) across the City illustrated in Figure 37.

The results from the modelling exercise should be used as a data driven support tool to inform strategic planning, budgeting, decision making and implementation as such they do not replace the facilities identified and prioritized by line departments and the Community Services and Health Infrastructure Plan.

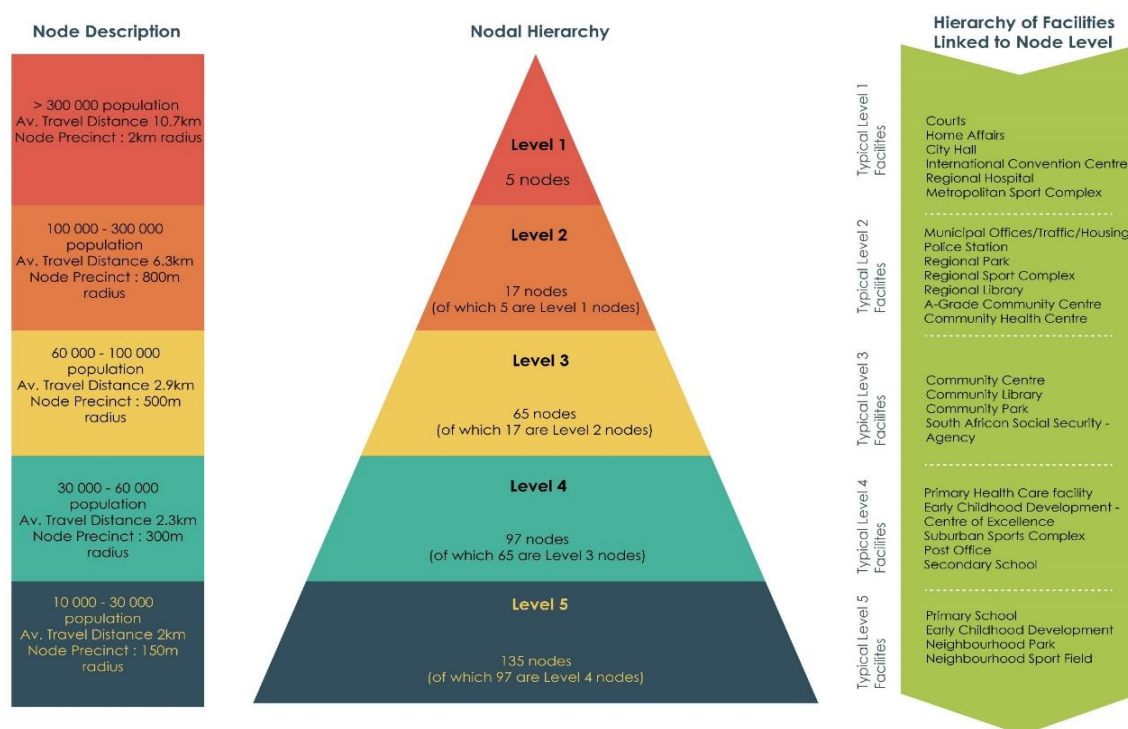


Figure 11: Conceptual Hierarchy of Community Facility Nodes/Civic Clusters

7.1.1 Existing facilities

Figure 38 illustrates the distribution of existing facilities and highlights sufficiency/insufficiency in the form of a heat map, neighborhoods that fall within areas shaded red, orange are the most underserved areas in the district. The Khayelitsha Mitchell's Plain Greater Blue Downs District is one of the fastest-growing districts in the City with a high demand for housing, as

very limited access to public transport. The district has a growing population and historically lags behind in terms of investment in community facilities, as such the available facilities are overburdened. There is little to no available land for development and in particular community facilities as land is under pressure from development and land invasion which makes planning and providing the required community facilities extremely difficult.

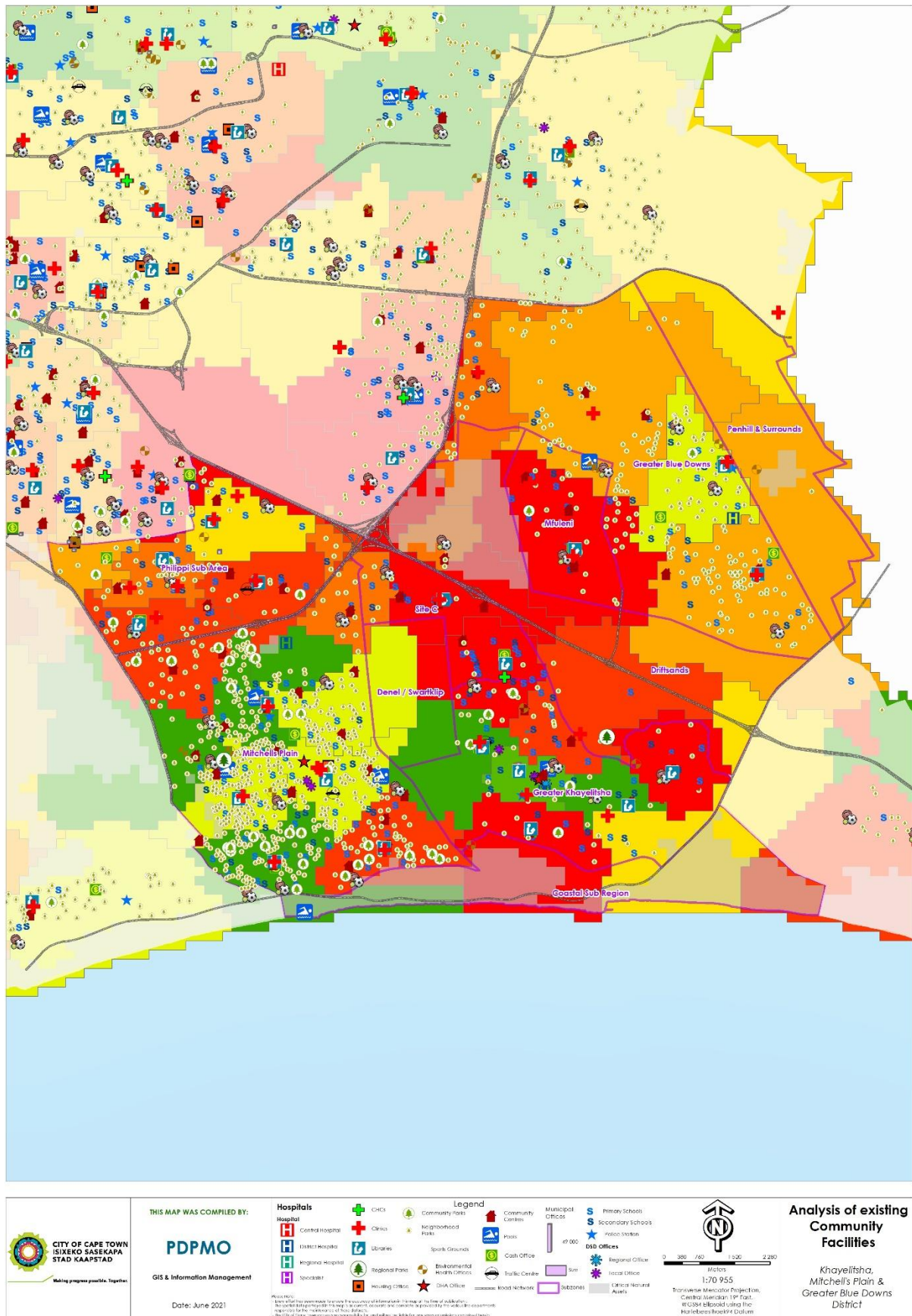


Figure 12: Distribution of Community Facilities in Khayelitsha Mitchell's Plain Greater Blue Downs District

7.1.2 Needs analysis

Table 9 and 10 shows results generated from a modelling exercise that was undertaken to identify nodes/ service catchment areas of need and the type of facilities required in the district in order to meet the needs of the population in 2020 and 2040 taking into account sector specific assumptions, guidelines and standards for facility provision.

Table 5: 2020 Top Areas of Need Khayelitsha Mitchell's Plain Greater Blue Downs District

Facility Type	Area/Node	Population Demand	Facilities Required - Equivalent to No. of Facilities/ No. of unserved population/ha of land required
Community Centres	- Makhaza - Victoria Mxenge - Harare	1 271 971	7.2
Education	Primary School - Bongweni Secondary School - Bongweni - Tafelsig	170 643 (PS learners) 99 015(SS learners)	-47 572(number of PS learners) -36 281(number of SS learners)
Community Libraries	Community Libraries - Colorado Park - Nomzamo - Victoria Mxenge - Town Intersection² - Mfuleni Regional Libraries - Blue Downs CBD - Bongweni - Mitchells Plain CBD - Khayelitsha CBD	1 271 971 1 451 944	6.9 7.2
Primary Health	- Victoria Mxenge - Harare	1 201 342	0.5
Parks	Community Parks - Bongweni - Nyanga Regional Parks - Blue Downs CBD	1 271 971 1 342 039	-61.6 ha -34.4 ha
Sports Grounds	- Colorado Park - Victoria Mxenge - Harare - Mfuleni - Tafelsig	1 271 971	-161.3 ha
*Positive values indicate an over provision; Negative values indicate a shortfall relative to the standards			

Table 6: 2040 Top Areas of Need Khayelitsha Mitchell's Plain Greater Blue Downs District

Facility Type	Area/Node	Population Demand	Facilities - Equivalent No. of Facilities/No. of unserved population/ha of land required
Community Centres	- Makhaza - Victoria Mxenge - Harare	1 717 531	12
Education	Primary School - Bongweni Secondary School - Macassar - Harare - Tafelsig - Makhaza - Bongweni	225 244 (PS learners) 132 492 (SS learners)	-96 809 (PS learners) - 66 168 (SS learners)
Libraries	Community Libraries - Macassar - Colorado Park - Nomzamo - Mfuleni - Victoria Mxenge Regional Libraries - Khayelitsha CBD - Delft CBD - Mitchells Plain CBD - Blue Downs CBD - Bongweni	1 717 531 1 451 944	14.3 7.2
Health	Primary Health - Victoria Mxenge - Harare	1 606 682	5.2
Parks	Neighborhood Parks - Bongweni Community Parks - Macassar - Harare Regional Parks - Blue Downs CBD - Bongweni - Mitchells Plain CBD	1 496 656 1 717 531 1 847 546	- 167.1 ha -94 ha -53.6
Sports Grounds	- Colorado Park - Victoria Mxenge - Harare - Mfuleni - Tafelsig	1 731 923	-231.3
*Positive values indicate an over provision; Negative values indicate a shortfall relative to the standards			

7.1.3 Insufficiency break down

Map 2 unpacks the detail related to insufficiency, specifically reflecting facility insufficiency or need in relation to the nodal hierarchy. It should be noted that this is based on the modelling and interpretation of data (supply of facilities, population, facility standards, distance) specifically for the following facilities: Community Parks, Regional Parks, Community Library, Regional Library, Primary Health Care, Sports Grounds.

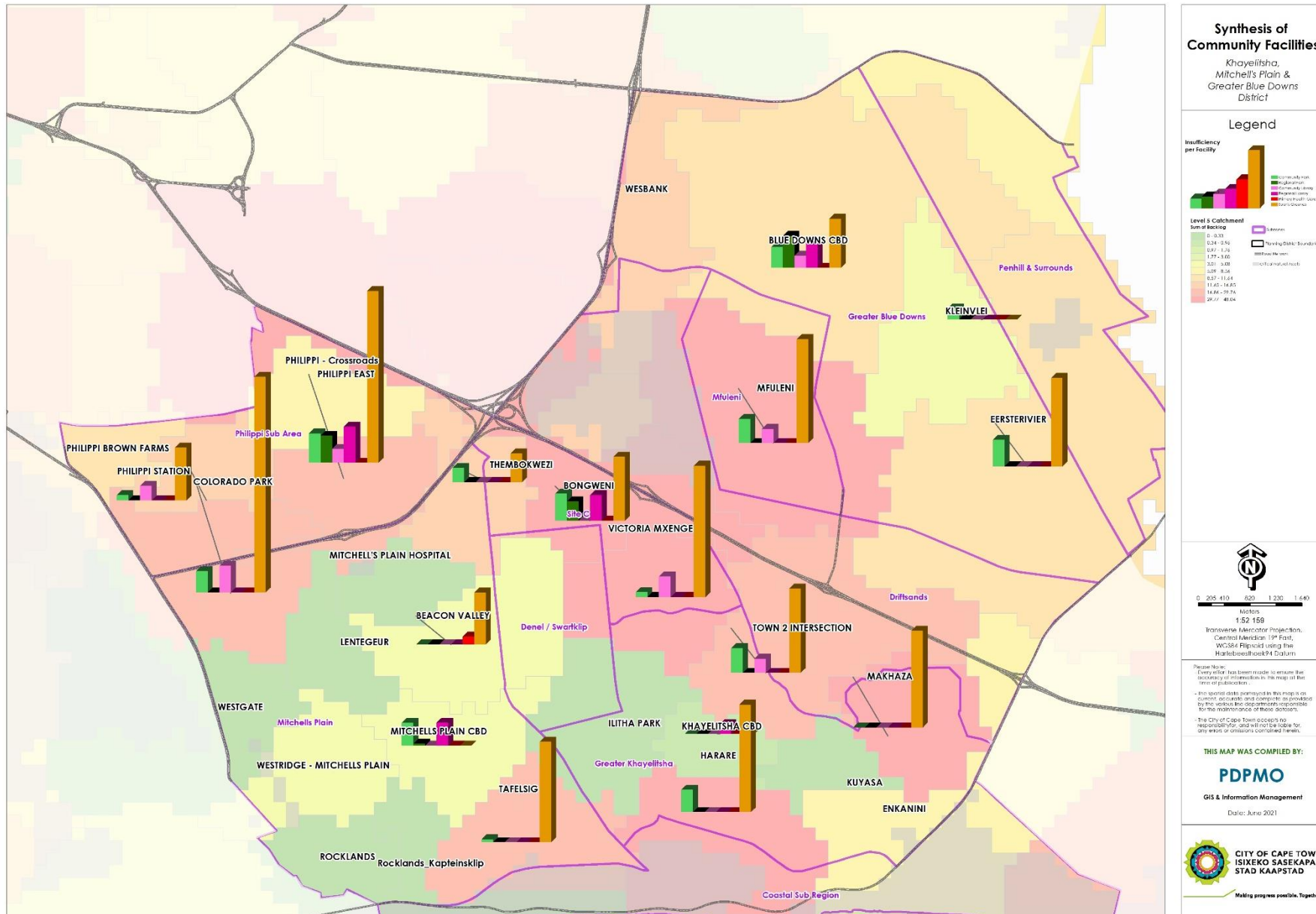


Figure 58: Figure 39: Facility Need in Khayelitsha Mitchell's Plain Greater Blue Downs District

Integrated Precincts

Community Services and Health adopts a precinct planning approach in the implementation of community facilities as a strategy. Precinct planning is underpinned by driving investment in strategic locations which address greatest need as well as capitalise on other city infrastructure and development, to maximise access and optimal functionality. It is also informed by addressing key departmental strategies and programmes within the Directorate. In pursuit of these objectives, backlog precincts (concentrations of facility backlogs) as well as optimisation precincts (opportunities to consolidate and optimise facilities in development nodes identified in the City Spatial Development Framework) have been identified.

The following precincts are applicable to Khayelitsha Mitchell's Plain Greater Blue Downs District

Nam	PRECI	PR	WORK	COMMUNITY SERVICES & HEALTH INFRASTRUCTURE PLAN	SU M M A R Y S T A T E M E N T S
ENK	Backlo	M		Precinct planning has been Enkanini is the largest informal settlement in the City, comprising an estimated 10 000 structures. It is currently very densely populated and requires phased development and relocation of dwellings in order to provide services. Planning or the redevelopment of the settlement to accommodate bulk services and infrastructure has been undertaken by the City's Informal Settlements Department. The implementation may take close to 10 years to complete and will be undertaken in phases. The City's Informal Settlements Department, together with the Community	Urban Design and Architectural Guidelines should be undertaken to guide future investment in public facilities.

				Services & Health Directorate, Urban Planning and Mechanisms Department and Western Cape Provincial Government (Education) have collaborated on the planning for the settlement and prepared a medium to long term plan for implementation. The planning for social facilities and services has been incorporated and space allocation made under challenging circumstances regarding land availability, which has also presented the opportunity for those departments to pursue new and innovative models for delivery. In the short term, phased implementation of facilities as and when opportunities associated with the phased development of the settlement present themselves should be pursued. For example, the delivery of Informal Settlement Community Services & Health Centres.	
KHA	Backlo	M	•ORIO	Detailed precinct planning has not yet been undertaken for the broader Site B area. It includes the area from Spine Road northwards towards Pama road and including the area surrounding Nonkqubela station. It incorporates a corridor of open space and adjacent public facilities (such as schools) which can be rationalized into more efficient and effective clusters of facilities. The key facilities identified for development include a new sportsground, multi-purpose centre, 2 community parks,	The existing CS&H cluster of facilities adjacent to the railway station needs to be reorganised to accommodate a new regional library and clinic expansion.

			•Trans	regional library and clinic upgrade. These facilities may not all be accommodated in the same facility cluster. The development of the Zakhele clinic would address the need for clinic upgrade. The regional library presents the opportunity to consolidate (and will replace) the sub-optimal existing community libraries (Kulani & Khayelitsha). The cluster at Nonkqubela station should be considered for the new library, which may require the design and development of a new, multi-purpose and multi-story building within the existing station precinct to support the need for expanded facilities and services and in line with TOD imperatives. A development framework was prepared in 2012, which proposes consolidation of this precinct and expansion of public facilities and services. The sports complex along Pama road should be investigated to consolidate recreation related facilities within this area, clustering the investments at an accessible location.	
Khay	Backlo	N	• Khayelitsha SDF (1999) • Site C: Urban Framework (2009) • Urban renewal Development Framework	The broader Site C area is characterized by high density residential areas, including formal and informal dwellings. Due to its location, land for housing is in high demand. It has been settled at high densities and land for facilities or non-residential use is extremely scarce. The eastern part of the area incorporates Nolungile station, taxi rank and Site C Plaza, a large	The opportunity exists to enhance the pedestrian linkages along the MyCiti Phase 2A corridor linking with the Site C Integrated Recreation Facility.

			KMP (2006) Denel Swartklip Site Redevelopment Framework (2006)	commercial development and transport interchange. Swartklip, which has been identified as a site of large scale mixed use development in the future forms the southern edge of the area. A Site C Urban Framework (2009) was prepared which identifies the need for facilities consolidation in the 'western gateway precinct' which comprises education, sport and recreation, as well as IRT and NMT related interventions. It proposes the citing of the an IRT station adjacent to the recreation complex to reinforce the area as the gateway to site C. Numerous facilities are required to be developed in the area to cater for the existing population, including expansion of the existing clinic and a community recreation area/park. Design has been undertaken for the further development of the recreation facility at the western gateway which will optimise the use of this facility by making it multi-purpose, accommodating formal as well as formal sport and recreational activities. In addition, a new clinic, sportsground and regional park are to be accommodated in the future development of Swartklip. Future planning is required in preparation for delivering these facilities as part of that development.	
Mful	Backlo	N		Mfuleni has an established urban node/precinct. An extensive precinct planning process was undertaken in 2014, which culminated in the finalised precinct plan which was	

				endorsed by the political structures (Subcouncil) of the City, as well as the elected Project Steering Committee (PSC). The key interventions identified by the plan include: an * urban park, taxi rank upgrading, main road widening, shared parking, *clinic, *multi-purpose centre, *new civic building, *new school, upgrading of *sports fields, mixed use retail, and additional mixed use sites. Priority facility developments include the following. A temporary expanded clinic has been constructed to alleviate the high need in the area, while planning and design is underway to develop a new clinic. The urban park has also been constructed and is operational. The old clinic building is being investigated for an alternate Community Services & Health facility and may be repurposed in the future for a facility aimed at youth development. The library requires expansion to address existing demand and the sports ground also requires upgrading and improvements that will enhance its functionality in serving the variety of sporting needs in the area.	
Y – Specific to Branch / Yes its live / actively driving / We produce a product M – Monitoring capacity / work on project / providing expertise and input as and when required H – Holding / Project on hold, but still on our books N – No / Completed projects					

Table 5: Integrated Precincts Khayelitsha Mitchell's Plain Greater Blue Downs District, 2020

7.2 Key Observations

This district has the highest population and unemployment rates as well as the lowest income levels in the city, thus increasing the need for social and community facilities. The majority of the facilities within the lower-income areas such as Mfuleni and Khayelitsha are generally oversubscribed and poorly maintained.

Exacerbating the conditions above, open spaces and sports grounds within these areas are also under pressure from settlement encroachment. The upgrade and rationalisation of open spaces is needed to improve the functioning of the overall open space system.

Higher-order facilities such as community health are also required to service these communities. Furthermore, the rapid growth of populations between 2011 and 2018, coupled with the anticipated delivery of Human Settlements in Mfuleni, Khayelitsha, Penhill and Blue Downs, will necessitate more community and recreational facilities. In particular, there is a lack of district-scale facilities to serve the broader community, resulting in existing small-scale facilities being oversubscribed to fulfil the needs of the broader area.

7.3 Key Opportunities and Constraints

7.3.1 Opportunities

- There is an opportunity to optimise existing social facilities where possible (as opposed to using resources in the construction of new facilities), such as sports complexes, libraries, etc.
- Civic precincts have been identified in Mfuleni and Blue Downs and their respective opportunities are indicated below:
 - Mfuleni Precinct
 - ✓ It is situated between Church Street and Main Road Mfuleni.
 - ✓ It functions as the main economic and civic node within the broader Mfuleni.
 - ✓ Other nearby facilities include a large sports ground, a hall, a mall with Shoprite as its anchor tenant, a number of NGOs, a clinic, a primary and high school, a taxi rank, industrial area and bus shelter, a library, municipal office and satellite police station.
 - ✓ The much-needed upgrade of the existing sports ground can catalyse its integration with the adjacent park.
 - ✓ There is currently a temporary clinic on site, with a PHC in the pipeline.
 - ✓ There is an existing library, which needs to be upgraded to increase its capacity.
 - Blue Downs Precinct
 - ✓ It is located on Eersiv Way, a prominent movement route in the Greater Blue Downs Sub-District.

- ✓ There is an existing sports ground, indoor pool and athletics track. The sports ground, however, needs to be optimised.
- ✓ There is also a magistrate's court and mall.
- ✓ There is a need for a new regional library, community park, and provincial health clinic expansion.

3.3.22 Constraints

- Large residential developments are planned without all the required social facilities.
- Limited vacant land is available for the development of social facilities, and what land there is, is subject to immense pressure from surrounding communities for housing development. This in turn exacerbates the shortage of social facilities relative to the district's residential population.

D.STATE OF THE ECONOMY

4 THE ECONOMY

4.1 Macro-Economy

4.1.1 Macro-Economic Indicators

Economic performance in Cape Town largely mirrors trends at the national level, though often exceeding the national GDP. Between 2009 and 2018, Cape Town's real GDP growth has averaged at 2.09%, outperforming South Africa's average Real GDP growth of 1.67% during the same period. However, both figures still form part of an overall downward trend, as illustrated in Figure 4.1. Deviations in these trends are observed from 2016, which may be attributable to the recent drought conditions faced in the region.

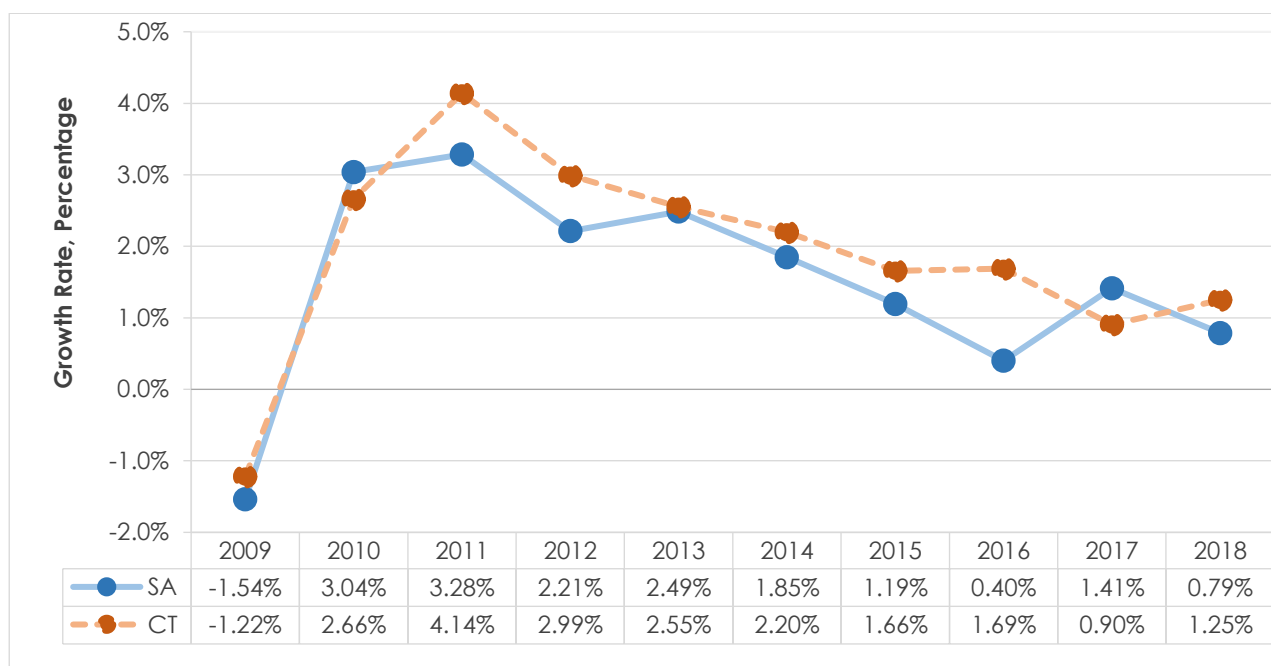


Figure 4.1: Average annual Gross Domestic Product (GDP) growth in South Africa vs. Cape Town, 2009-2018 (IHS Markit, 2019)

Cape Town's appealing lifestyle and skilled labour makes it an attractive financial and business service hub for global and national organisations. As a result, the finance and business services sector has been the largest contributor to the growth of Cape Town's economy in the past ten years. This is likely to result in increasing demand for office space.

Although Cape Town's office vacancy rate has remained the lowest among the five largest municipalities¹⁷ (SAPOA, 2018) over the past five years, the negative effects of recent political and economic events have, nevertheless, damaged consumer and investor confidence. This has impacted negatively on an otherwise resilient office vacancy rate and caused a moderate decline in the city's rental growth rate.

¹⁷ The five largest municipalities being: City of Johannesburg, eThekweni, Nelson Mandela Bay, City of Tshwane and City of Cape Town

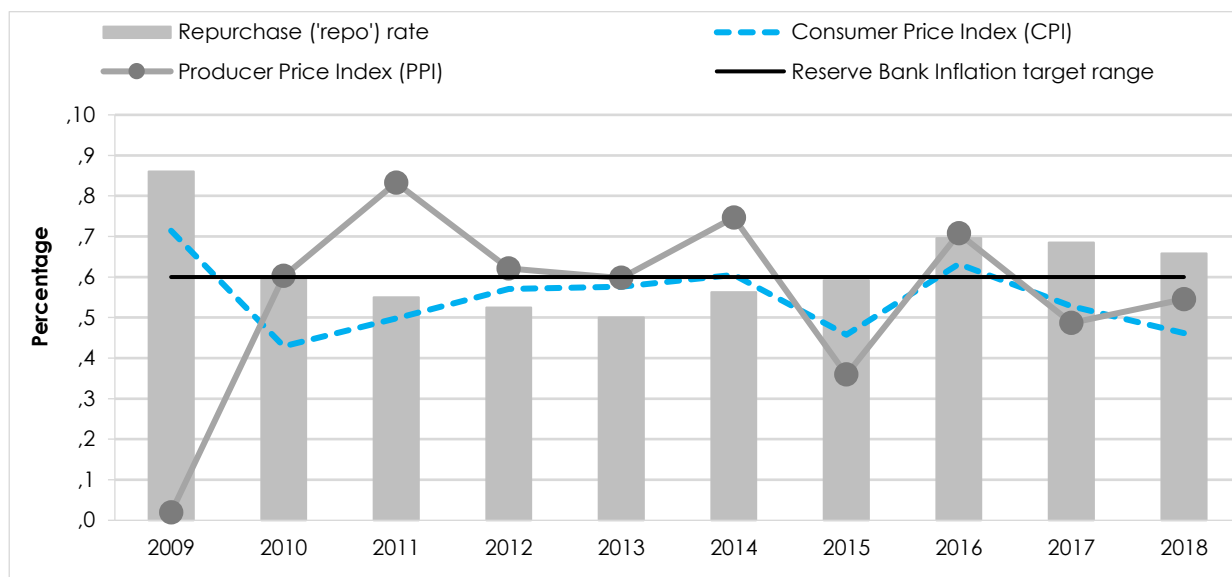


Figure 4.2: Consumer Price Index (CPI), Producer Price Index (PPI) and repurchase rate trends against the Reserve Bank inflation rate target, 2009–2018 (Statistics South Africa 2018–2019 & SARB, 2018–2019)

The consumer price index (CPI), inflation rate, and the producer price index (PPI) measure the price fluctuations of goods and services in the economy. Within the ten-year period observed in Figure 4.2 above, the CPI and the PPI varied slightly around the reserve bank upper inflation target rate of 6%.

In 2016, inflation (6.33%) exceeded the upper limit of the target. This upward trend could largely be explained by the price increases in housing rentals, recreation and cultural activities. In response to the increase in inflation in 2016, the Reserve Bank increased the repo rate to 7%. While the rate has been adjusted downward since 2016, in response to lower levels of inflation, the repo rate (and, by extension, the prime lending rate) has remained significantly higher than in the 2010–2015 period. As a result, property buyers have found it more costly to take out mortgage bonds between 2016 and 2018 than in the five-year period preceding that. Together with low levels of consumer confidence, this has resulted in dampened activity in the property market.

Another factor impacting on the level of property market investment has been South Africa's credit rating downgrade at the beginning of 2017, which led to big international fund managers selling out of South African bonds. This increased bond yields and continued to discourage consumer spending. During this time, it appears that building developers began losing confidence in South Africa's property market.

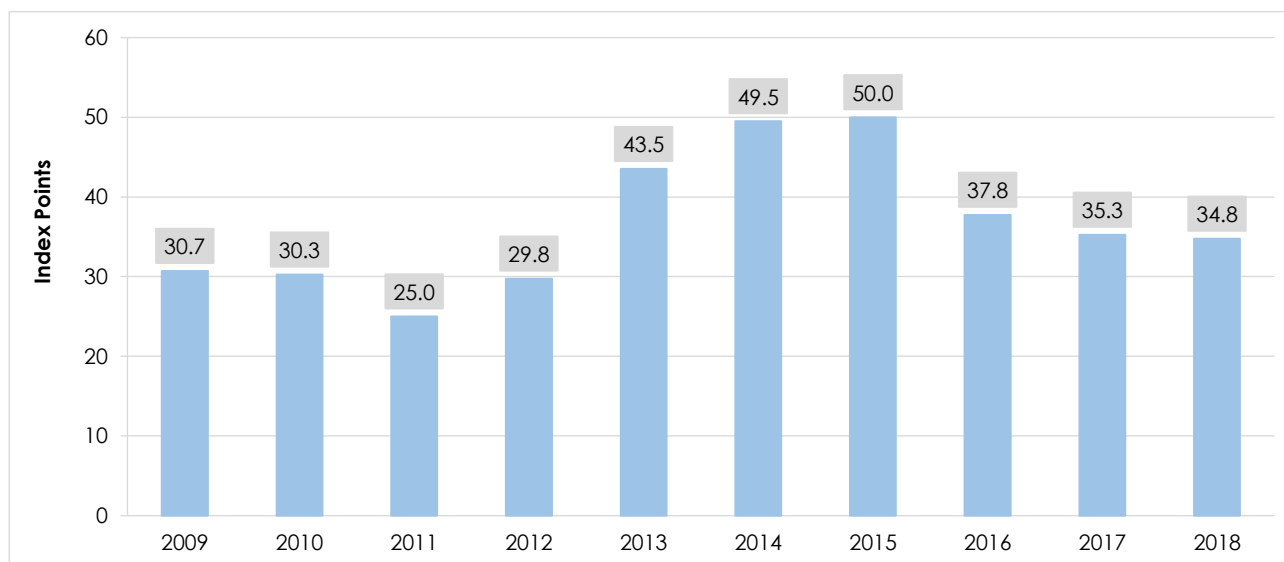


Figure 4.3: Building Confidence Index (BCI) trends in Cape Town, 2009–2018 (Bureau for Economic Research (BER), 2018 & FNB/BER BCI, 2018)

Figure 4.3 shows the First National Bank (FNB)/Bureau for Economic Research (BER) composite Building Confidence Index (BCI) for the ten-year period from 2009 to 2018. The BCI records the percentage of architects, quantity surveyors, contractors and manufacturers of building material who are either satisfied with or wary of the prevailing business conditions (BER, 2018).

The FNB/BER composite BCI declined by 15.3 points from 2015, where it peaked at 50.0 index points, to reach 34.8 index points in 2018. This decline in 2018 can be attributed to the weakened confidence of architects and quantity surveyors, as a result of an unstable economic environment characterised by relatively high office and retail vacancy rates, high interest and inflation rates as well as slow GDP growth (FNB, 2018).

Although the BCI has dropped significantly since 2015, Cape Town has continued to see stable growth in building supply with the conversion of older office buildings to residential use, cushioning the level of vacancies (Baker Street Properties, 2018). The weak economic growth is, however, eventually likely to aggravate the weak employment growth which could, in turn, see demand for building or office space declining (JLL, 2018).

4.1.2 Macro-Property Market

Figure 4.4 below displays the total floor area of new office building space and new industrial building space added to building stock, against the observed variations in the office and industrial vacancy rates, from 2015 to 2018. There is generally, although not exclusively, a positive relationship between building completions and vacancy rates.

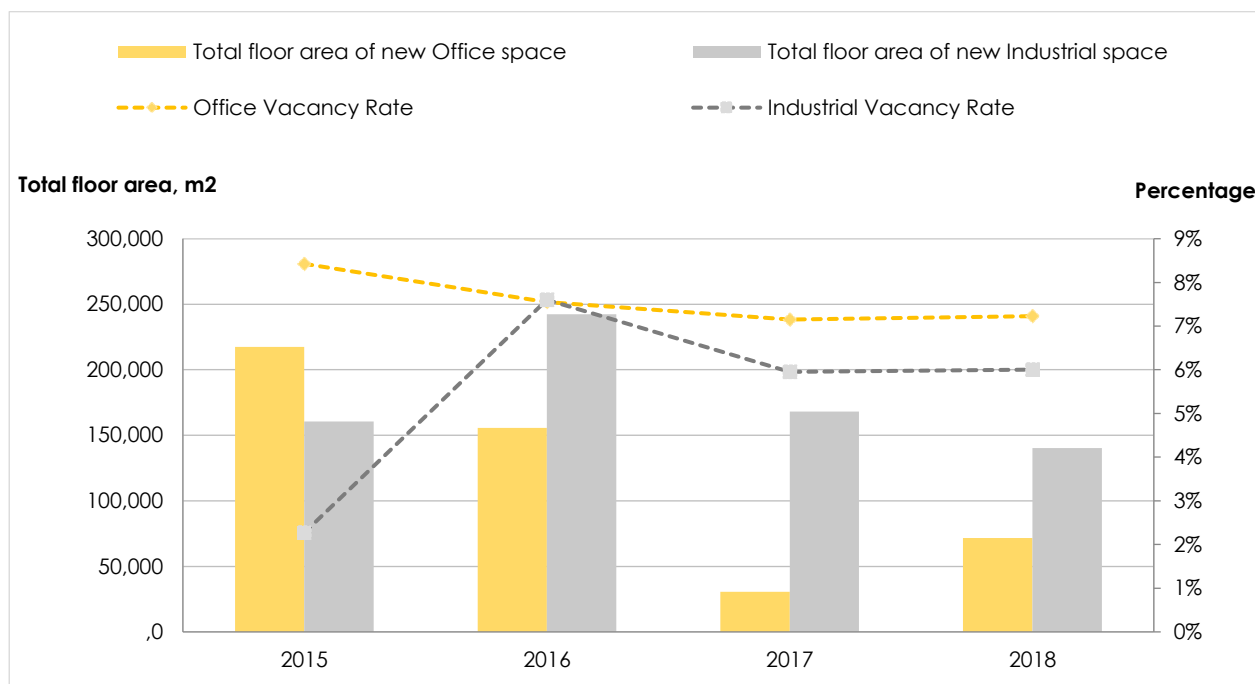


Figure 4.4: Cape Town new building completions and vacancy rates for office and industrial space, 2009–2018 (Transport Business Support Department & South African Property Owners' Association (SAPOA), 2019)

Between 2015 and 2016, the total floor area of new industrial space increased by 51% to reach a high of 242 394 m² in 2016, most likely to address the high demand for industrial space, reflected in the low vacancy rate in the previous year.

Cape Town's office vacancy rate remains the lowest among the five largest municipalities¹⁸ (SAPOA, 2018), however the slowdown in the office-to-residential conversion, which has assisted in reducing office vacancies in Cape Town may reveal the weak demand for office space (JLL, 2018). Figure 4.4 shows that the vacancy rate begins to decline as new office building completions decreased (with 2018 as the exception). A significant drop in building completions (80%) was recorded for 2017, which may be largely attributed to the negative effects of the drought, as the water prices spiked making construction of buildings more expensive.

¹⁸ The five largest municipalities being; City of Johannesburg, eThekweni, Nelson Mandela Bay, City of Tshwane and City of Cape Town.

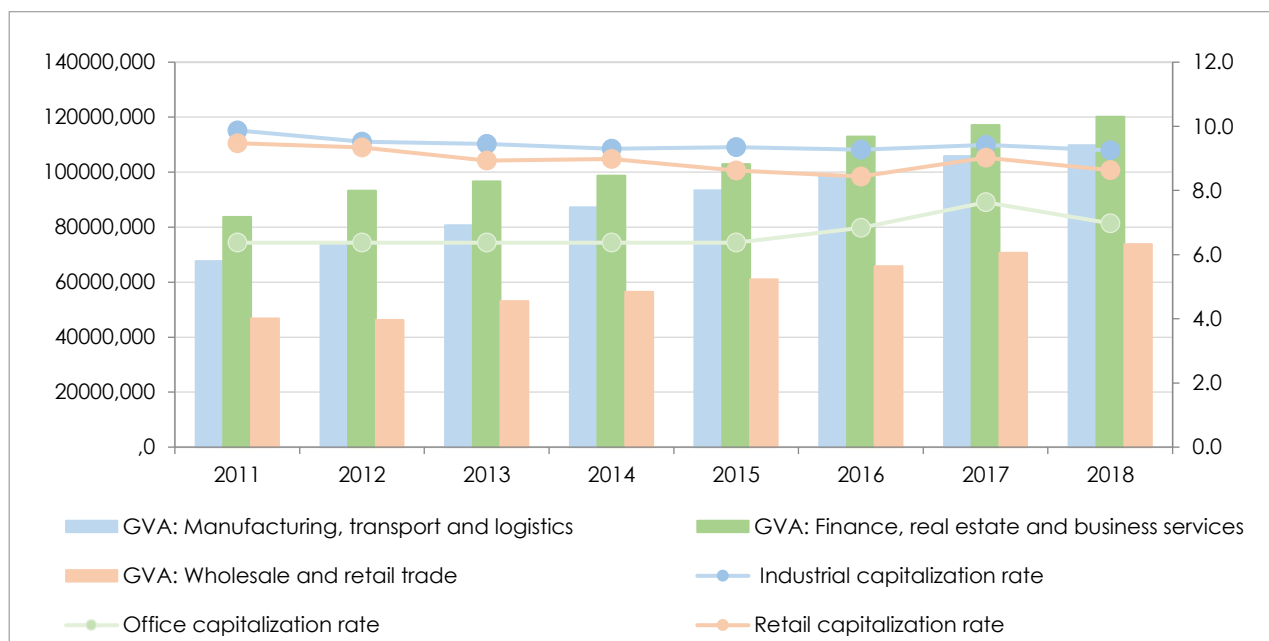


Figure 4.5: Cape Town Gross Value Added (GVA) and capitalisation rate (cap rate) trends, 2011–2018 (IHS Markit, 2019 & South African Property Owners Association (SAPOA), 2019)

Figure 4.5 shows the industrial, office and retail capitalisation rates as well as the Gross Value Added (GVA) for the finance and business services; manufacturing, logistics and transport; and whole sale and retail trade sectors. The GVA for industrial, office and retail space all followed a steady, though decelerating, upward trend from 2011 to 2018.

A cap rate is one type of measurement used in evaluating an investment, indicating **risk** and the **potential rate of return** for a prospective property. A low cap rates imply lower risk, higher value and a high cap rates imply higher risk, lower value. In Figure 4.5, the cap rates for office, industrial and retail property in Cape Town follow a similar trend between 2011 and 2015. From 2016 to 2017, the cap rates for all sub-segments increased despite a momentary upturn in 2017. The increase in 2017 may largely be explained by stagnating property prices, a consequence of Cape Town's water crises and the credit ratings downgrade.

4.2 District Analysis

4.2.1 Economic Characteristics

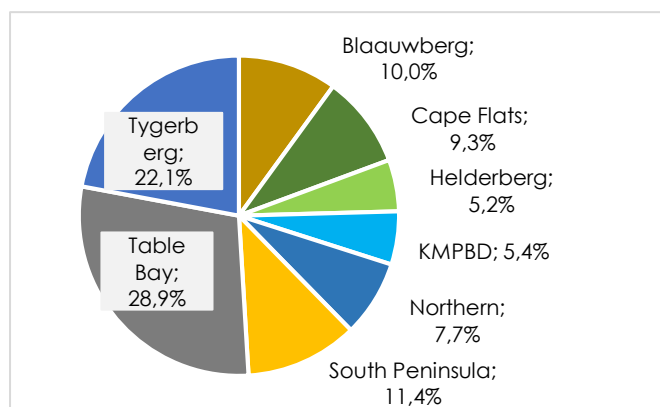


Figure 4.6: Gross geographic product (GGP) contribution by district at current prices, 2018 (IHS Markit, 2019)

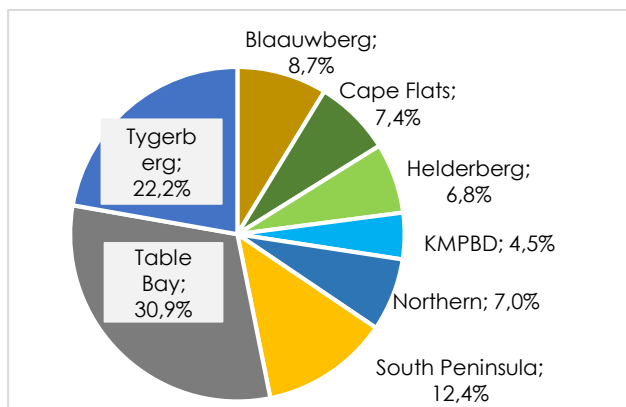


Figure 4.7: Employment contribution by district, 2018 (IHS Markit, 2019)

The largest contributor to the gross geographic product (GGP) at current prices for Cape Town in 2018 was the Table Bay District (28.9%), an area characterised by the intense concentration of business and commercial activities (Figure 9.6). This area also comprises of the main tourist areas of the city such as the CBD, the City Bowl and the Atlantic Seaboard as well as the significant economic infrastructure of the port, the Cape Town International Convention Centre and the V&A Waterfront. The Tygerberg District, with a share of 22.1%, was the second largest district economy in 2018 and is largely dominated by finance, insurance, real estate and business services (Figure 9.6).

The top three districts in terms of employment are Table Bay (30.9%), Tygerberg (22.2%), followed by South Peninsula (12.4%). By contrast, the Khayelitsha, Mitchells Plain & Greater Blue Downs District had the lowest employment share at 4.5% (71 800 jobs) in 2018 (Figure 9.7). This highlights the lack of employment opportunities as a result of low economic activity occurring within the district, although there is a growing labour force living within this area.

4.2.2 Economic Performance

Despite being one of the smallest contributors to GGP in the city (at 10.0%), the area which recorded the fastest rate of economic growth in Cape Town between 2009 and 2018 was the Blaauwberg District (2.8%) – higher than the Metro average growth rate of 1.9% (Figure 4.8). This can be attributed to the increasing commercial and property development in the area, particularly in the industrial market. The South Peninsula reported GGP growth of 1.2% over the ten-year period, lower than the Metro average. The Helderberg District had the highest employment growth at 2.6%, closely followed by Blaauwberg at 2.5%, both areas surpassing the Metro's average employment growth rate of 1.6% over the ten-year period.

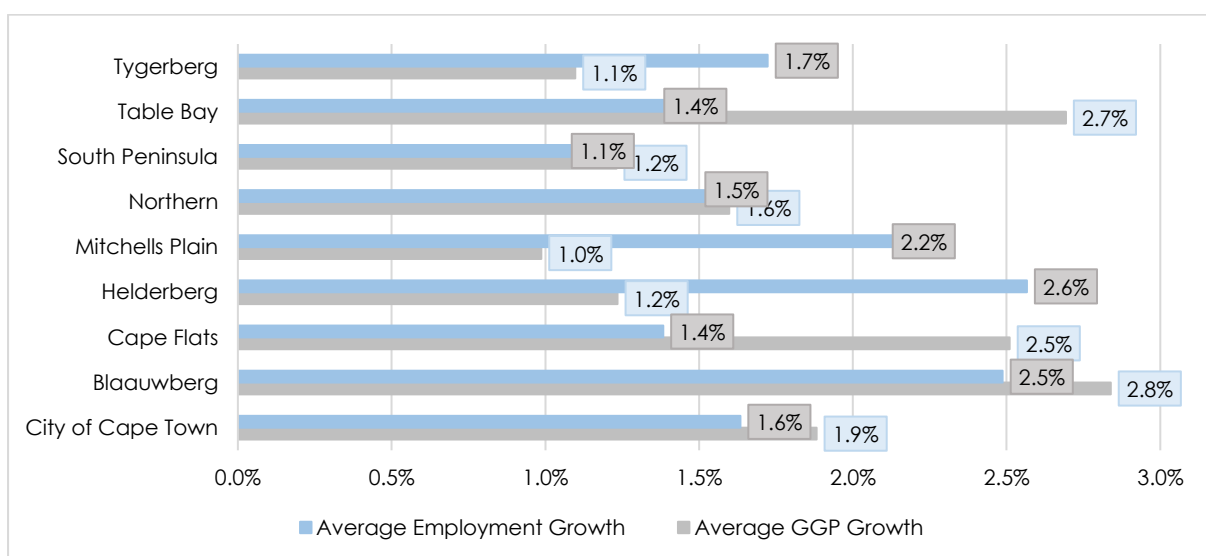


Figure 4.8: Average annual economic growth rates by district, 2009–2018 (IHS Markit, 2019)

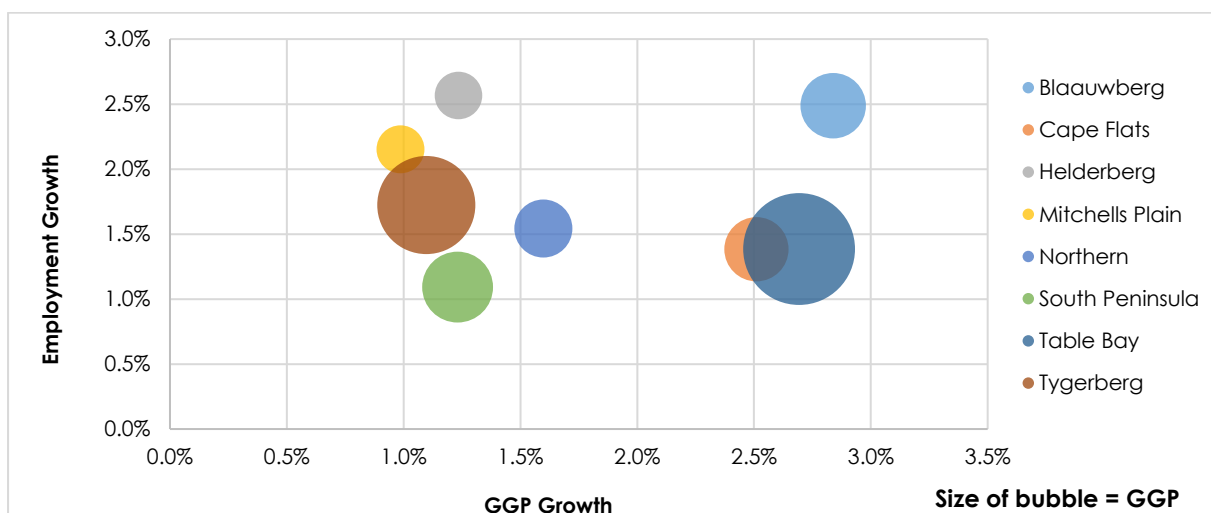


Figure 4.9: Economic performance comparison across Districts, 2018 (IHS Markit, 2019)

Figure 4.9 plots the average economic growth on the horizontal axis and average employment growth on the vertical axis. The size of the bubble is the relative size of

the economy as measured by gross geographic product in 2018. The Blaauwberg district grew relatively faster than Table Bay in terms of both GGP and employment over the ten-year period, despite the relatively smaller size of its output and employment levels when compared to Table Bay.

4.2.3 Sectoral trends

From **Error! Reference source not found.**, it is clear that the Table Bay District is the main contributor to the total Gross Value Added (GVA) of most sectors in Cape Town, followed by Tygerberg. Table Bay's contribution is especially pronounced in the transport (34.7%) and trade sectors (30.6%). This is as a result of the district containing the city's port and also because it functions as the main retail hub in the city.¹⁹ While Table Bay is the largest contributor to agricultural output (including fishing) in the city (possibly due to the head office effect), Blaauwberg is also a strong contributor to agricultural output within the city. The Khayelitsha, Mitchells Plain & Greater Blue Downs District showed the lowest contribution to Cape Town's GVA across most sectors, largely attributable to this area's economy being highly reliant on the community services sector (public sector).

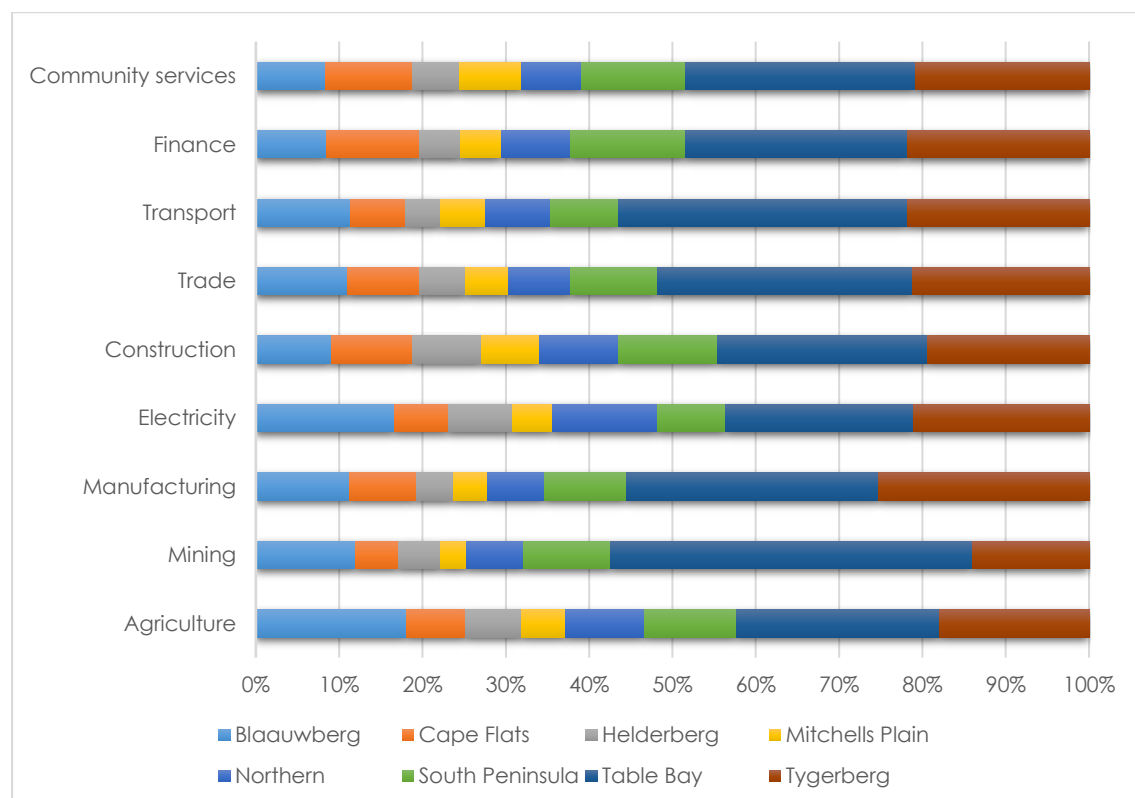


Figure 4.10: Gross Value Added (GVA) contribution across districts by sector, 2018 (IHS Markit, 2019)

¹⁹ The mining figures are for all districts are almost insignificant.

Employment trends, for the most part mirror the output trends (**Error! Reference source not found.**). However, the Tygerberg District is seemingly more labour-intensive than Table Bay, thereby contributing more to employment than GVA.

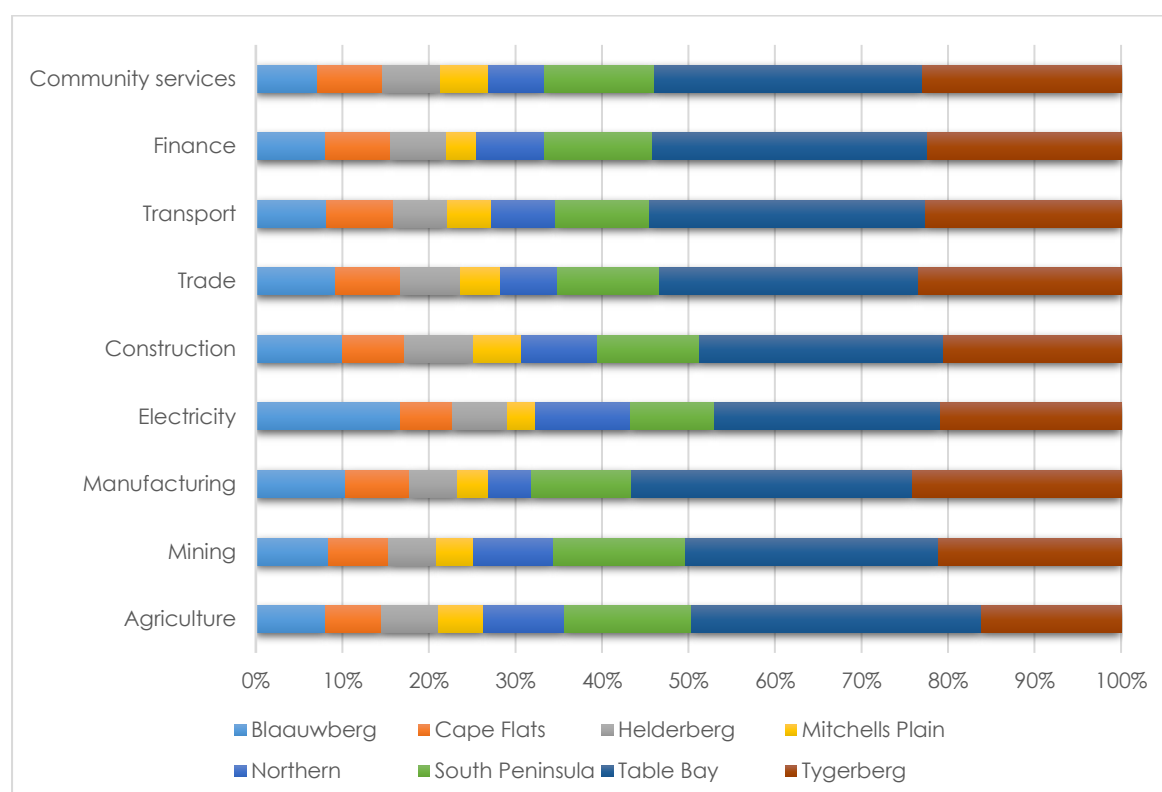


Figure 4.11: Employment contribution to Cape Town across districts by sector, 2018 (IHS Markit, 2019)

Table 4.1: Top five sectors by location quotient in each district (detailed SIC)²⁰, 2018 (IHS Markit, 2019)

Planning District	Rank	Sector	Location Quotient
Blaauwberg	1	Fishing, operation of fish farms	2,08
	2	Electricity, gas, steam and hot water supply	1,71
	3	Transport equipment	1,44
	4	Hotels and restaurants	1,24
	5	Fuel, petroleum, chemical and rubber products	1,22
Cape Flats	1	Education	1,33
	2	Other business activities	1,26
	3	Real estate activities	1,23
	4	Other service activities	1,16
	5	Finance and Insurance	1,12

²⁰ Sectors with a gross value added (GVA) share of 0,5% to Cape Town's economy were excluded from the ranking of sectors by location quotient.

Helderberg	1	Construction	1,56
	2	Electricity, gas, steam and hot water supply	1,44
	3	Hotels and restaurants	1,22
	4	Fuel, petroleum, chemical and rubber products	1,20
	5	Sale and repairs of motor vehicles, sale of fuel	1,20
Mitchells Plain	1	Education	2,02
	2	Public administration and defence activities	1,31
	3	Construction	1,27
	4	Real estate activities	1,25
	5	Health and social work	1,19
Northern	1	Electricity, gas, steam and hot water supply	1,63
	2	Construction	1,22
	3	Finance and Insurance	1,13
	4	Metal products, machinery and household appliances	1,13
	5	Sale and repairs of motor vehicles, sale of fuel	1,10
South Peninsula	1	Real estate activities	1,61
	2	Public administration and defence activities	1,16
	3	Education	1,12
	4	Other service activities	1,11
	5	Fishing, operation of fish farms	1,11
Table Bay	1	Air transport and transport supporting activities	1,28
	2	Land and Water transport	1,20
	3	Hotels and restaurants	1,18
	4	Wood and wood products	1,18
	5	Wholesale and commission trade	1,15
Tygerberg	1	Metal products, machinery and household appliances	1,27
	2	Finance and Insurance	1,24
	3	Furniture and other items NEC and recycling	1,21
	4	Food, beverages and tobacco products	1,21
	5	Textiles, clothing and leather goods	1,18

While Table Bay is the largest contributor to all of the city's sectors, the different districts still have unique comparative advantages. By comparing the relative share constituted by an industry in the respective district economies to its share in the city-wide economy, location quotient analysis provides an indication of a region's comparative industry advantages.

A location quotient value greater than one generally reflects a comparative advantage industry for that district. The table ranks the top five industries by location quotient and below is the top comparative advantage industry in each district:

- Blaauwberg: Fishing, operation of fish farms (2.08)
- Cape Flats: Education (1.33)
- Helderberg: Construction (1.56)
- Mitchells Plain: Education (2.02)
- Northern: Electricity, gas, steam and hot water supply (1.63)
- South Peninsula: Real estate activities (1.61)
- Table Bay: Air transport and transport supporting activities (1.28)
- Tygerberg: Metal products, machinery and household appliances (1.27)

It is important to note that a location quotient depends on the relative GVA share of the sector within a district compared to that of overall Metro. As such, despite being the largest industry in most districts, the finance and insurance industry does not appear as the top comparative advantage of any of the districts. This is not to underplay the industry's importance as it is one of the metro's comparative advantage industries and is also ranked second in Tygerberg, with a location quotient of 1.24; third in the Northern District where it is ranked with a location quotient of 1.13 and fifth in the Cape Flats with a location quotient of 1.12.

4.2.4 Development Indicators

The Human Development Index (HDI) is a composite indicator reflecting education levels, health, and income. The HDI ranges from 0 (no human development) to 1 (high level of human development) (United Nations, 2018). In 2018, the South Peninsula (0.81), Table Bay (0.81) and the Northern District (0.80) had "very high human development" (Table 4.2). Mitchells Plain was the only district with a "medium" level of human development, indexing at 0.66. This demonstrates the unequal access to education, health, employment as well as other resources within the Metro, largely due to income gaps and location which limits access to opportunities.

Table 4.2: Human Development Index (HDI)²¹ 2009, 2014 and 2018 (HIS Markit, 2019)

Planning districts	Human Development Index (HDI)
--------------------	-------------------------------

²¹ According to the United Nations (2018), there are four human development groups which are very high human development (0,800 and above); high human development (0,700 – 0,799); medium human development (0,550 – 0,699) and low human development (below 0,550).

	2009	2014	2018
Blaauwberg	0.75	0.78	0.79
Cape Flats	0.66	0.70	0.71
Helderberg	0.72	0.75	0.76
Mitchells Plain	0.61	0.65	0.66
Northern	0.76	0.79	0.80
South Peninsula	0.78	0.80	0.81
Table Bay	0.77	0.80	0.81
Tygerberg	0.70	0.73	0.74

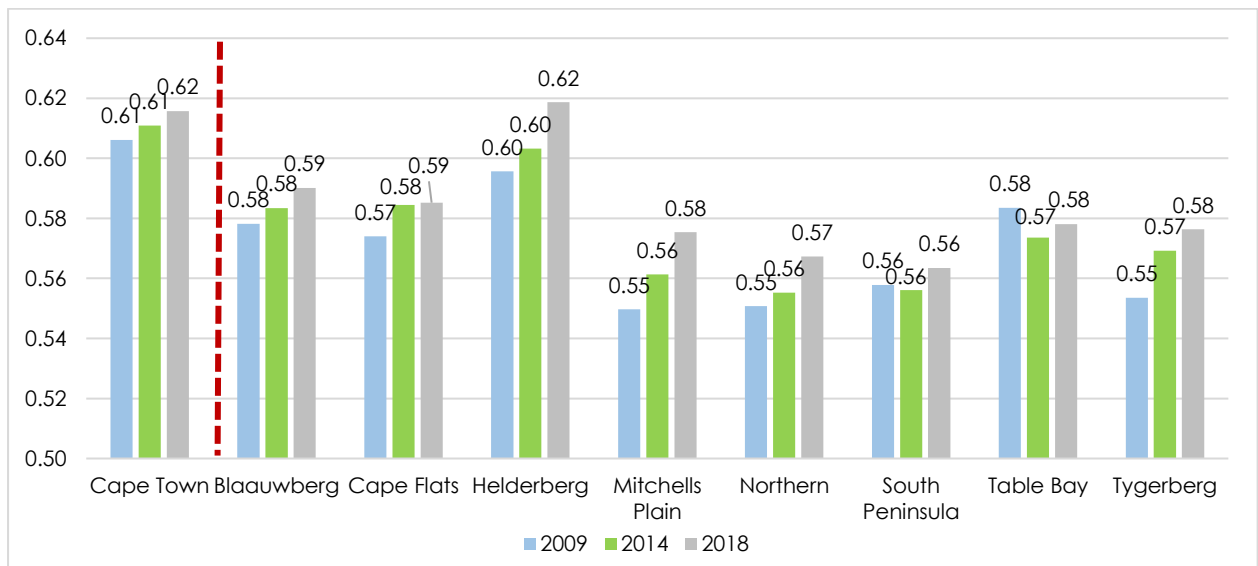


Figure 4.12: Gini Coefficient comparison across districts, 2009, 2014 & 2018 (HIS Markit, 2019)

The Gini Coefficient is an income inequality measure. The coefficient ranges from 0, which represents “absolute equality”, to 1, which represents “absolute inequality” (Statistics South Africa, 2014). As of 2018, out of all the districts, the South Peninsula has the lowest measure at 0.56 and Helderberg has the highest at 0.62. However, it is concerning to observe an increase in income inequality over time throughout all eight districts, mirroring the metropolitan trend (Figure 4.12). This shows that income inequality is a major persistent and growing challenge within Cape Town.

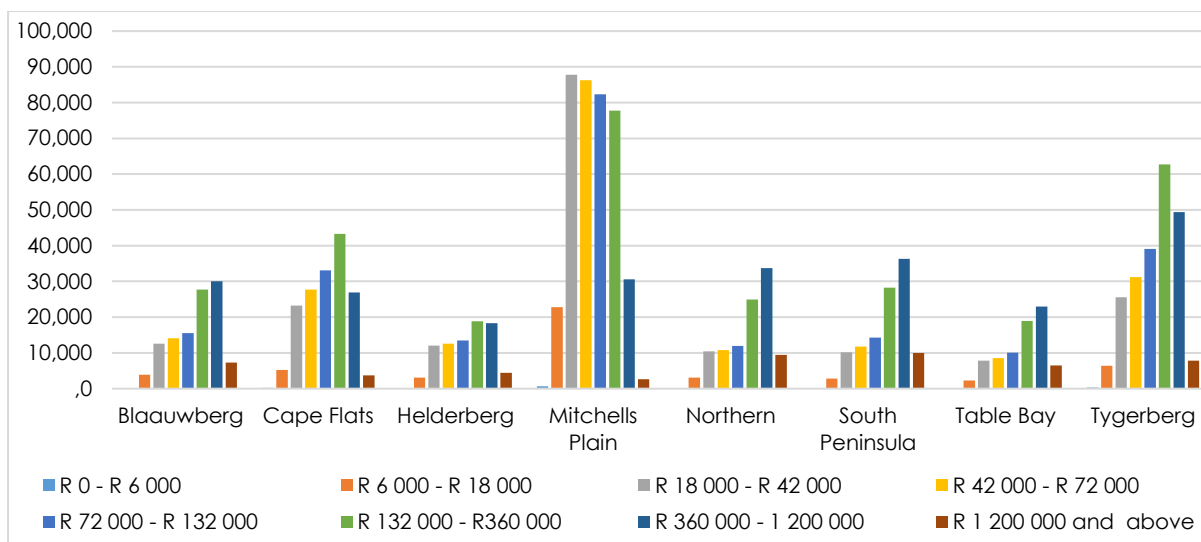


Figure 4.13: Number of households per annual income category by District, 2018 (HIS Markit, 2019)

As of 2018, there are a total of 1 315 015 households in Cape Town (see Chapter 2 Demographics), the majority of which is located in the Khayelitsha, Mitchells Plain & Greater Blue Downs District (383 844), followed by Tygerberg (222 535). The Khayelitsha, Mitchells Plain & Greater Blue Downs District comprises predominantly of formal and informal residential areas; thus it is not surprising it has the highest number of households. The majority of the population in this district (22,5%) has an annual household income between R18 000 and R42 000, whilst other districts are home to a higher number of households in upper income percentiles (R132 000 and above). Tygerberg has the largest share of households (28,2%) with an annual income between R132 000 and R360 000, while the Blaauwberg, Northern, Table Bay and South Peninsula Districts all have their highest share of households in the R360 000 – R1 200 000 category. A majority of the low to middle annual income levels are skewed in districts, such as Khayelitsha, Mitchells Plain & Greater Blue Downs, with a high number of households, less economic activity and a low HDI in comparison with other districts, as compared to other districts. This further reinforces the concern of socio-economic inequality within the city.

4.3 The Informal Economy

The “informal sector” commonly refers to the unregulated, non-formal portion of the market economy. Statistics South Africa uses an employment-based definition for the sector, defining it broadly as comprising of employees working in establishments employing less than five employees who do not pay income tax, as well as own account workers whose businesses are not registered for either income tax or value-added tax (VAT). The term “informal economy” is preferred to “informal sector”, as it reflects the broader scope of economic activities that take place informally. The relatively low entry barriers to the informal economy, and its strong penetration in

impoverished areas, means that it has the potential economically include otherwise marginalised members of society.

4.3.1 Size of Informal Economy

Between 2015 and 2019, the absolute number of jobs in the informal economy has grown, as has the share of total jobs which are informal in nature (Figure 9.14). Statistics South Africa estimates that, as of the second quarter of 2019, approximately 220 000 people are employed in the informal economy in Cape Town (Figure 9.14). This constitutes 13.3% of Cape Town's workforce, a significant amount. Importantly, the benefit of the sector is predominantly in low-income communities, where it accounts for an estimated 5% reduction in the poverty rate.²²

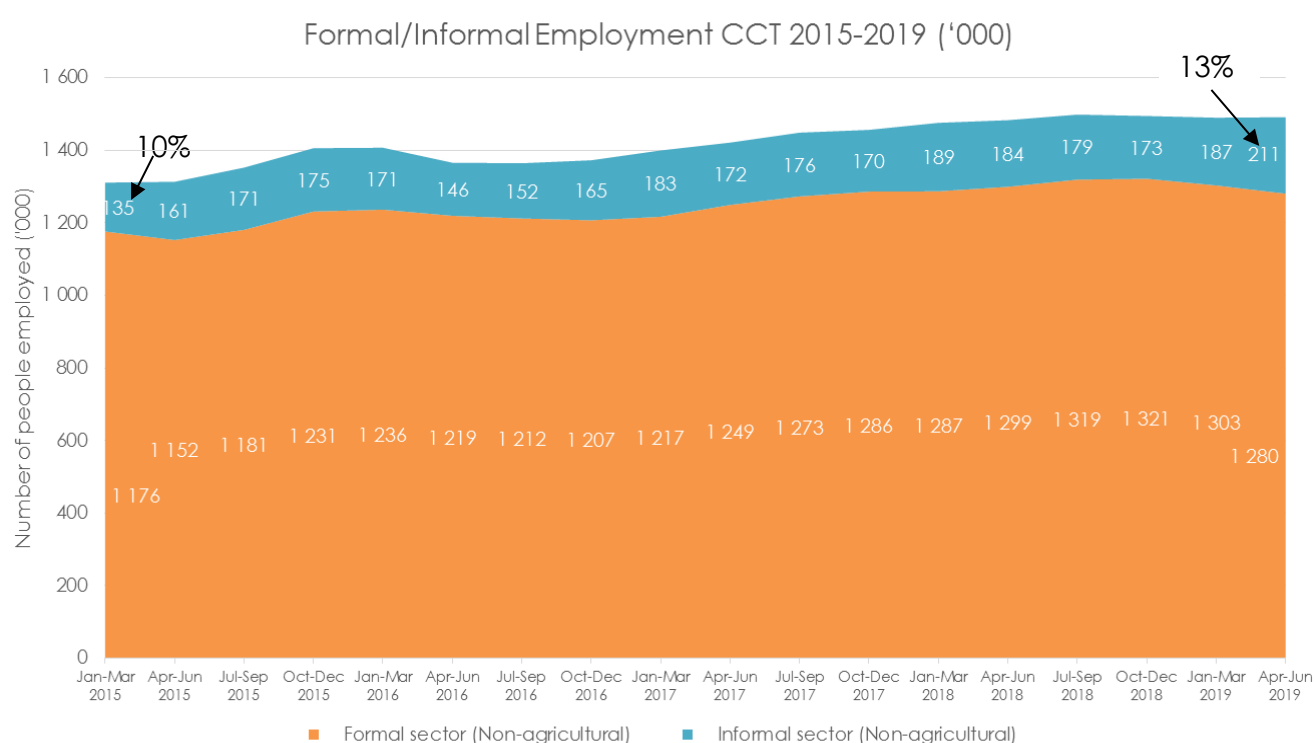


Figure 4.14: Formal versus informal employment in Cape Town, 2015–2019 (Stats SA Quarterly Labour Force Survey: Q2,, 2019)

4.3.2 Employment Distribution

²² GHS 2013

There is informal economic activity in almost all sectors. However, it plays a particularly significant role in trade, transport services, community services, recycling, construction and manufacturing (Figure 4.15).

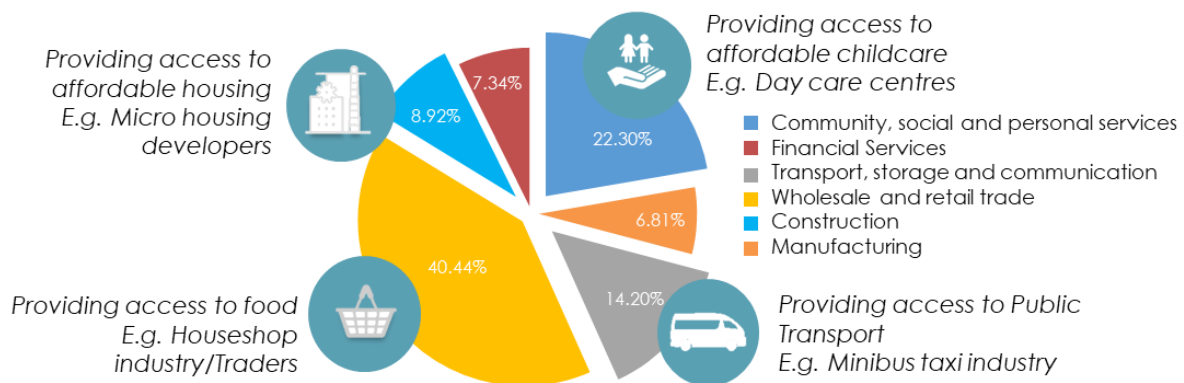


Figure 4.15: Industry distribution of informal sector employees in Cape Town, 2019 (Stats SA Quarterly Labour Force Survey: Q2, 2019)

4.3.3 Opportunities and Constraints

As long as the population of Cape Town grows (through births and in-migration) at a higher rate than formal jobs are created, the informal economy will remain an important avenue for generating livelihoods and reducing poverty. This is particularly true in a scenario where the bulk of new arrivals to the city or young residents entering the workforce in the city are unskilled or semi-skilled. The informal economy has the potential to provide transitional employment for new arrivals to the city or new entrants to the labour market, and in some cases to provide sustained livelihoods. However, there is a risk that many informal economy participants may become stuck in low-productivity, survivalist activities.

Cape Town's informal economy is comparatively small by the standards of other developing countries and emerging economies, particularly in the context of high levels of unemployment in the formal sector. This presents an opportunity for further growth in the informal economy.

As with the formal sector, a *lack of skills*, particularly relating to the operating of a business, is a key constraint to the growth of informal enterprises. Most informal businesses battle to access growth markets and the capital required to diversify and scale up their activities. As a result, they are left to compete fiercely for market share at the local level, servicing lower-income consumers, leading to low and precarious profit margins²³. There is thus an opportunity for business support to be improved.

The conditions in which informal economy actors operate are often characterised by low-quality urban spaces, with limited amenities and services such as bathrooms,

²³ Human Science Research Council (HSRC), 2018, *Township Economies Workshop Notes*

shelter and storage facilities. Informal businesses are generally more affected by crime and insecurity, and the unregulated nature of the informal economy also increases opportunities for exploitation. The regulations governing business licencing and other regulatory requirements, such as land use and building approvals are designed for formal businesses and often are not relevant to the realities of the informal sector. The costs associated with regulatory compliance represent a disincentive to formalisation, which may severely hamper the growth of informal enterprises.

A key challenge for the City in supporting informal sector development is the *scarcity of data* about the size, location and activities of the informal economy. Lack of information about the lived reality of those working informally and their priority needs is also a challenge. For this reason, further studies are being undertaken to assist in the preparation of the revised District SDF.

5 PROPERTY MARKET

5.1 Measuring Property Market Performance

Amongst other variables, Table 5.1 below depicts the change in average capitalisation (cap) rates over time within the Khayelitsha, Mitchells Plain & Greater Blue Downs District. As previously highlighted (see Section 9.1.2 Macro Property Market Performance), the cap rate is one type of measurement used in evaluating an investment, indicating **risk** and the **potential rate of return** for a prospective property. The cap rate is the ratio of stabilised annual net operating income to purchase price. Thus, it measures income after deduction for operating expenses and normal vacancy, but before deducting financing charges and income taxes (Ambrose and Nourse, 1993: 221). A low cap rate implies lower risk and higher value, while a high cap rate implies higher risk and lower value. The cap rate of a given property is influenced by a variety of endogenous and exogenous factors and is therefore considered to be a good indicator to assess property market performance. These factors comprise of the following:

- **Market Value:** "The estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion" (Blackledge, 2009).
- **Gross rental income:** The total amount collected in rent and any related rental property income before any expenses are deducted; you can include rent for parking and other factors.
- **Net operating income (NOI):** This is the annual income generated by an income-producing property after deducting all operating expenses.
- **Operating expenses:** Expenses needed to operate the property which includes property taxes, rental property insurance, management fees, repairs, maintenance and miscellaneous things like accounting and legal fees.
- **Occupancy rate:** The ratio of rented space to the total amount of available space and is typically used in multi-unit properties.
- **Growth**
- **Operating expenses:** Expenses needed to operate the property which includes property taxes, rental property insurance, management fees, repairs, maintenance and miscellaneous things like accounting and legal fees.
- **Supply vs. demand:** This relates to how many properties are available in the area; typically, the lower the inventory, the higher the demand, which tends to lead to properties with lower cap rates.
- **Property type/Asset class:** This is the type of property such as multifamily, apartment building, industrial or commercial property and typically residential properties have lower cap rates than commercial properties, because commercial properties tend to have higher rents.
- **Rents that are above or below market**
- **Length of the lease term**
- **Financial strength/credit rating of the tenant**

5.2 Key Observations and Trends

5.2.1 Non-residential

Table 5.1: Khayelitsha, Mitchells Plain & Greater Blue Downs District property market indicators, 2012–2018
(City of Cape Town Non-Residential Market Research, 2018)

Market Segment	Year	Average Cap Rate (%)	Average Operating Costs (R/m ² /month)	Average Gross market Rental (R/m ² /month)	Average Vacancy Rate (%)
Industrial	2012	10.6%	R5.17	R27.02	3.5%
	2015	10.1%	R6.44	R32.17	5.8%
	2018	9.5%	R10.09	R63.48	3.5%
Retail	2012	11.2%	R10.65	R51.63	3.5%
	2015	10.2%	R13.20	R55.41	5.0%
	2018	10.8%	R23.36	R154.86	4.7%
Office	2012	11.8%	R12.81	R51.97	5.0%
	2015	11.4%	R12.38	R54.82	9.6%
	2018	11.3%	R16.49	R94.75	6.3%

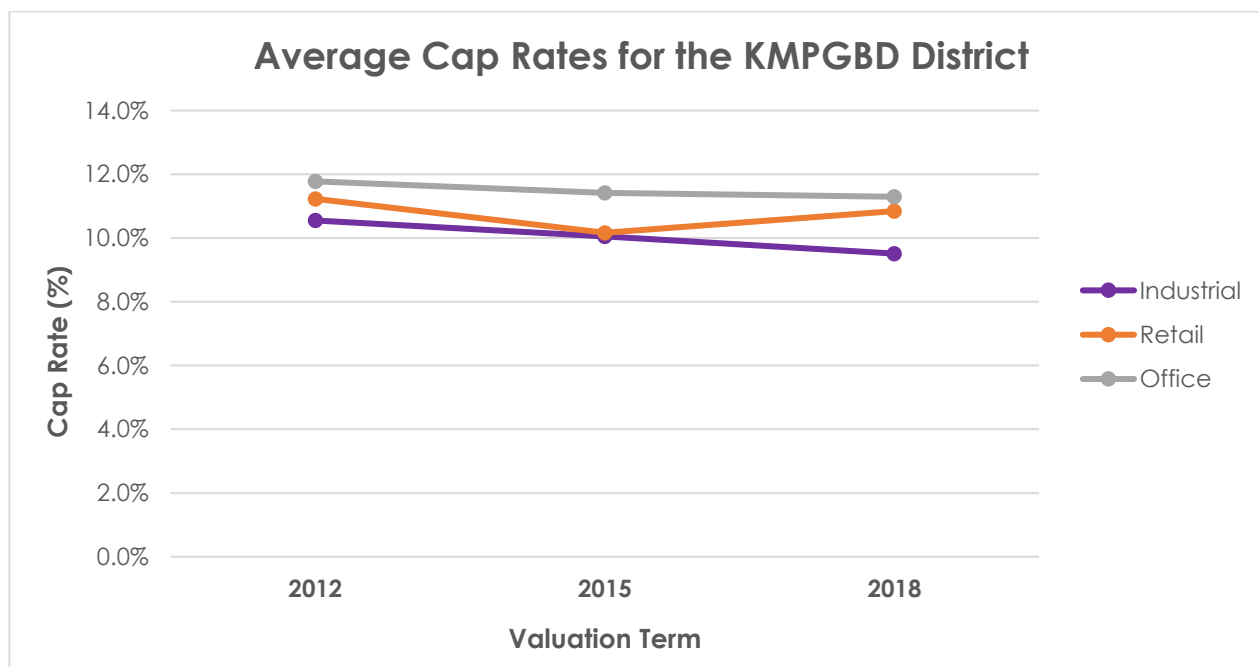


Figure 5.1: Change in Khayelitsha, Mitchells Plain & Greater Blue Downs District average capitalisation rates per non-residential market segment, 2012–2018 (CCT Non-Residential Market Research, 2018)

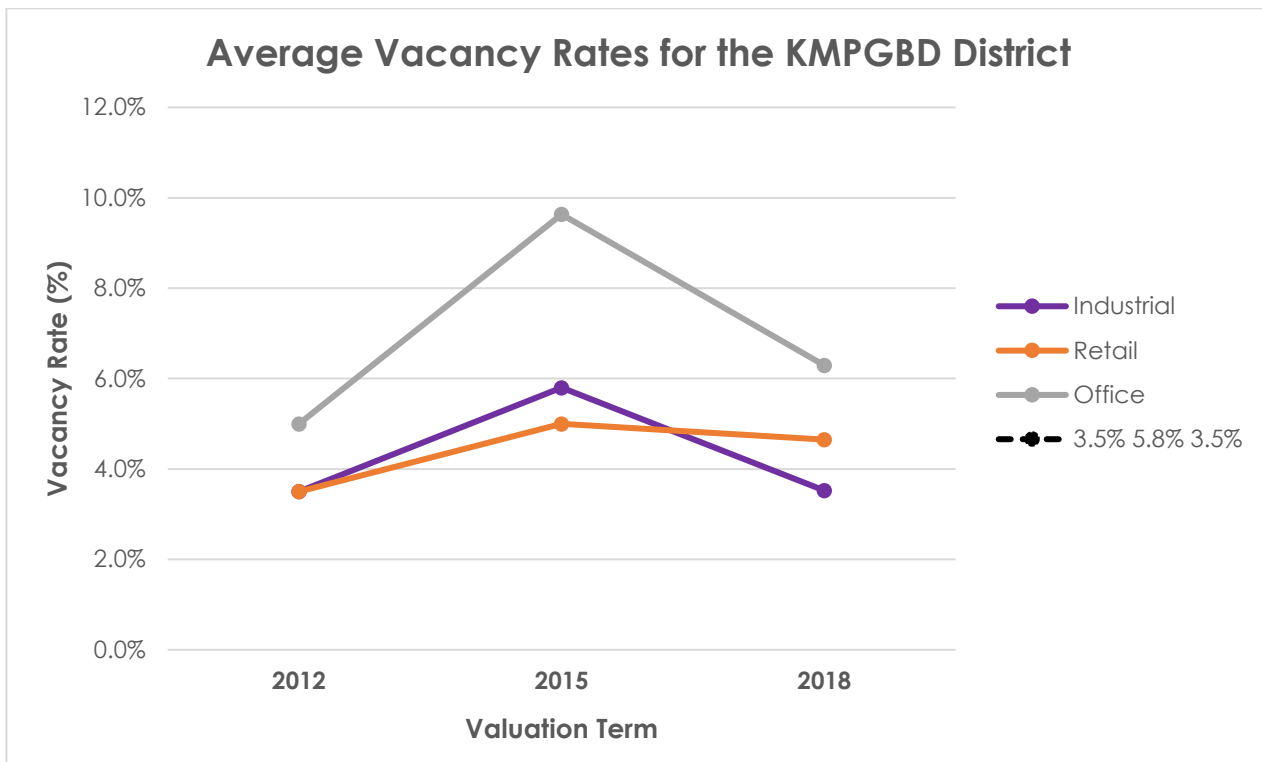


Figure 5.2: Change in Khayelitsha, Mitchells Plain & Greater Blue Downs District average vacancy rates per non-residential market segment, 2012–2018 (CCT Non-Residential Market Research, 2018)

5.2.1.1 Industrial

In the Khayelitsha, Mitchells Plain & Greater Blue Downs District, the industrial sector is generally performing better than other market segments. The average cap rate of the sector decreased modestly, but consistently over the last three valuation terms, from 10.6% in 2012 to 9.5% in 2018 (Figure 5.1). This is due in no small part to the low operating costs of industrial property, relative to retail and office. As of 2018, the industrial sector also has the lowest average vacancy rate, at 3.5% (Figure 5.2). Although the district did see a marked spike in the average vacancy rate between 2012 and 2015, this again decreased to its previous level between 2015 and 2018. This implies an increase in the supply of industrial space, which was subsequently taken up by businesses. Such a trend is supported by the rise in the property prices (as expressed by the median gross market rental price), which increased marginally in the 2012–2015 period and subsequently increased by 1/3 in the 2015–2018 period (Table 5.1), representing a rise in demand as space is taken up.

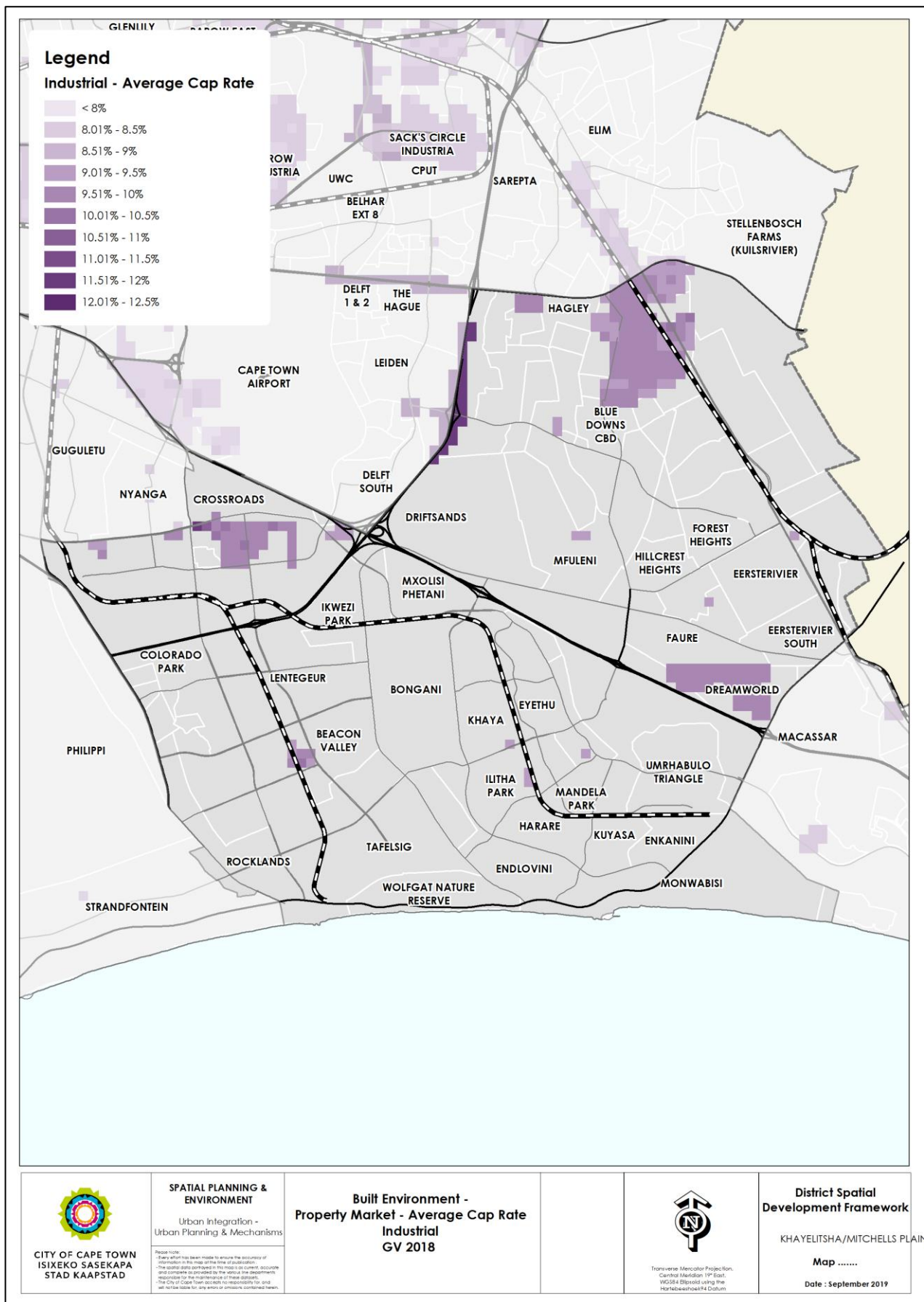


Figure 5.3: Khayelitsha, Mitchells Plain & Greater Blue Downs average capitalisation rates per 4 ha grid: industrial property market

In terms of local market performance, Blackheath Industria in the Greater Blue Downs Sub-District currently has the lowest cap rates, ranging from 9%–10%, with lower rates on the periphery of the area (Figure 5.3). This makes intuitive sense, as Blackheath Industria is also the largest and most established industrial node in the district. This is followed by the Hagley, Dreamworld, Mitchells Plain CBD and Philippi industrial areas, with cap rates primarily in the range of 9.51%–10%. The highest cap rates for industrial property in the district by a significant margin are found along in areas straddling the R300 freeway in Webank and Delft, in the range of 11.51%–12%, representing a relatively high risk and low performance in industrial development in the area.

5.2.1.2 *Street-Front Retail*

In comparison with other market sectors in the district, street-front retail is performing marginally better than office, but worse than industrial by a somewhat larger margin. Its average 2018 cap rate of 10.8% sits between that of office at 11.3% and of industrial at 9.5% (Figure 5.1). This is far above the metropolitan average of 8.64%. Interestingly, the average cap rate of street-front retail decreased significantly between 2012 and 2015, before rising close to its 2012 level again by 2018 (Figure 5.1). The 2015–2018 rise in the average cap rate followed a marked increase in the average vacancy rate, from 3.50% to 5%, in the 2012–2015 period, which subsequently remained at that level in the 2015–2018 period (Figure 5.2). This indicates an increase in street-front retail stock that has gone unoccupied and thus a relative decline in performance across the district. However, this trend is not reflected in the median property value, which increased marginally between 2012 and 2015, only to increase by approximately 75% between 2015 and 2018 (Table 5.1).

Despite a significant overall increase in market value, there is still a high degree of risk associated with retail properties, evidenced by exceptionally high cap rates in the range of 11%–12% across the district (Figure 5.4). Better performing exceptions to this overriding spatial trend are the Mitchells Plain CBD (in the range of 8.51%–10%), followed by Philippi, specifically the intersections of New Eisleben Road with Sheffield and Govan Mbeki Roads (primarily in the range of 9.51%–10%).

Amidst this overall poor performance, trade as an industry (which encompasses largely of retail activity) is still a significant contributor to the economy of the district. It is the second largest contributor to employment (21.6%) and the third largest contributor to GVA (16.6%). It should further be noted that this section does not account for other larger-scale retail typologies, such as neighbourhood and regional shopping centres, which have a significant impact on the cumulative retail property market performance.

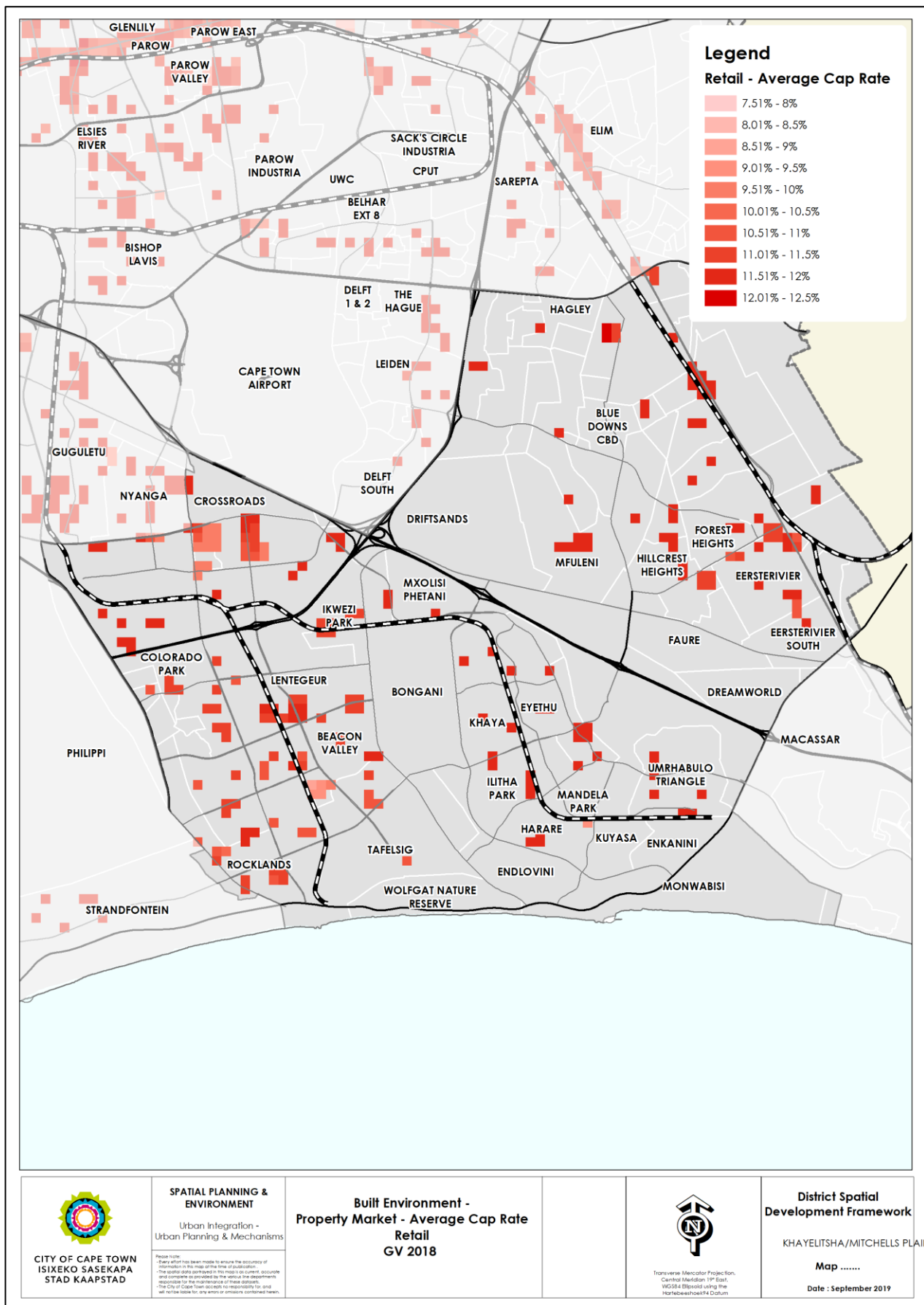


Figure 5.4: Khayelitsha, Mitchells Plain & Greater Blue Downs average capitalisation rates per 4 ha grid: street-front retail property market

5.2.1.3 Office

Office is the worst performing of the district's three non-residential property sectors. While its average cap rate displays the same modest, yet consistently decreasing trend as the industrial sector between 2012 and 2018, it still exhibits the highest current rate at 11.3% (Figure 5.1). As of 2018, office also has the highest average vacancy rate at 6.3% (Figure 5.2). It saw the sharpest spike in vacancy rate between 2012 and 2015 of all three sectors, which subsequently decreased significantly between 2015 and 2018. This points to an increase in the supply of office property, of which most appears to have been taken up. Consequently, the median office property value has remained almost unchanged in the 2012–2015 period, while increasing more significantly in the 2015–2018 period as a result of demand responding to the supply of office space (Table 5.1).

Locally, the Mitchells Plain CBD contains the highest concentration of office space in the district. Intuitively, it also displays the lowest cap rates by a slight margin, in the range of 10.51%–12% (Figure 5.5). All other office properties in the district (including those clusters concentrated along New Eisleben Road, around the Khayelitsha CBD, in Ikwezi Park, Blackheath and Eerste River) have consistently higher cap rates, primarily in the range of 11.51%–12%.

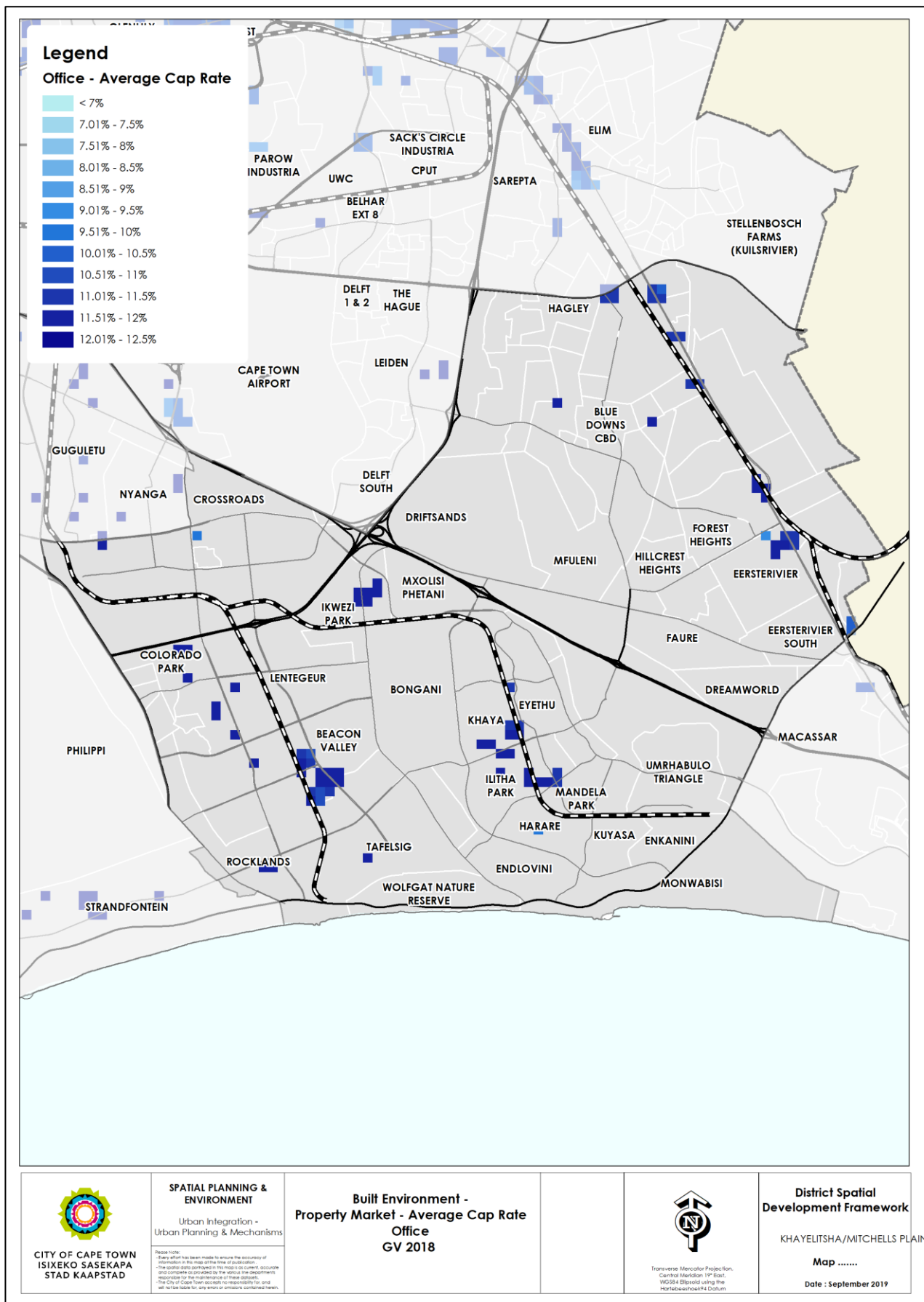


Figure 5.5: Khayelitsha, Mitchells Plain & Greater Blue Downs average capitalisation rates per 4 ha grid: office property market

5.2.1.4 *Change in Value*

Significant increases in non-residential property values (>100%) between 2012 and 2018 are relatively widely spread throughout the district (Figure 5.6). Amidst this trend, however, the most exceptional and concentrated non-residential property growth (>100%) has particularly occurred in Faure. While this area does include the industrial property of Cape Town Film Studios and iThemba Labs (with the lowest cap rates and lowest levels of risk among industrial property in the district) the majority thereof is undeveloped and forms part of the Kuils River corridor and Khayelitsha wetland system. As such, it is curious that it would have seen such drastic and widespread increases in property value. A possible explanation for this would be that property values within this area have historically not been particularly high to begin with. Therefore, even a very marginal increase in property value could easily equate to a doubling thereof.

In terms of other industrial nodes, the majority of Blackheath Industria has seen no change in property value (Figure 5.6). However, property values on its northern edge generally increased in the range of 30–60%, those on its eastern edge by 70–80% and the cluster on its western edge in excess of 100% (Figure 5.6). This pattern is an indication of the outward expansion of Blackheath Industria, which includes small pockets of office space on its northern and eastern fringes and retail property on its western edge, further cementing its status as one of the most prominent and growing economic areas in the district (Figure 5.4 & Figure 5.5).

The only other industrial area to have seen similar growth in property growth is Hagley, where non-residential property values grew in excess of 100% (Figure 5.6). By contrast, major parts of Philippi Industria saw either low growth in value (0–20%) or negative growth, particularly in relation to informal settlement expansion and growing residential demand (Figure 5.7). Similarly, the strip of industrial properties along the R300 in Wesbank and Delft grew only marginally in value by 0–15%, reflecting their nature as the worst performing in the district (Figure 5.3 & Figure 5.6).

The Mitchells Plain CBD industrial node saw more moderate growth in non-residential property values in the range of 20–50% (Figure 5.3 & Figure 5.6). This growth has also been linked to street-front retail and office property, making the Mitchells Plain CBD one of the more diverse economic nodes in the District. (Figure 5.4, Figure 5.5 & Figure 5.6) Other areas of exceptionally high (>100%) growth in non-residential property values in Mitchells Plain coincide primarily with street-front retail, such as in Rocklands, the northern edge of Beacon Valley (along AZ Berman Drive and Morgenster Road), Woodlands (south of Colorado Park, along New Eisleben Road) and around the Lentegeur Railway Station (Figure 5.4 & Figure 5.6).

Scattered areas of exceptionally high non-residential property value growth (>100%) in Philippi are also largely linked to retail activity, such as at the interface with Crossroads. Similar growth in values in Ikwezi Park, however, are tied to both retail and office properties (Figure 5.4, Figure 5.5 & Figure 5.6).

Within Khayelitsha, exceptionally high non-residential property value growth (>100%) has concentrated around the Khayelitsha CBD and on the southern edge of Khaya, including

a mix of retail and office space (Figure 5.4, Figure 5.5 & Figure 5.6). Other areas of such growth include northern Khaya, Victoria Mxenge, Mandela Park, Umrhabulo Triangle, Kuyasa and Harare (Figure 5.6). However, this growth in property values is tied to undeveloped land more than existing economic activity and reflects the increasing pressure on and demand for the vacant, underutilised land in Khayelitsha.

Within the Greater Blue Downs Sub-District, certain pockets of exceptionally high (>100%) non-residential property value growth, such as around the Blue Downs CBD, Malibu Village and Eerste River South, are also tied to undeveloped or underutilised land, representing a significant rise in demand for these spaces (Figure 5.6). Other pockets of similar growth coincide with small-scale retail activity, such as in Klein Vlei, Hillcrest Heights, Forest Heights and along Forest Drive (Figure 5.4 & Figure 5.6). Interestingly, two of the most established non-residential nodes within Greater Blue Downs – Mfuleni CBD (retail in nature) and Eerste River Railway Station (office and retail in nature) – have seen the most inconsistent changes in property values, ranging from negative growth to growth in excess of 100% (Figure 5.4, Figure 5.5 & Figure 5.6), suggesting inconsistent demand from businesses for locating there.

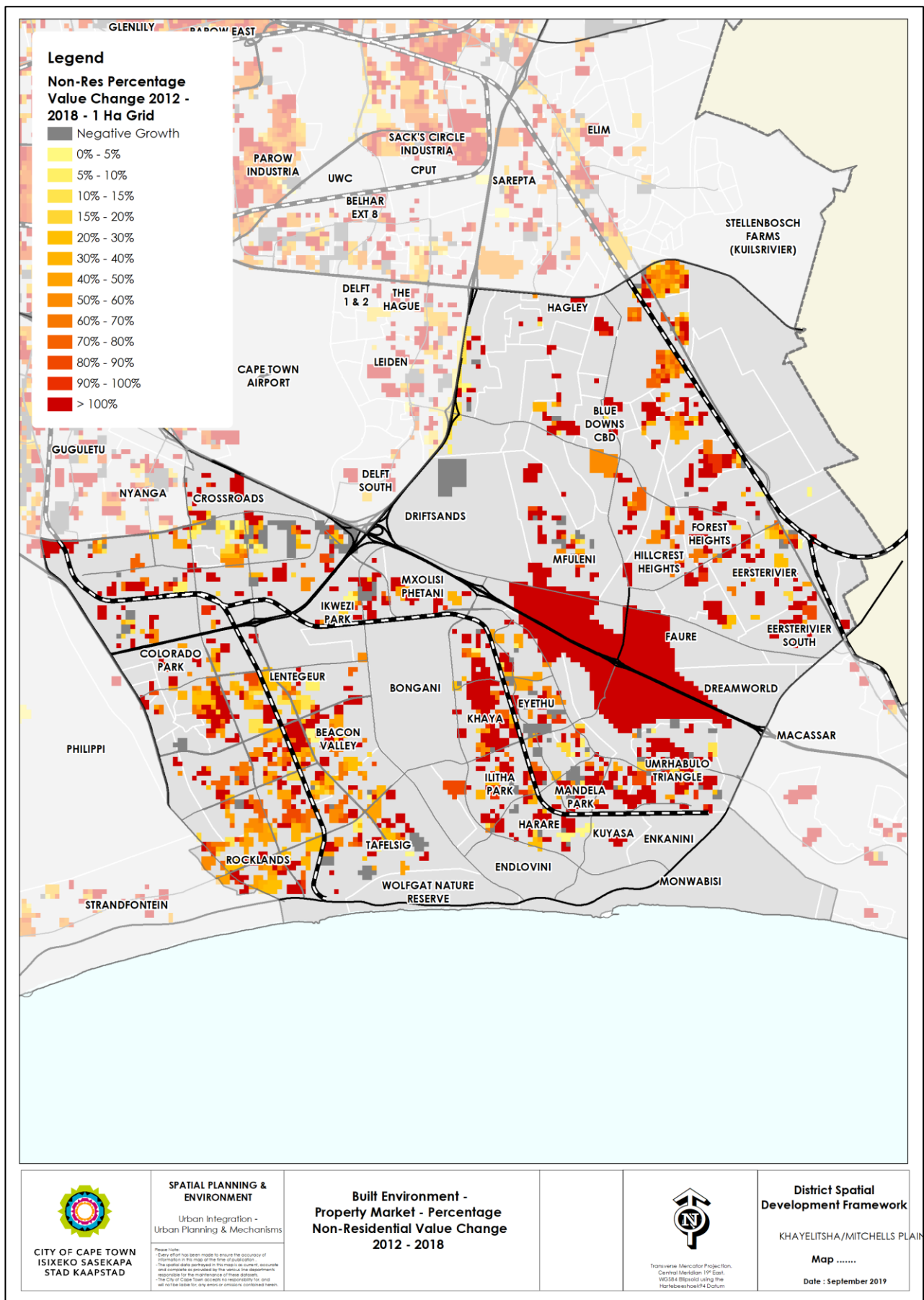


Figure 5.6: Khayelitsha, Mitchells Plain & Greater Blue Downs District change in average non-residential property values per 1 ha grid, 2012–2018

5.2.2 Residential

5.2.2.1 Sales

Between 2009 and 2018, the highest number of residential property sales in the district were made in Philippi, amounting to 3 001 – 5 000 transactions in each of its smaller areas (Figure 5.7). However, Philippi also generally has residential property prices on the lowest end of the spectrum (Figure 5.8). This reflects a high demand for housing in the area by households in the very lowest income groups and also reflects the high degree of risk associated with investment in the area. Similar, but less extreme, contrasts between a high number of property sales and low property value are found in Ikwezi Park and Mfuleni, where extremely low property values coincide with a moderate number of sales, (Figure 5.7 & Figure 5.8).

Mitchells Plain had the next highest number of residential property sales in the 2009–2018 period, particularly in Lentegeur, Portland (adjacent to the Mitchells Plain CBD), Tafelsig and Rocklands, which all saw between 2 001 and 3 000 transactions (Figure 5.7). Somewhat smaller numbers of sales (1 201–2 000) were recorded in Westridge, Eastridge and Beacon Valley. Save for Tafelsig, the moderate number of residential property sales within Mitchells Plain coincide with moderately high property values (Figure 5.7 & Figure 5.8). This positions Mitchells Plain's residential property market as the overall healthiest in the district, with a general alignment between demand and affordability.

Moderate to high residential property sales and prices further coincide in several suburbs in Greater Blue Downs, such as Hagley, Silversands, Fountain Village and Eerste River (Figure 5.7 & Figure 5.8). The moderate sales in these suburbs are likely linked to the uptake of new residential development, aimed primarily at middle- to lower-income groups. The remainder of the Greater Blue Downs Sub-District generally displays both low numbers of property sales and low property values.

The suburbs of Ilitha Park and Graceland in Khayelitsha also display a confluence of moderately high property sales and value (Figure 5.7 & Figure 5.8). However, the majority of areas in Khayelitsha display a mismatch of either 1) low numbers of property sales of moderate value (Victoria Mxenge and Nonqubela) or 2) moderate numbers of sales of low value (Mandela Park, Kuyasa and Umrhabulo Triangle). As in Philippi, this is a clear indicator of the high degree of poverty in the area, where moderate numbers of sales mainly occur in those suburbs where property prices are at their lowest.

Table 5.2: Highest affordable property prices for respective monthly household incomes

Monthly household income	Affordability (assuming a bond on a 13% interest rate)
R22 000	R560 000
R20 000	R510 000
R18 000	R460 000

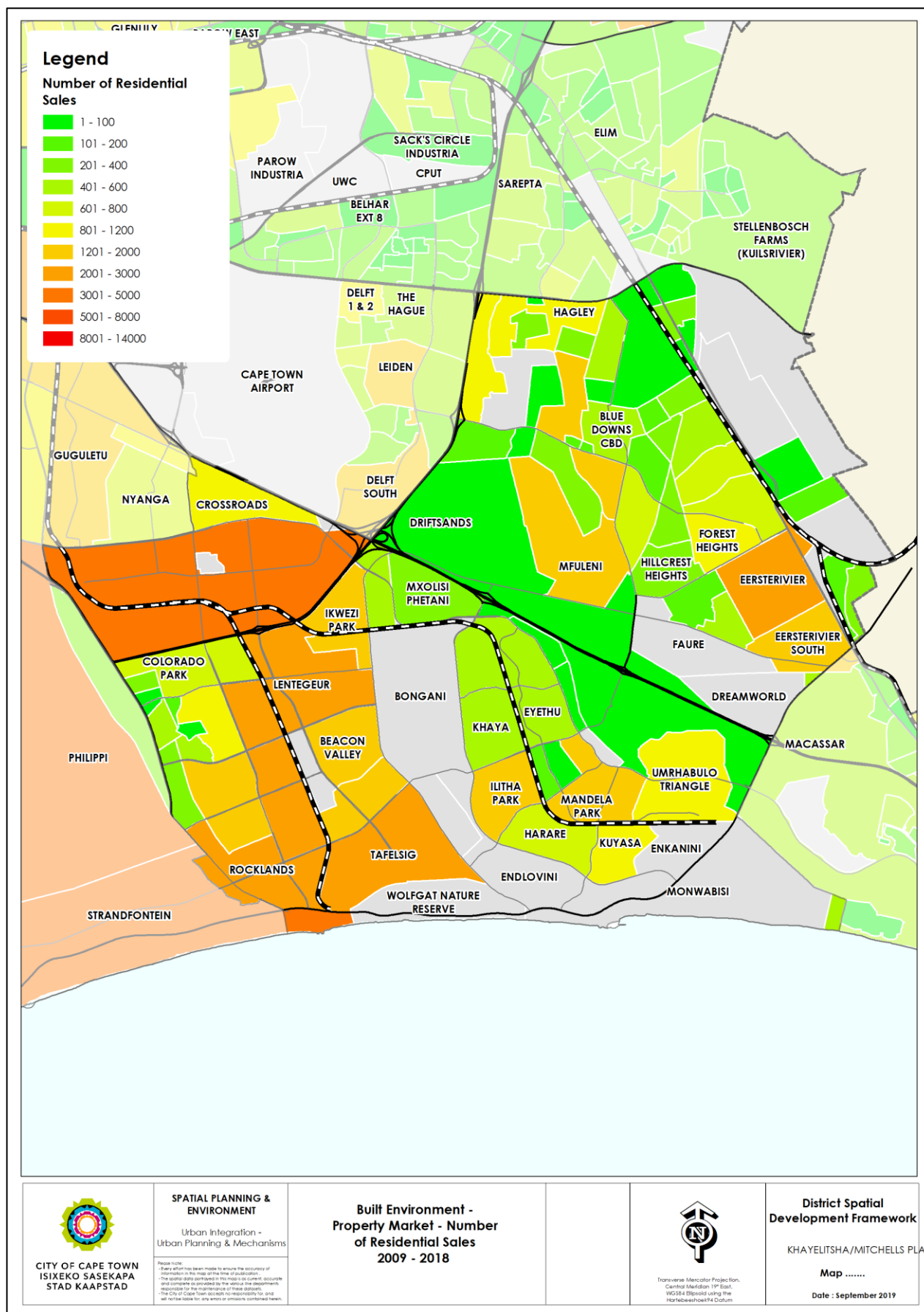


Figure 5.7: Khayelitsha, Mitchells Plain & Greater Blue Downs District: number of residential sales per suburb, 2009-2018

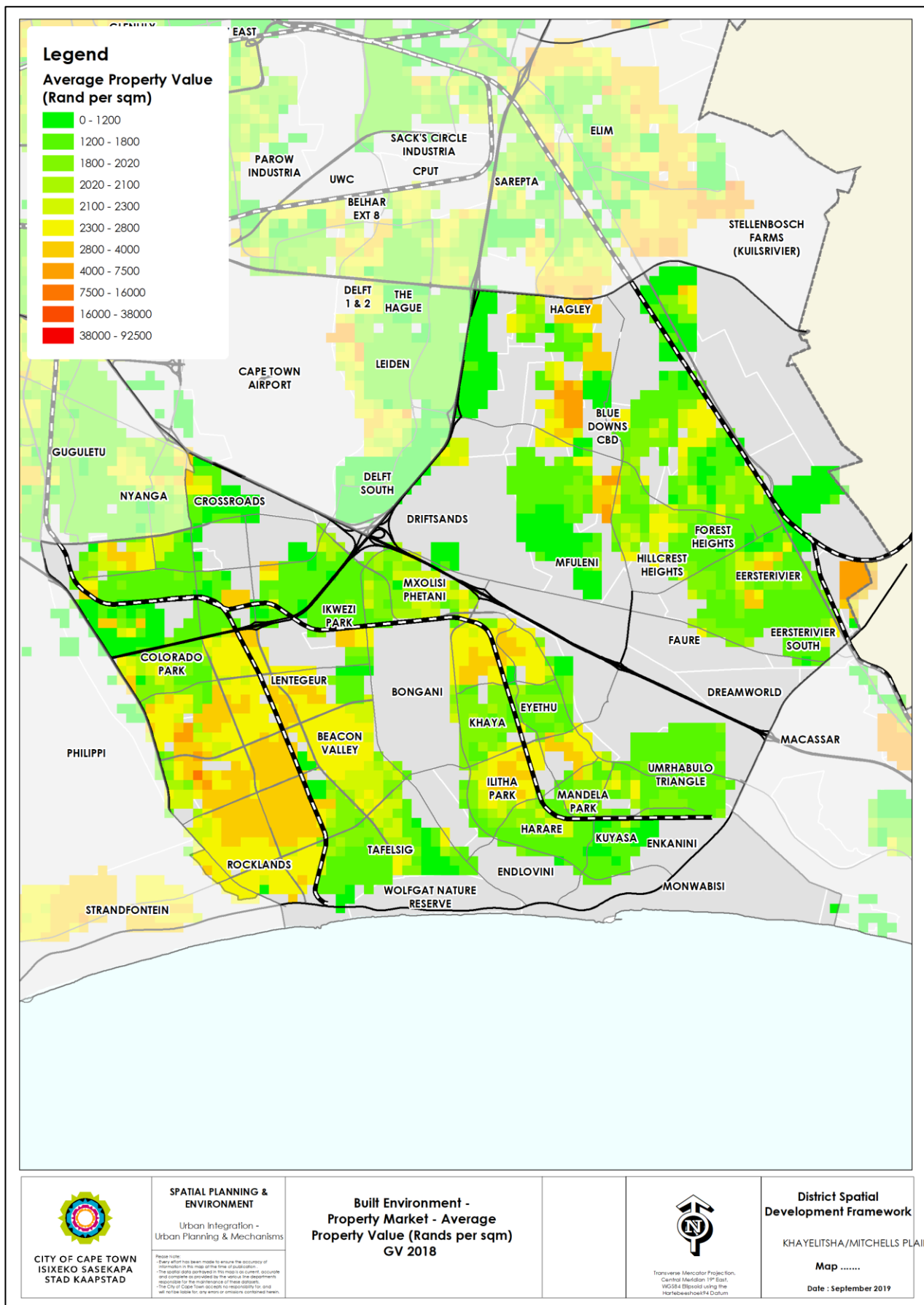


Figure 5.8 Khayelitsha, Mitchells Plain & Greater Blue Downs District: average residential property value by suburb, 2018 (R/m²)

5.2.2.2 *Change in Value*

In contrast with non-residential properties, the growth in value of residential properties between 2012 and 2018 has been far more spatially distinct (Figure 5.9). The highest and most concentrated growth has occurred in the residential suburbs of Philippi, in excess of 100%. Equally high residential growth rates are observed in Mfuleni (with expectedly lower values in the non-residential Mfuleni CBD) and south-eastern Khayelitsha (Graceland, Harare, Umrhabulo Triangle and Kuyasa). Within Philippi and Mfuleni especially, this is a reflection of high population growth rates and a subsequent rise in demand for housing (see Chapter 2 Demographics).

The second highest rates of residential property value growth have occurred in north-western Khayelitsha, Hagley and Rustdal (north-east of Blackheath Industria), generally in the range of 50–100%. After that, more moderate growth in residential property values has been observed in south-eastern Blue Downs and Mitchells Plain (most notably along the railway line), primarily in the range of 40–70%.

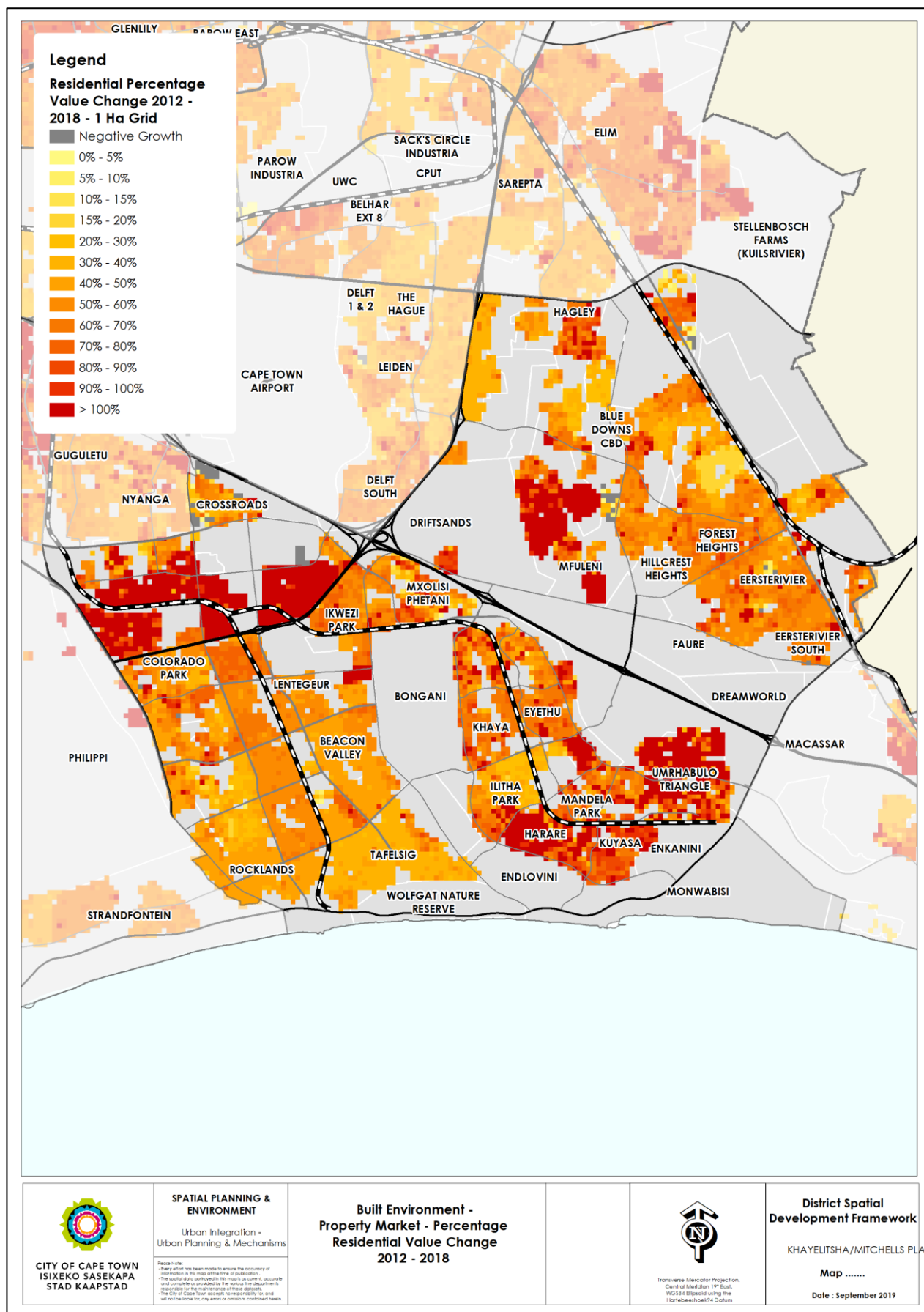


Figure 5.9: Khayelitsha, Mitchells Plain & Greater Blue Downs District change in average residential property values per 4 ha grid, 2012–2018

5.3 KEY OPPORTUNITIES AND CONSTRAINTS

5.3.1 Opportunities

- Blackheath Industria is a large, established and well-performing industrial node. Property values on the periphery of Blackheath Industria are also increasing, linked to growing street-front retail and office sectors. This diversification of economic activity further strengthens Blackheath's role as an important economic node in the district, particularly Greater Blue Downs, that contributes significantly to economic opportunities and could support higher-density residential development.
- There is potential to further develop and invest in smaller, moderately well-performing industrial nodes in Hagley, Dreamworld and the Mitchells Plain CBD.
- The street-front retail sector is performing moderately in certain portions of Philippi, with property values growing specifically at the intersections of New Eisleben Road with Sheffield Road and Govan Mbeki Road. This creates a base from which to reimagine the development of the area in light of the ailing industrial sector.
- The viability of street-front retail in many parts of the district can be strengthened through greater support of informal street-front retail activity.
- The Mitchells Plain CBD has the highest concentration of office space in the district, with the lowest degree of risk associated with investment in the sector. In conjunction with the well-performing street-front retail sector and relatively well-performing industrial sector, the area has the potential to further support a spectrum of job opportunities and possible residential densification.
- There is the potential for growth in street-front retail activity in other areas of Mitchells Plain, including Rocklands, Beacon Valley (along AZ Berman Drive and Morgenster Road), Woodlands (along New Eisleben Road) and around the Lentegeur Railway Station.
- Non-residential property values are increasing across Khayelitsha, linked largely to vacant, underutilised land with significant potential for development.
- There is growth in the property values associated with small-scale street-front retail activity across Greater Blue Downs, including Klein Vlei, Hillcrest Heights, Forest Heights and along Forest Drive.
- The residential property market is performing well in Mitchells Plain, where moderate residential property values coincide with moderate sales and increases in value, particularly in areas straddling the railway line. This creates potential for higher-density transit-oriented development that integrates with the railway line and future MyCiti BRT route along AZ Berman Drive.
- Eersterivier and other areas in Blue Downs are seeing a confluence of moderate residential property sales and an increase in residential property value, indicating the potential of the area to meet the housing demand of low- to medium-income households.

5.3.2 Constraints

- The potential of Philippi as an industrial node has decreased significantly over time (as represented by the low to negative growth in industrial property values). Unutilised industrially-zoned land has allowed for large informal settlements to grow, which further adds to the risk of development in the area, forming a positive feedback loop of decreasing investment and development confidence.
- The street-front retail sector is underperforming across the district, with an average cap rate of 10.8%, versus a metropolitan average of 8.64%. This risk in investment in street-front retail is linked to, *inter alia*, high crime rates.
- Despite the strong gross rental return per m², investment in office space has a very high degree of risk associated with it almost across the entire district.
- Non-residential property values in the established economic nodes of the Mfuleni CBD and Eersterivier Railway Station (office and retail in nature) have seen inconsistent growth.
- There is a high demand for housing in Philippi from people in the very lowest income brackets.

E. SYNTHESIS

SECTION STILL INCOMPLETE – THIS INFORMATION STILL NEEDS TO BE UPDATED

6 RISKS

Urban developments are subject to a certain amount of risk, e.g. construction faults, traffic accidents or exposure to hazardous substances. In the context of the District SDF, the focus is on avoiding, mitigating or reducing the risk of disaster, by guiding development away from known hazards or in a way that the risk of being exposed to disasters²⁴ is lessened.

This chapter outlines the current and future risks to the Khayelitsha, Mitchells Plain & Greater Blue Downs District and their associated levels of impact **on the intensity and location of future urban development** in the area.

6.1 Guiding Policy on Risk Management

The IDP focus area “The Safe City” reflects on the management of disasters and risks. The City emphasises integrated planning and governance in disaster risk management, and the need to build the city’s resilience to risks (i.e. the ability to recover from disastrous events). This is reflected in the policy statements of the CTMSDF (Table 6.1).

The City’s Disaster Risk Management Plan, embedded in the IDP, considers the City’s response to disaster impacts, relief, rehabilitation, reconstruction, and preparedness (Table 6.2).

The City’s Resilience Strategy, 2019 notes that chronic stresses such as unemployment, congestion and poverty weaken the city’s ability to cope with shocks. All communities of the city have a degree of vulnerability to risk. The Disaster Risk Management Plan identifies 70 hazards and risks that the City must respond to. Approximately 25 of these risks could occur across the city, e.g. drought and rainfall reduction, service disruptions, traffic accidents, the transportation of hazardous substances, terrorism or construction faults.

Stresses which increase vulnerability are disproportionately experienced by communities experiencing inadequate shelter, poverty and unemployment and especially the urban poor living in informal settlements. The servicing, disaster response and development of vulnerable areas and informal settlements is a priority across the city for building resilience.

Spatial planning must ensure that new developments both avoid and do not exacerbate risk and where historic urban development is exposed to risk and hazard, it is mitigated. Similarly, the direction of spatial planning under a high-resilience framework ensures that the built environment is developed to bring about low-carbon opportunities, and meaningfully mitigate against climate change and buffer against increasing costs of fossil

²⁴ The definition of a **disaster** is: “a progressive or sudden, widespread or localised, natural phenomena or human-caused occurrence which –
(a) causes or threatens to cause –
(i) death, injury or disease;
(ii) damage to property, infrastructure or the environment; or
(iii) disruption of a community; and
(b) is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources” (Disaster Management Act, 57 of 2002)

fuels. Doing so in the immediate future reduces the cost of implementing climate adaptation measures in the long-term.

Table 6.1: Policy statements pertaining to risk (CTMSDF, 2018)

Sub-Strategy Appropriately Protect the Citizens of Cape Town from Risk Areas	
Policy Statement	What this Means/Requires
Policy 20 Enable resource-efficient development	The City can guide spatial development in a way that encourages 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.
Policy 21 Direct urban growth away from risk areas	Hazardous areas are either already determined through proclamations/ law or specialist studies, or will be determined as part of the EIA processes or pre-submission consultations processes, where appropriate.
Policy 22 Discourage urban growth in areas at risk from natural hazards/coastal processes which are expected to be amplified by climate change impacts.	Areas vulnerable to climate change and natural hazards and risks have broadly defined through specialist studies or will be determined by future specialist studies.

Table 6.2: Cape Town Disaster Risk Management Plan evaluation of hazards²⁵

Measurement Criteria for each Hazard Assessed	Criteria's Assessment Rating	Integration of factors to determine the Relative Priority	Hazards Relative Priority Rating
Probability of Occurrence	Very Likely		
	Likely		
	Possible		
	Unlikely		
Maximum impact/ Severity & Consequences	Extreme		Very High Priority
	Moderate		High Priority
	Insignificant		Medium Priority
Vulnerability of Community and/or Environment and/or Economy	Very Vulnerable		Lower Priority
	Vulnerable		
	Small Vulnerability		
Manageability/Coping Capacity by Responders to offset Hazards Impact and Vulnerabilities	Good		
	Adequate		
	Basic		
	Poor		

²⁵ Further description of the methodology and ratings prescribed is contained in the City of Cape Town Disaster Risk Management Plan

6.2 Risks in Khayelitsha, Mitchells Plain & Greater Blue Downs

Taking the aforementioned guiding policy into the account, the following section identifies the types of risk and the level of exposure to risks at the district scale, **referencing those risks that impact on the permissible intensity and location of future urban development.** The hazard evaluation above is referenced where possible. In addition, the relevant principles that apply when considering the allocation of development rights and possible exceptions are identified.

6.2.1 Natural Risks

6.2.1.1 Sand Dune Migration/Wind-Blown Sand

The district is sandy and exposed to strong south-easterly winds, wind-blown sand and sand migration both affects the liveability of and functionality of infrastructure in the district. Along the coast, strong winds and salt water spray create harsh conditions.

Sand dune migration poses a risk to urban development and coastal infrastructure in particular, impacting the use and maintenance of coastal infrastructure and properties. Infrastructure at coastal resorts is affected affecting the recreational amenity of the coast in this area. There is high seasonal demand for recreation at this stretch of the coast. Baden Powell Drive is frequently rendered unusable by wind-blown sand, to the extent that realignment of beach access must be considered.

Monwabisi Beach infrastructure and usability is similarly affected by wind-blown sand. Coastal Erosion, the implications of which are outlined in Table 6.3 below.

Table 6.3: Overview and implications of risk: wind-blown sand

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
Likely	Moderate	Vulnerable	Adequate	High	- 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. - For existing property in risk areas initiatives that enable adaptation and reduce risk must be encouraged. - Alternative service delivery mechanisms in risk areas should be investigated in order to reduce the impacts of known hazards.

The dynamic nature of the False Bay Coast means that coastal erosion is a threat. The loss of vegetation and urban development further compounds this threat. Wolfgat Nature Reserve needs assessment for erosion of cliff faces (Table 6.4).

Table 6.4: Overview and implications of risk: coastal erosion

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
Likely	Moderate	Vulnerable	Adequate	Lower	• 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. • For existing property in risk areas initiatives that enable adaptation and reduce risk must be encouraged. • Alternative service delivery mechanisms in risk areas should be investigated in order to reduce the impacts of known hazards.

6.2.1.2 *Flood Risk and Storm Surges*

The presence of rivers, waterbodies, 1:100-year flood lines and indicative sea level rise modelling reveals the areas with higher probability for flood and coastal inundation. (**Note:** The Coastal Management line does not indicate all the properties that are exposed to coastal risks.) In addition to the above, relative elevation reveals areas where the flow of water will speed up or where water will collect. This indicates more need for storm water management and precautionary development principles.

The Kuils River corridor cuts across the district, leading to seasonal flooding in low-lying and flood-prone areas (Figure 6.1). Coastal resorts and development in low-lying areas and flood zones are therefore vulnerable to the effects of storm surges, as is outlined in Table 6.5 below.

Table 6.5: Overview and implications of risk: flooding

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
Likely	Moderate	Very Vulnerable	Good	High	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.

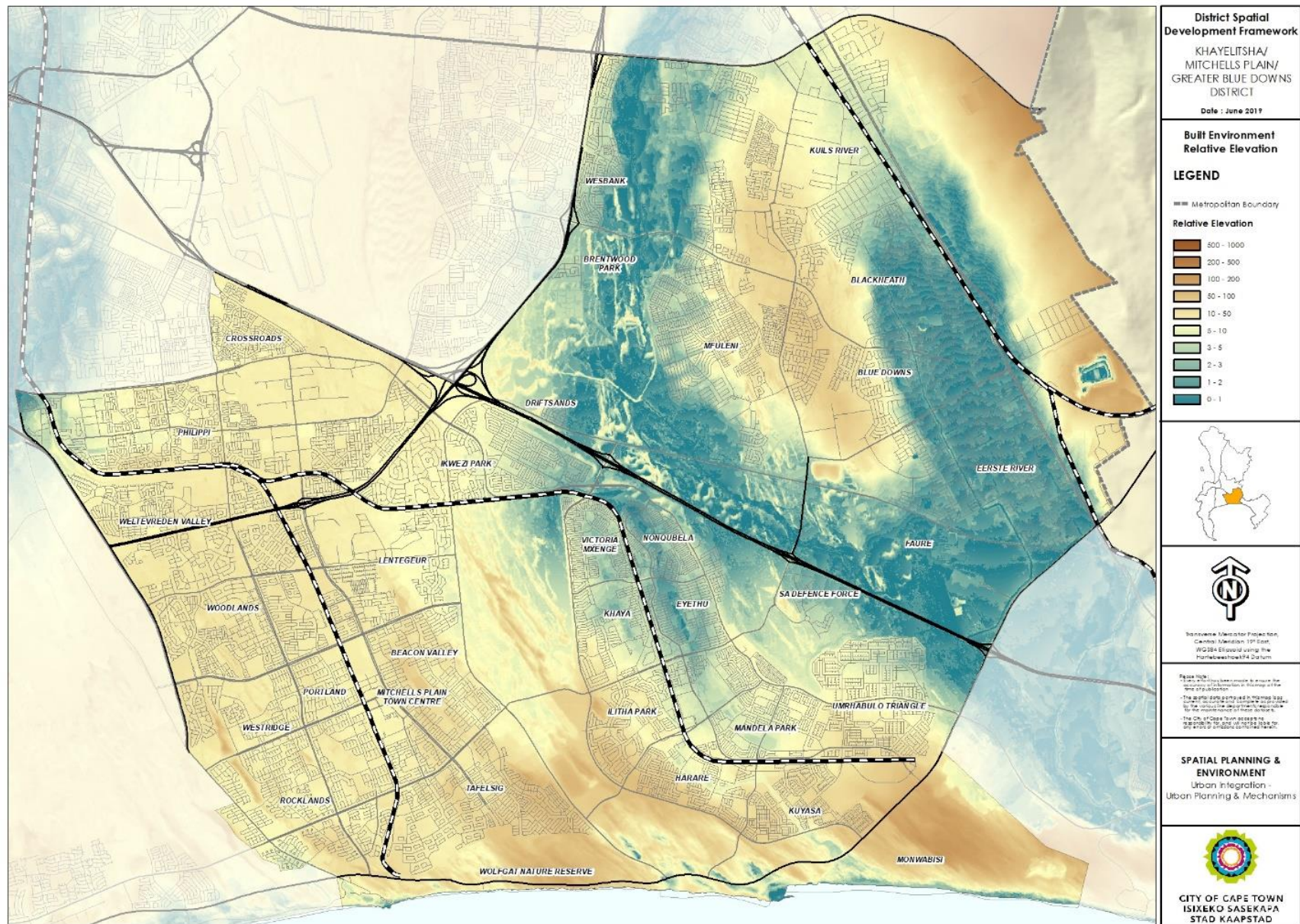


Figure 6.1: Relative elevation above sea level (m) of the Khayelitsha, Mitchells Plain & Greater Blue Downs District

6.2.2 Built Environment Risks

6.2.2.1 Cemeteries, Solid Waste Disposal Sites and Waste Water Treatment Works

Exclusion buffers exist around landfill and waste disposal sites to protect surrounding populations from hazards and nuisances. Historic sites also exclude certain types of development for a period of time determined in the waste management regulations as they present particular hazards in terms of structural stability. This is a challenge in the district where there are large areas of historic waste sites. In the case of Swartklip, this includes hazardous waste. Smaller sites and drop-off facilities present fewer nuisances and hazards, but may have an impact on neighbouring property uses. Cemeteries act as development moderators as their future use is limited. The area is short on cemetery space. These factors are incorporated into Table 6.6 below.

Table 6.6: Overview and implications of risk: cemeteries, waste disposal sites and waste water treatment works

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
n/a	n/a	n/a	n/a	n/a	No inappropriate development in waste sites or buffer areas.

6.2.2.2 Cape Town International Airport Noise Contours

The Cape Town International Airport is located directly to the north-west of the district. The runway currently operates with approximately 30 Air Traffic Movements (ATM) per hour. Consequently, the noise from aircraft landing and alighting affects the district, particularly the Denel/Swartklip area. Although the district is affected less than areas closer to the airport, new development should consider how to reduce vulnerability to the noise resulting from airport activities, as outlined in Table 6.7 below.

Table 6.7: Overview and implications of risk: noise contours

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
n/a	n/a	n/a	n/a	n/a	- Regulations governed in title deed restrictions - Reduce vulnerability and exposure to damaging noise levels.

6.2.2.3 Infrastructure Availability

The availability of infrastructure influences the type of development that can occur (Table 6.8). Higher infrastructure capacity can include a higher intensity of land use. Infrastructure needs to accommodate the growth and demand that will allow cost recovery and a more efficient urban form. Aging and inadequate infrastructure poses different levels of risk throughout the district (see Chapter 6: Infrastructure).

Table 6.8: Overview and implications of risk: lack of infrastructure capacity

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
n/a	n/a	n/a	n/a	n/a	• Development shouldn't occur where bulk infrastructure services are stressed. • Infrastructure should build in redundancy in areas where development is prioritised.

6.2.2.4 Structural Fire: Informal Settlements

Informal settlements and backyard dwellings are often built at extremely high densities and are unable to meet building standards for fire risk reduction. The reasons for informal settlement fires and methods for reducing risk are complex and site-specific, requiring an integrated response. From a spatial planning perspective, community planning initiatives such as re-blocking and maintenance access routes for emergency services are interventions that may reduce risk, as outlined in Table 6.9 below.

Table 6.9: Overview and implications of risk: structural fires in informal settlements

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
Very Likely	Extreme	Very Vulnerable	Adequate	Very High	• Access for fire services needs to be maintained • Working with informal settlement communities to manage risks and adapt buildings.

6.2.2.5 Structural Fire: Formal Settlements

Fire in formal settlements is a risk across the district, particularly when exposed to high temperatures and strong winds (Table 6.10). The prevalence of older buildings in the district and more vegetated suburbs also contributes to this risk. In general, however, a higher degree of building standard compliance and clearer access routes for emergency mean that there is less vulnerability than informal settlements experience.

Table 6.10: Overview and implications of risk: structural fire in formal settlements

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
Very Likely	Extreme	Vulnerable	Adequate	Very High	• Maintaining access for fire services and maintenance of water access points. • Compliance with buildings standards and urban design to reduce fire risk. • Encouraging maintenance of trees and vegetation in private properties.

6.2.2.6 Heat and Heat Islands

All areas of the city are at risk from increased heat due to climate change, including increased heat waves (defined as three or more days in a row of temperatures higher than 32°C) and high-heat days (defined as a temperature of higher than 35°C). Dense urban areas with low levels of green vegetation are most at risk of heat impacts and can be several degrees hotter than those areas not subject to the heat island effect. Fire risk is anticipated to increase over time due to increased temperatures, increased drying, and higher wind speeds caused by climate change (Table 6.11).

Table 6.11: Overview and implications of risk: heat and heat island effect

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
Likely	Moderate	Vulnerable	Adequate	Lower	• Careful management of development to ensure the equitable distribution of green space, reduce the loss of existing green vegetation, and ensure that areas targeted for densification include sufficient green space and public spaces and facilities that are designed for cooling.

6.2.2.7 Unmanaged Land Occupation/Unregulated Development

Occupation of City-owned and private land threatens the availability of land reserved for other uses such as future human settlements or social service provision (Table 6.12). This may also place households at risk of flood, fire or other risks, depending on the location of the occupied land. Unregulated and dense development in informal settlements can result in building forms and conditions that are vulnerable to risks of heat or fire and are not able to access infrastructure and services.

Table 6.12: Overview and implications of risk: unmanaged land occupation and unregulated development

Rating of Probability	Rating of Maximum Impact	Vulnerability Rating	Coping Capacity	DRM Priority Rating	Development Principles and Exceptions
n/a	n/a	n/a	n/a	n/a	Refer to human settlements policy and means to address affordable housing demand across the city. Aim for effective land use management and enforcement across the city.

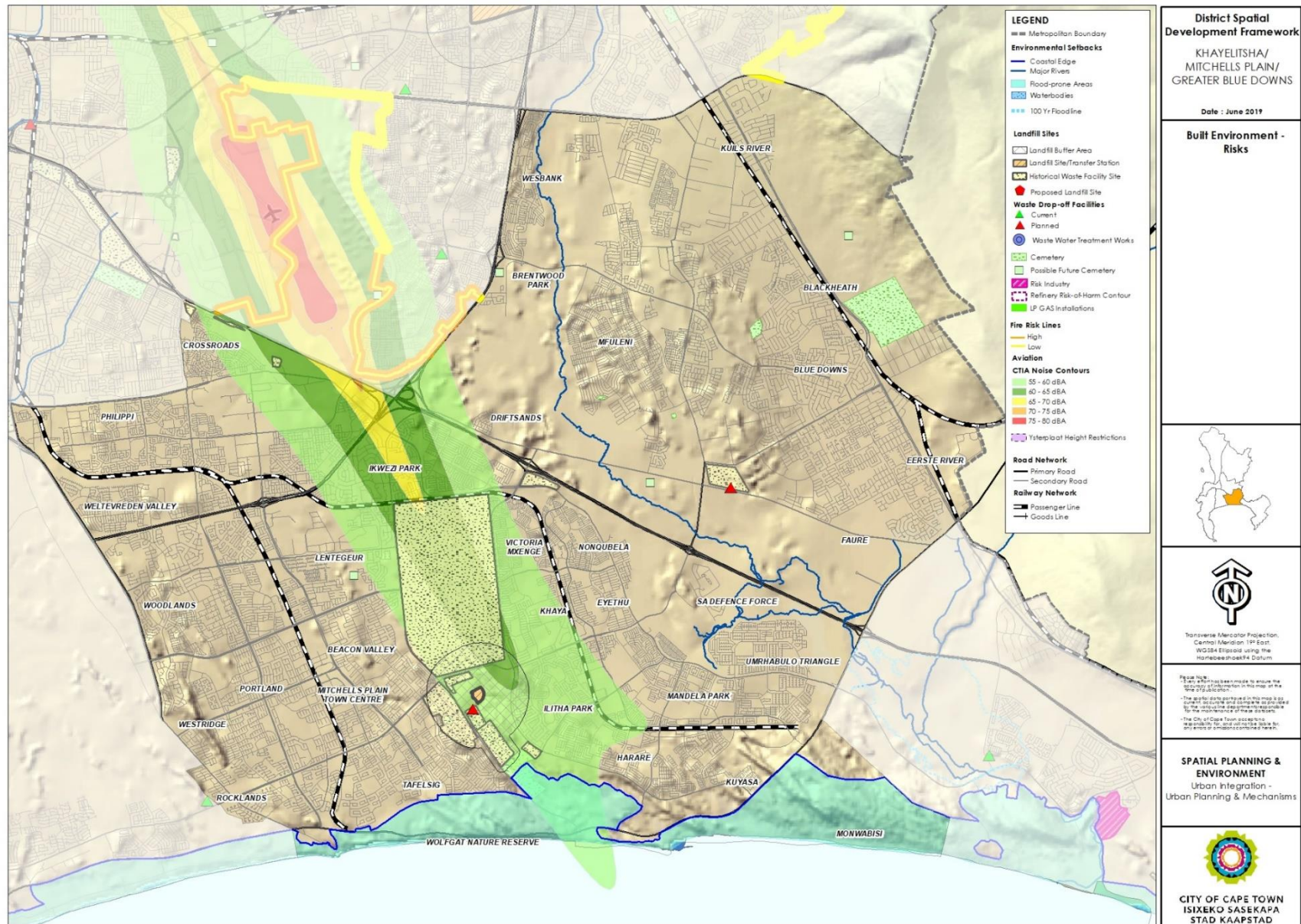


Figure 6.2: Khayelitsha, Mitchells Plain & Greater Blue Downs District risks – built environment

6.2.3 Climate Change Risks

A climate hazard, vulnerability and risk study has been conducted for Cape Town, breaking down the city's risk as a component of a given hazard and the level of vulnerability/resilience (hazard + vulnerability = risk). It has identified the following six key climate change hazards to which the city must adapt:

- Decrease in rainfall
- Change in seasonality of rainfall
- Increased mean, maximum, and minimum temperatures
- Increased number of heat waves and very hot days
- Increased wind strength
- Sea-level rise increased and coastal erosion

It is important to note that many of the impacts of climate hazards that Cape Town currently experiences and will experience into the future are due to high levels of vulnerability and low levels of resilience, rather than due to particularly extreme climate hazards or events.

6.2.3.1 Vulnerability and Impact

Vulnerability is linked to several factors, including physical and geographical vulnerability (i.e. proximity to high risk areas such as the coast or flood-prone areas), social vulnerability (i.e. low levels of resilience and adaptive capacity), the legacy of poor planning decisions (i.e. infrastructure or services located in high risk areas), and the adaptive capacity of local (and other spheres of) government (i.e. the ability of government to take action to address risks).

These climate hazards are anticipated to have a range of negative impacts on the city, including but not limited to the following impacts:

- Drought and water scarcity due to decreased rainfall
- Increased wildfire and urban fire risk due to increased heat and wind
- Heat stress and other related health impacts including mental health impacts
- Loss of biodiversity due to climatic changes that these systems are not adapted to
- Coastal erosion and coastal storm damage due to sea level rise and a change in coastal system dynamics
- Flooding, due to high vulnerability and poor drainage, even within a context of lower overall rainfall
- Damage to City infrastructure due to flooding, sea level rise, heat, wind, or drought.
- Food insecurity due to damage to agriculture, especially in key food-growing regions outside of Cape Town which are projected to experience more severe climatic changes
- City-scale economic losses due to major events such as droughts
- Loss of livelihoods associated with natural resources such as flower selling or urban agriculture
- Increased rural urban migration due to impacts on rural livelihoods, leading to increased informality and backlogs in basic service provision

- Increased resource costs due to scarcity e.g. water and food
- Potential for civil unrest or protest action

The abovementioned study has also mapped the six key climate hazards, vulnerability/resilience and the overall risk of the city. Hazard and risk mapping has been done for the baseline period (1960–1991), the mid-future (2021–2050) and the far future (2070–2099), while vulnerability/resilience mapping was based on current data. The climate projections used are based on a low climate mitigation scenario and are in line with the current global trend in which carbon emissions are increasing over time. For the purposes of the district planning process, the mid-future assessment is presented below.

Figure 6.3 is a consolidated map of all climate hazards (harms) for the mid-future period, including rainfall changes, temperature changes, heat islands, flood risk, coastal inundation risk, and wind speed change. In mountainous areas, and other naturally vegetated areas risk pertains largely to increased fire risk. Heat island effects are seen in dense urban areas, while flood risks are seen in low-lying areas around water bodies.

Figure 6.4 maps a composite score for resilience in the present day to climate hazards. It should be noted that resilience can be seen as the corollary to vulnerability. Therefore, areas of high resilience will have relatively low vulnerability, and vice versa. These scores are based on a weighted analysis of the social, economic, and environmental factors listed in the table below:

Table 6.13: Weighting of climate change hazard vulnerability factors

Indicator	Description	Weighting
Crime Rate	Total number of crimes by police precinct area	5
Electricity for Lighting	Percentage of households with access to electricity for lighting	4
Flushing Toilets	Percentage of households with flush toilets (main sewerage connection and septic tanks)	4
Median Household Income	Median household income	5
Range of household income within 3km	Measure of income disparity in different neighbourhoods: maximum minus minimum household income within a 3km radius	4
Higher Education	Percentage of people over the age of 20 with higher education	4
Employment opportunities within 1km	Measure of employment opportunities , ranked zoning areas by potential formal employment areas assessed in a 1km radius	5
Employment variety within 1 km	Measure of job diversity opportunities: distance from multiple zoning areas related to employment opportunities assessed within a 1km radius	5
Refuse collection	Percentage of households without municipal refuse collection services	3
Tap Water	Percentage of households without access to tap water	5
Toilet Facilities	Percentage of households without access to toilet facilities	5

Population Density	Number of people living in the area relative to the size of the area	4
Tap Water Inside Houses	Percentage of Households with tap water inside their house	4
Travel Time to Hospitals	Estimated time to travel to the nearest hospital	3
Travel Time to Police Stations	Estimated time to travel to the nearest police station	3
Travel Time to nearest Spring	Estimated time to travel to the nearest spring	1
Travel Time to CBD	Estimated time to travel to the CBD	5
Employment Rate	Percentage of people unemployed in the formal sector	4
Weekly Solid Waste Collection	Percentage of households with weekly solid waste collection services	4
Jobs: Population Density	Measure of job opportunities relative to population densities	5

Figure 6.5 then assesses risk relative to resilience, based on Figure 6.3 and Figure 6.5. Areas with a high exposure to harms and low resilience will have the highest risk rating, while those with low exposure to harms and high resilience will have the lowest risk rating. The Khayelitsha and Mitchells Plain District is home to many of the city's most vulnerable populations and in addition is exposed to various risks. Vulnerable areas and risk hotspots indicate areas that will need to be prioritised for resilience building, public sector interventions and support.

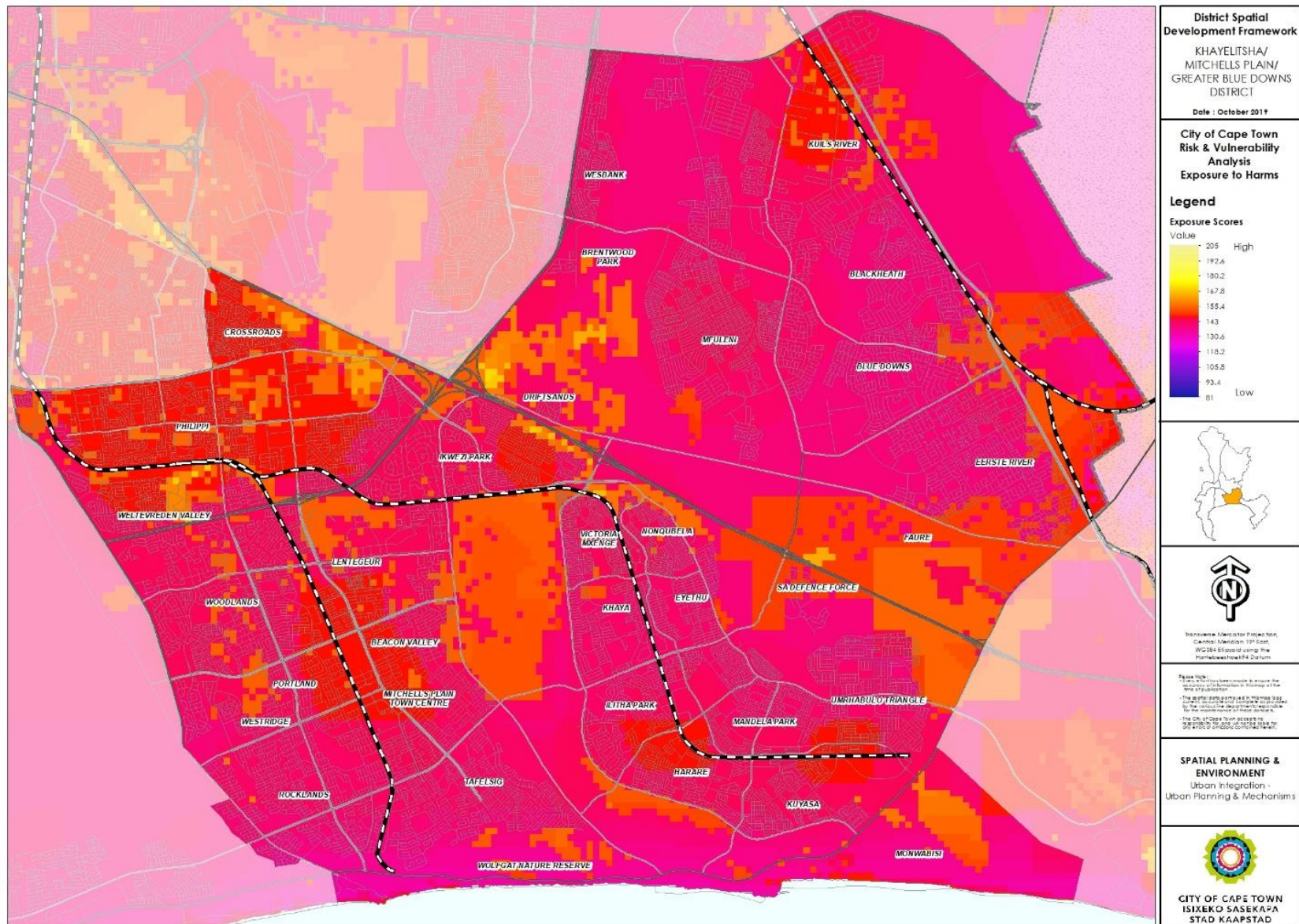


Figure 6.3: Consolidated map of exposure to all climate hazards for the mid-future period (2021–2050) across the Khayelitsha, Mitchells Plain & Greater Blue Downs District

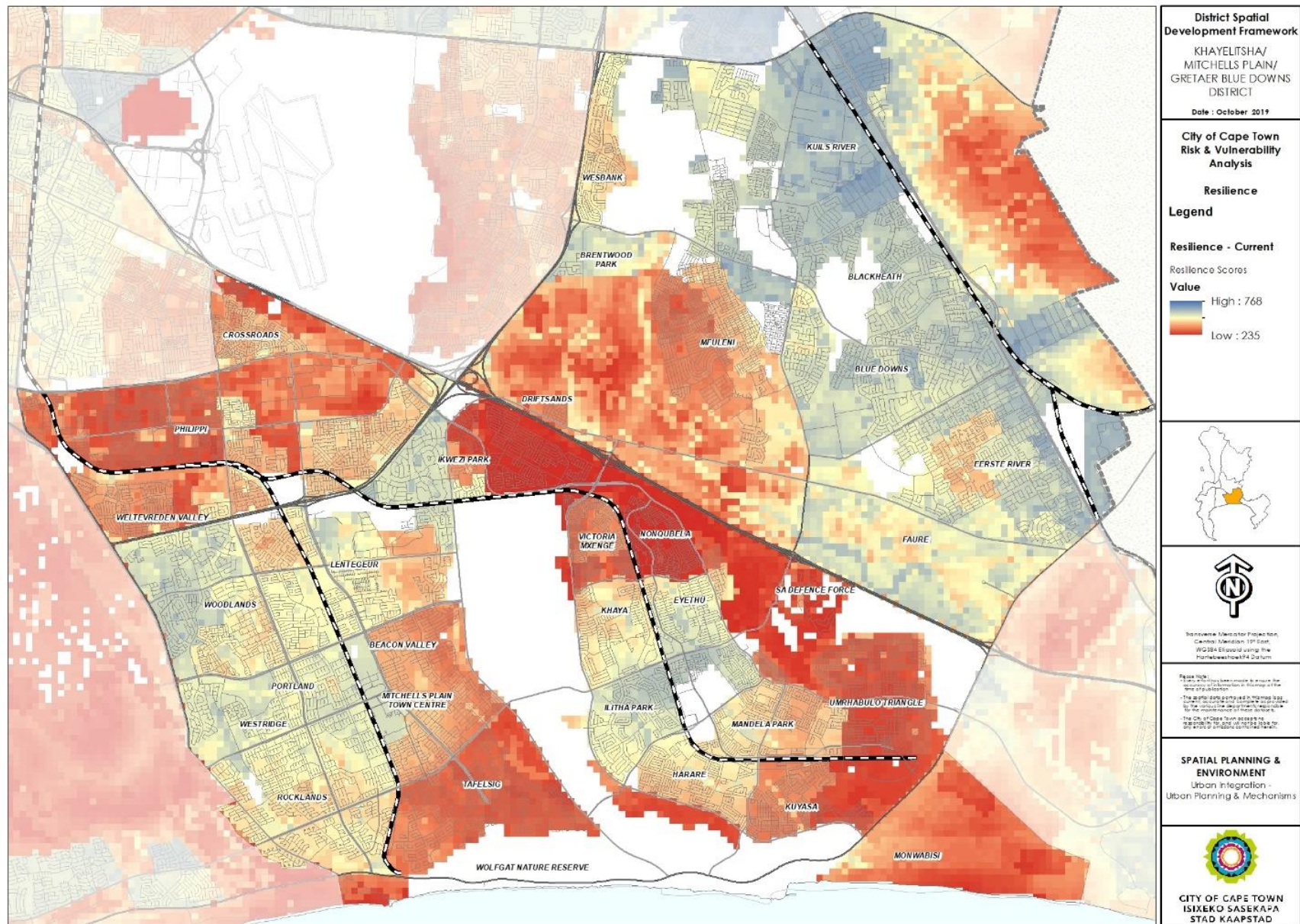


Figure 6.4: Present-day resilience to climate hazards across the Khayelitsha, Mitchells Plain & Greater Blue Downs District

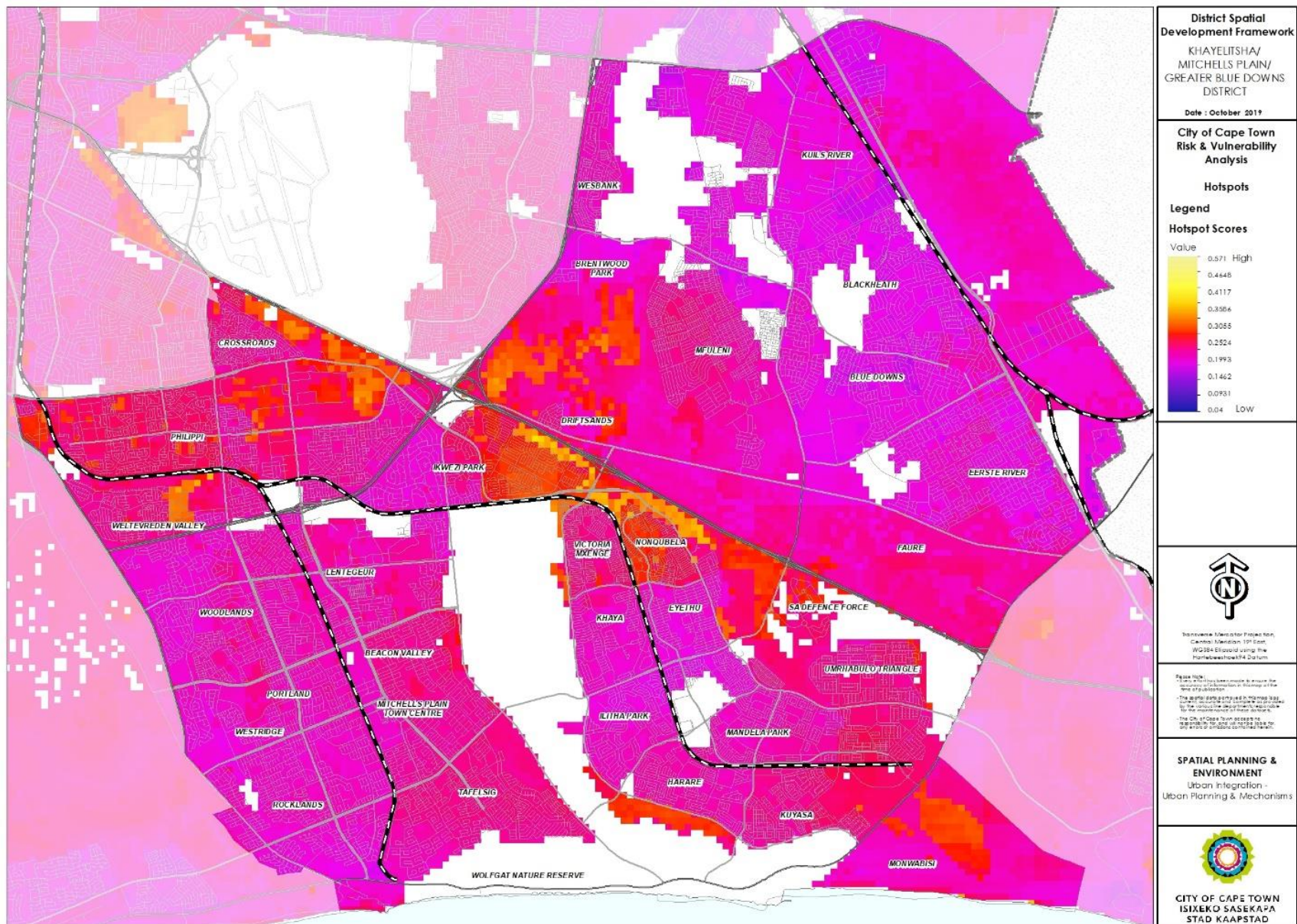


Figure 6.5: Risk of climate hazards relative to resilience across the Khayelitsha, Mitchells Plain & Greater Blue Downs District

6.3 Key Opportunities and Constraints

Table 6.14 below identifies opportune **(encouraged)** and constrained **(discouraged)** areas for development in the Khayelitsha, Mitchells Plain & Greater Blue Downs District, informed by the preceding risk assessment.

Table 6.14: Implications of climate hazards and risk for development

Risk	DRM Priority Rating	Impact Radius	Discouraged Types of Development	Encouraged Types of Development
Landfill and waste disposal sites	n/a	800m	Residential Development within buffer	• Non-Residential development • Circular economy related industry and commerce
Cemetery	n/a			• Open space uses
Flood Risk, Storm Surge exposure and Coastal Inundation Zones	High	Informed by 1:100-year flood lines coastal urban edge line ²⁶ All exposed and flatter coastal areas	Intensification of urban development	• Green infrastructure programmes to defend nearby infrastructure • Non-motorised transport • Open space recreation • Feasible development to support identified public recreational nodes
Wind-blown sand	Lower	Dynamic dune systems		• Rehabilitation and stabilisation of degraded dune systems • Managed retreat • Green Infrastructure • Defence of crucial infrastructure
Coastal Erosion Zones		Along entire coast	All urban development	• Green Infrastructure • Feasible development to support identified recreational nodes

²⁶ These are indicative and do not include all areas and properties at risk.