CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

3RD GENERATION INTEGRATED WASTE MANAGEMENT PLAN

CITY OF CAPE TOWN

	APPROVED	DATE
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EXECUTIVE SUMMARY

Background

In terms of the National Environmental Waste Management Act 59 of 2008, municipalities are required to develop Integrated Waste Management Plans (IWMP) as part of their Integrated Development Plan (IDP). This is the 3rd Generation IWMP developed by the City of Cape Town, which aligns with the 2017-2022 IDP cycle, as provided for in the Municipal Systems Act (MSA). Stakeholders from within and outside the City were consulted in accordance with the MSA prescribed public participation process. The IWMP is aligned to National and Provincial imperatives as well as the City's reviewed policies, plans and strategies.

In 2011 a MSA Section 78 Assessment of Alternate Service Delivery Mechanisms for Solid Waste Management was conducted. The study underpins the development of the 3rd Generation IWMP as a strategic document for waste management and inter alia recommended the appointment of a Transactional Advisor (TA), which was lately concluded.

Challenges

Cape Town Metropolitan is a major economic hub in the Western Cape, with an estimated population growth of 1.4 % per annum. Approximately 18% of the total households in the metropolitan are informal dwellings and backyard dwellers have been estimated to have doubled from the 75 000 reported during the 2011 Census. In as much as the City is striving to provide 100% of households with access to waste collection services, there are still challenges experienced with the provision of waste collection services to informal and back yard dwellers. This ultimately contributes to challenges such as limited landfill site airspace and increased illegal dumping.

The situation with illegal dumping has resulted in the strengthening of the by-law and penalties associated with dumping of waste in the City. One of the key instruments to monitor the compliance within the City of Cape Town is the accreditation of waste service providers and generators. To date 46 accredited waste generators and 212 waste service providers were accredited. However, the City is still sitting with a massive number of private waste management companies who are operating and not adhering to the Integrated Waste Management By-law. The management of waste tyres, building waste and sanitary waste remains problematic waste within the City.

Waste quantities

Between 2007 and 2015 there has been a steady increase in the quantities of waste generated. The average generation rate per person/annum was calculated at 0.58 tons. Of the total amount of rubble and greens arriving at landfills, which constituted almost 24% (by mass) or 15% (by volume) of the total waste land filled, only an estimated 15% (by mass) was diverted through crushing and chipping. Currently, recyclables collected from households account for a mere 0.5% (by mass) of total waste generated and composting only 0.3% (by mass) of total waste generated.

Waste minimisation initiatives

In a quest to reduce the amount of waste disposed at our landfill sites, various waste minimisation projects, aligned with education and awareness were implemented across the City. The Think-Twice programme has since been rolled-out to approximately 200 086 Households (HH). The home composting bins programme has received overwhelming response from the residents since its inception in the 2015-16 Financial Year. To date, 5500 home composting bins were distributed. The City has also expanded its recyclable separation activities to 20 of our 24 Drop-off Facilities.

Waste Management Infrastructure

The City has invested in Solid Waste Drop-off facilities and Integrated Waste Management Facilities throughout the City in order to provide a place for safe disposal of residential waste and recyclables. These facilities are situated within a 7km radius of each other. The City continues to rehabilitate historic landfill sites with Kraaifontein and Swartklip having been completed in 2016.

Funding of Services

For the past 5 years the annual tariff increase was at an average of 5.5%. However, the sustainability of waste minimisation initiatives are at risk as the cost of collection of recyclables are high and waste tariffs would need to increase to allow for increased recovery. Various studies conducted by the City indicated the willingness of residents to pay for waste minimisation services (particularly Think-Twice), which will keep tariffs affordable if implemented. The metro is seen as a leader in diversion programme and has the potential to implement regional-initiatives to support neighbouring municipalities. Such initiatives however would require major capital investments with contractual complexities such as PPP's to enable alternative service delivery options being implemented.

Objectives for the 5 year IWMP

- As part of the 3rd generation deliverables, the recommendations from the MSA Section 78 study, which includes projects such as waste to energy, landfill gas harvesting, development of composting plants, separation at source, resource economy study, waste characterisation study and waste system cost model will be implemented.

- The development of the regional landfill site, MRFs and Integrated Waste Management Facilities, upgrading and developing of landfill sites and drop-off facilities are some of the capital projects that will be implemented over the next 5 years to maximise landfill site airspace.
- More emphasis will be placed on the provision of basic waste management services, including informal areas and backyarders.
- In order to ensure compliance with National and Provincial statutes we intend to develop plans, strategies and policies and review where required. (eg. strategies for curbing illegal dumping and management of hazardous waste).

Monitoring

The IWMP will be monitored quarterly through the Solid Waste Management SDBIP and reviewed annually through the annual Business Plans and annual reports to Department of Environmental Affairs and Planning (DEADP).

Contents

EXECUTIVE SUMMARY 2

GLOSSARY 8

1. INTRODUCTION 12

1.1. Background 12

1.2. Description of the Geographical area, geo-physical and geo-hydrological conditions 13

1.3. Strategic Linkages 17

1.4. Public Participation 33

1.4.1. Internal stakeholder engagement 33

1.4.2. External stakeholder engagement 33

2. STATUS QUO 33

2.1. Legislative requirements 33

2.2. Demographic profile 38

2.3. Waste Management Cost and Financing 41

2.4. Services and Delivery 46

2.5. Compliance and Enforcement 47

2.6 Waste generation and composition 52

2.7 Waste avoidance, reduction and recycling 58

2.8 Operational Structure and Staff Capacity 66

2.9 Waste Awareness and Education 76

2.10 Waste Information Management 78

3 GAPS AND NEEDS ANALYSIS 78

4 OBJECTIVES AND TARGETS 83

5 IWMP IMPLEMENTATION 88

6 MONITORING AND REVIEW 88

LIST OF TABLES

Table 1: Strategic Alignment to the IDP……24
Table 2: Illustrates the linkages between the City's IDP focus areas, the Provincial /National and the City's IWMP goals. 30
Table 3: Demographic profile 40
Table 4: Economic profile 40
Table 5: The operational expenditure for the SWMD for the 2015/16 was as follows 42
Table 6: Operating budgets (rates and tariffs) 42
Table 7: Depicts Capital expenditure for the 2015/16 was as follows:....43
Table 8: Capital budget per funding source 43
Table 9: Capital Budget per service 44
Table 10: Depicts consumptive Solid Waste Tariff Increases 15/16 44
Table 11: Depicts status of the closed disposal facilities 47
Table 12: Depicts Operational Landfill Sites 48
Table 13: Depicts household waste fractions 53
Table 14: Depicts sewage sludge management in the CCT. 53
Table 15: Depicts alternative service delivery focus areas ……..…..58
Table 16: SWM staffing complement 70
Table 17: Depict City of Cape Town waste statistics in tonnages 72
Table 18: Key strategic drivers....79
Table 19: Depicts IWMP Gaps identified 80

LIST OF FIGURES

Figure 1: City of Cape Town Geographical area 15
Figure 2: City of Cape Town ward boundaries (Zoom in to get a clear view) 15
Figure 3: City of Cape Town transport routes 16
Figure 4: Depicts Solid Waste Management operation budget....43
Figure 5: Depicts Solid Waste Management Capital budget 44
Figure 6: Visserhok (H:h) disposal facility....49
Figure 7: Depicts Compliance Audit Outcomes of waste management facilities 50
Figure 8: Loads illegally dumped per waste type City of Cape Town 51
Figure 9: Annual Cost to clean-up illegally dumped City of Cape Town....51
Figure 10: Depicts the number of approved demolition applications over the past year 52
Figure 11: City of Cape Town waste disposal to landfill site. 57
Figure 12: Projection of waste generation for the City of Cape Town 57
Figure 13: Kraaifontein Integrated Waste Management Facility....60
Figure 14: Home composting containers (home composters) rolled out to homeowners 62
Figure 15: Waste diverted from selected City of Cape Town programme from 2012/13 to 2015/16 63
Figure 16 : City of Cape Town waste minimization initiatives 64
Figure 17: Depicts think twice areas 65
Figure 18: Solid waste management organogram....68
Figure 19: Map indicating the 7km coverage of waste drop off facilities throughout the City73

ANNEXURES

ANNEXURE A: WORKSHOP FOR WASTE MANAGEMENT INDUSTRY, INSTITUTIONS GOVERNMENT AND COMMERCE.

ANNEXURE B: ATTENDENCE REGISTER

ANNEXURE C: IMPLEMENTATION PLAN

ACRONYMS

C&D	Construction and Demolition
CCT	City of Cape Town
COGTA	National Department of Cooperative Governance and Traditional Affairs
CSIR	Council for Scientific and Industrial Research
DEA	Department of Environmental Affairs
DEADP	Department of Environmental Affairs and Development Planning
DoLG	Department of Local Government
DoRA	Division of Revenue Act
DST	Department of Science and Technology
DTI	Department of Trade and Industry
e-Waste	Electronic Waste
EIA	Environmental Impact Assessment
EPIP	Environmental Protection and Infrastructure Programme
EPR	Extended Producer Responsibility
eWASA	e-Waste Association of South Africa
GDP	Gross Domestic Product
GDPR	Gross Domestic Product per Region
GESF	Green Economy Strategic Framework
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GPS	Growth Potential Study of Town
HIA	Heritage Impact Assessment
ICT	Information and Communications Technology
IDP	Integrated Development Plan
IIWTMP	Integrated Industry Waste Tyre Management Plan
IPWIS	Integrated Pollutant and Waste Information System
IWMP	Integrated Waste Management Plan
LC	Leachable Concentration
LCT	Leachable Concentration Threshold
LG MTEC	Local Government Expenditure Committee /Local Government MTEC
MIG	Municipal Infrastructure Grant
MRF	Materials Recovery Facility
MSA	Municipal Systems Act
MTSF	Medium Term Strategic Framework
NDP	National Development Plan
NEMA	National Environmental Management Act, 107 of 1998
NEMWA	National Environmental Management: Waste Act, 59 of 2008
NGO	Non-governmental organization
NWMS	National Waste Management Strategy
ODTP	Organisational Development and Transformation Plan
PETCO	Plastic Recycling South Africa
PSDF	Provincial Spatial Development Framework
PSP	Provincial Strategic Plan
RDI	Research, Development and Innovation
REDISA	Recycling and Economic Development Initiative of South Africa
RoD	Record of Decision
SAEWA	South African E-Waste Alliance

SALGA	South African Local Government Association
SANS	South African National Standards
SASCOT	Separation at Source Costing Model
SAWIS	South African Waste Information System
SDF	Spatial Development Framework
SoEOR	State of Environment Outlook Report
SOP	Standard Operation Procedure
SMME	Small, Medium and Micro Enterprise Businesses
Stats SA	Statistics South Africa
TC	Total Concentrations
WCIWMP	Western Cape Integrated Waste Management Plan
WCG	Western Cape Government
WCMR	Waste Classification and Management Regulations
WCRAG	Western Cape Recycling Action Group
WISP	Western Cape Industrial Symbiosis Programme
WMO	Waste Management Officer

GLOSSARY

Terms	**Definition**
Anthropogenic	Environmental pollution originating in human activity.
Buy back facility	Centre where people sell recyclables material they have collected recycling companies buy recyclables material from buy back centre and pay only for the material they can use.
Category A Municipality	Metropolitan municipalities.
Cleaner Production	Means the continuous application of an integrated preventative environmental strategy applied to processes, products and services to increase eco-efficiency and reduce risks to humans and the environment.
Decommission	In relation to waste treatment, waste transfer or waste disposal facilities, means the planning for and management, and remediation of the closure of a facility that is in operation or that no longer operates.
Disposal	Means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into or any land.
Driver	Drivers or pressures can be defined as broad categories of factors that influence waste management directly i.e. population growth; economic development; urbanisation; events and tourism.
Drop off facility	Means facilities provided by the City in strategic location around the City of Cape town to facilitate waste minimisation through the separation of recyclables material, garden refuse. Can also be use as temporary transition points for waste.
Enabler	Refers to capabilities, forces, and resources that contribute to the success of an entity, programme or project.

Environmental Governance	Refers to the processes of decision-making involved in the control and management of the environment and natural resources. It is also about the manner in which decisions are made (i.e. are they made behind closed doors or with input from the broader public). Principles such as inclusivity, representation, accountability, efficiency and effectiveness, as well as social equity and justice, form the foundation of good governance.
Formal recycler	It refers to companies that process recyclable waste into a form that is readily usable by a manufacturer or end –use market, where the recyclable waste is converted into materials or other consumption products.
Free Basic Services	Free basic service is defined as the minimum amount of basic levels of services, provided on a day to day basis, sufficient to cover or cater for the basic needs of the poor households. Various sector departments have set minimum standards outlining basic amount of services or quantity to be supplied to the indigents with regards to water, energy, sanitation and refuse removal. Free basic refuse removal levels of services/standards include: (a) On-site appropriate and regularly supervised disposals; (b) Community transfer to central collection points; (c) Organised transfer to central collection points and/or kerbside collection (in high density settlements); or (d) A combination of methods above
General waste	Means waste that does not pose an immediate hazard or threat to health or to the environment, and includes: (a) domestic waste; (b) building and demolition waste; (c) business waste; (d) inert waste; or (e) any waste classified as non-hazardous waste in terms of the regulations made under section 69, and includes non-hazardous substances, materials or objects within the business, domestic, inert or building and demolition wastes.
Hazardous waste	Means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment and includes hazardous substances, materials or objects within the business waste, residue deposits and residue stockpiles.
Indigent	The term „indigent" means „lacking the necessities of life". In a South African context, the Constitution provides a guide in this regard, leading to the view that the following goods and services are considered as necessities for an individual to survive: a) Sufficient water b) Basic sanitation c) Refuse removal in denser settlements d) Environmental health e) Basic energy

	f) Health care g) Housing h) Food and clothing Anyone who does not have access to these goods and services is considered indigent.
Informal Reclaimers	Collection of recyclables from reclaimers on a regular basis and transport of recyclables to a reclaiming depot.
Integrated Waste Management	Means employing several waste control and disposal methods i.e. reduce, re-use, recycle, incineration, and landfilling, to minimise the environmental impact of commercial and industrial waste streams.
Integrated Waste Management Plan	Means a plan prepared in terms of Section 12 of the Waste Act (59 of 2008). Recovery, treatment, reprocessing, recycling or sorting of the waste.
Landfill site (Waste disposal facility)	It is defined as a site for the controlled disposal of waste materials.
Material Recovery Facility	It is a centre for the reception and transfer of materials recovered from the waste stream for recycling. Materials are sorted by type and treated.
Minimisation	Means the avoidance of the amount and toxiCity of waste that is generated and in the event where the waste is generated, the reduction of the amount and toxiCity of waste that is disposed.
Municipal Solid Waste	Waste generated from residential and non-industrial commercial sources. It includes predominantly household waste (domestic waste) with sometimes the addition of commercial waste collected by a municipality within a given area. It includes both solid and semi-solid wastes and generally excludes industrial hazardous waste.
Polluter Pays Principle	All costs associated with waste management should, where possible, be borne by the waste generator.
Re-use	To utilise the whole, a portion of a specific part of any substance, material or object from the waste stream (again) for a similar or different purpose without changing the form or properties of such substance, material or object.
Regional Gross Domestic Product (GDPR)	GDPR at market prices equals the sum of gross value added by all industries at basic prices plus taxes on products minus subsidies on products in a region.
Recovery	Means the controlled extraction of material or the retrieval of energy from waste to produce a product.
Sustainable Development	Reflects a process that meets the needs of the present without compromising the ability of future generations to meet their own needs. Often called intergenerational equality, the idea is that we should share natural resources not just with people who are alive on the planet today but also with future generations of the Earth's inhabitants. While we can use a certain amount of the planet's resources, we should never entirely deplete a natural resource. Sustainable development requires people to rely as much as possible on renewable resources (the kind that can be replenished) by getting power from the sun rather than power from fossil fuels

	such as oil, coal, and natural gas, which take millions of years to form. Besides the careful stewardship of natural resources, sustainable development promotes the eradication of poverty and extreme income and wealth inequalities, the goal of full employment, the provision of access to quality and affordable basic services to all South Africans, and the fostering of a stable, safe and just society.
Transfer Station	A facility where waste is temporarily stored and ideally sorted before it is transported more economically to other recycling centres or landfills.
Treatment	Means any method, technique or process that is designed to (i) Change the physical, biological or chemical character or composition of a waste or (ii) Remove, separate, concentrate or recover a hazardous or toxic component of a waste (iii) Destroy or reduce the toxiCity of waste, in order to minimise the impact of the waste on the environment prior to further use or disposal.
Urbanisation	Is the physical growth of urban areas which result in migration and even suburban concentration into cities
User Pays Principle	Means all costs associated with the use of a resource should be included in the price of goods and services developed from that resource.
Waste	(a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or (b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the *Gazette*, but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste- (i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered; (ii) where approval is not required, once a waste is, or has been re-used, recycled or recovered; (iii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or (iv) Where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste.
Waste Management Facility	It is defined as a place, instrument, structure or containment of any kind, where a waste management activity take place and includes a waste transfer station, container yard, landfill site, incinerator, lagoons, recycling and composting facilities.
Waste Treatment Facility	Means any site that is used to accumulate waste for the purpose of storage, recovery, treatment, reprocessing, recycling or sorting of the waste.

1. INTRODUCTION

1.1. Background

1.1.1. History of the IWMP

The National Environmental Management: Waste Act (Act 59 of 2008) requires that municipalities include their IWMP's in their respective IDP's in order for waste management services to be streamlined along with other basic services such as water, sanitation, electricity and housing. This is to ensure that waste management services are appropriately budgeted for and provided in a sustainable and efficient manner.

The Waste Management Sector Plan or Integrated Waste Management (IWM) Plan of the Solid Waste Management (SWM) Department of the City of Cape Town consists of operational and support strategies, as well as a schedule of projects and activities. The aim of the IWM Plan is to give effect to the Solid Waste management strategies of waste minimisation, provision of sustainable and affordable services and compliance with the goals of the National waste Management Strategy and the objectives of the National Environmental Management Waste Act.

The 2nd Generation IWM Plan was preceded by thorough assessment of alternate service delivery mechanisms for Solid Waste Management in terms of Section 78(3) of the Municipal Systems Act. The scope of the MSA S.78(3) project included an evaluation of the solid waste management function then being executed, managed or overseen in Cape Town by the Solid Waste Management (SWM) Department. It further included the evaluation of the City's compliance with IDP objectives, waste management legislation and the extent to which environmental performance has improved.

This is the 3rd Generation IWM Plan or the fifth review and amendment of the Sector plan since the 2nd Generation IWM Plan was adopted by the Executive Mayoral Committee in 2013. The 3rd generation IWMP is presented for inclusion in the Council's 2017-2022 IDP cycle as per Section 5 of the Municipal Systems Act, Act no. 32 of 2000 (MSA).

This IWM Policy excludes waste originating from sanitation systems, for which there are separate National and City policies, but makes provision for the disposal of treated sewage sludge's of an acceptable quality that will minimise the impact on the environment, as determined by separate guidelines from time-to-time.

Waste management services are provided to business, commerce, formal and informal households either directly by the Solid Waste Management Services or via a contracted-in service that includes community based contracts. Where the City is not the service provider, all waste generators must contract with waste service providers accredited with the City's Solid Waste Management Services.

1.1.2. Overall waste management problems and challenges

The City of Cape Town is a well know travel destination and economic hub with a thriving tourism market, which leads to increased migration of people seeking employment opportunities in the City. The impact is an increase in waste generation in areas with high

density and poor infrastructure, which hinders the effective rendering of basic services. Informal settlements are constantly growing and with many people falling into the indigence bracket we find a growing amount of backyard dwellings that also require service in formal areas.

Residential waste minimization initiatives have been implemented at no charge to residents at this stage and on a pilot basis to limited areas. The sustainability of these initiatives are at risk as the cost of collection of recyclables are high and waste tariffs would need to increase to allow for more recovery.

Many private sector waste management companies are not compliant with the Integrated Waste Management By-law with a lack of transparency as waste information is not readily provided. There is a need to get all waste management companies compliant in order to inform our regulatory responsibilities, decisions and to ensure that waste is being handled responsibly.

Capital infrastructure for waste management has seen increased investment in Solid Waste Drop-off and Integrated Waste Management infrastructure throughout the City in order to provide for safe disposal of waste. These facilities are situated throughout the City however there are still people who prefer to illegally dispose their waste instead of transporting it to the wide-spread facilities. The situation with illegal dumping has resulted in the strengthening of the by-law and penalties associated with dumping of waste in the City. There is however a reluctance of the public to report transgressors to the City in the fear of being victimized. The City is spending millions on the cleaning up of the City due to illegal dumping taking place in the City.

The City has 3 operational landfill sites with less than 10 years airspace available, whilst the private (H:H) facility has almost 7 years available. Our licence application for a regional landfill site has been a severe challenge and the process already started in 2000. The diversion of waste from landfill has become a priority for all municipalities and the metro is seen as the leader in implementing diversion mechanisms. There is an ongoing need to support neighbouring municipalities who are struggling with limited landfill airspace. Such initiatives however would require major capital investments with contractual complexities such as PPP's to enable alternative service delivery options being implemented.

1.2. Description of the Geographical area, geo-physical and geo-hydrological conditions

The City of Cape Town Metropolitan Municipality (CCT), a Category A municipality, is situated in the southern peninsula of the Western Cape Province and covers an area of approximately 2,445 km². The CCT is neighboured by the West Coast District to the north, Cape Winelands District to the east and Overberg District to the south-east.

The CCT is the economic hub and capital of the province as well as the legislative capital of South Africa, where the national parliament and many government offices are located. It is famous for its harbour, as well as its natural setting in the Cape Floral Kingdom, including well-known landmarks such as Table Mountain and Cape Point. It is hailed as one of the most beautiful cities in the world and Africa's most popular tourist destination. Being the oldest City in South Africa, it is affectionately known as 'The Mother City'. The area has a warm summer Mediterranean climate with mild, moderately wet winters and dry, warm summers. Winter may see large cold fronts entering for limited

periods from the Atlantic Ocean with significant precipitation and strong north-westerly winds.

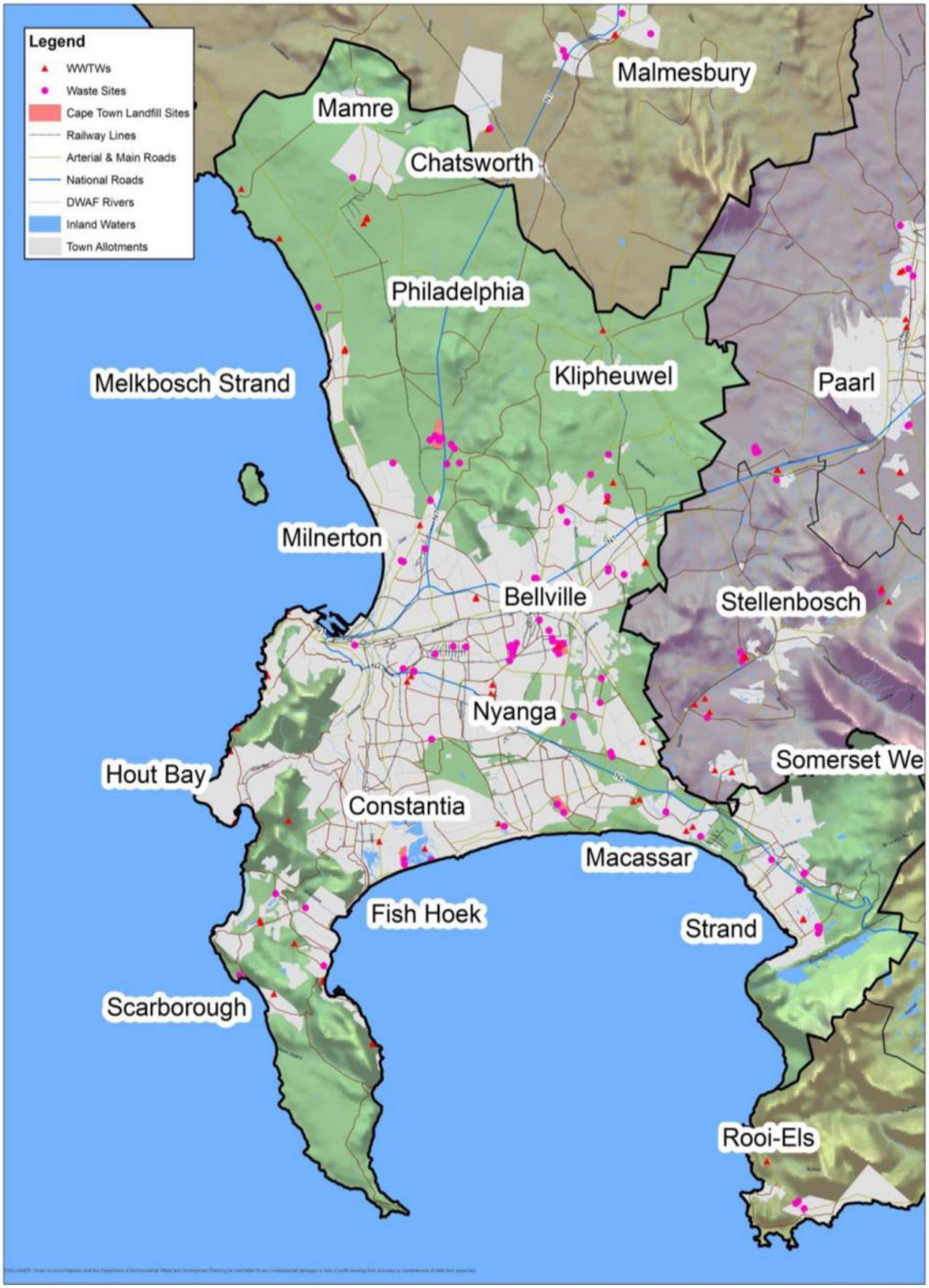


Figure 1: City of Cape Town Geographical area

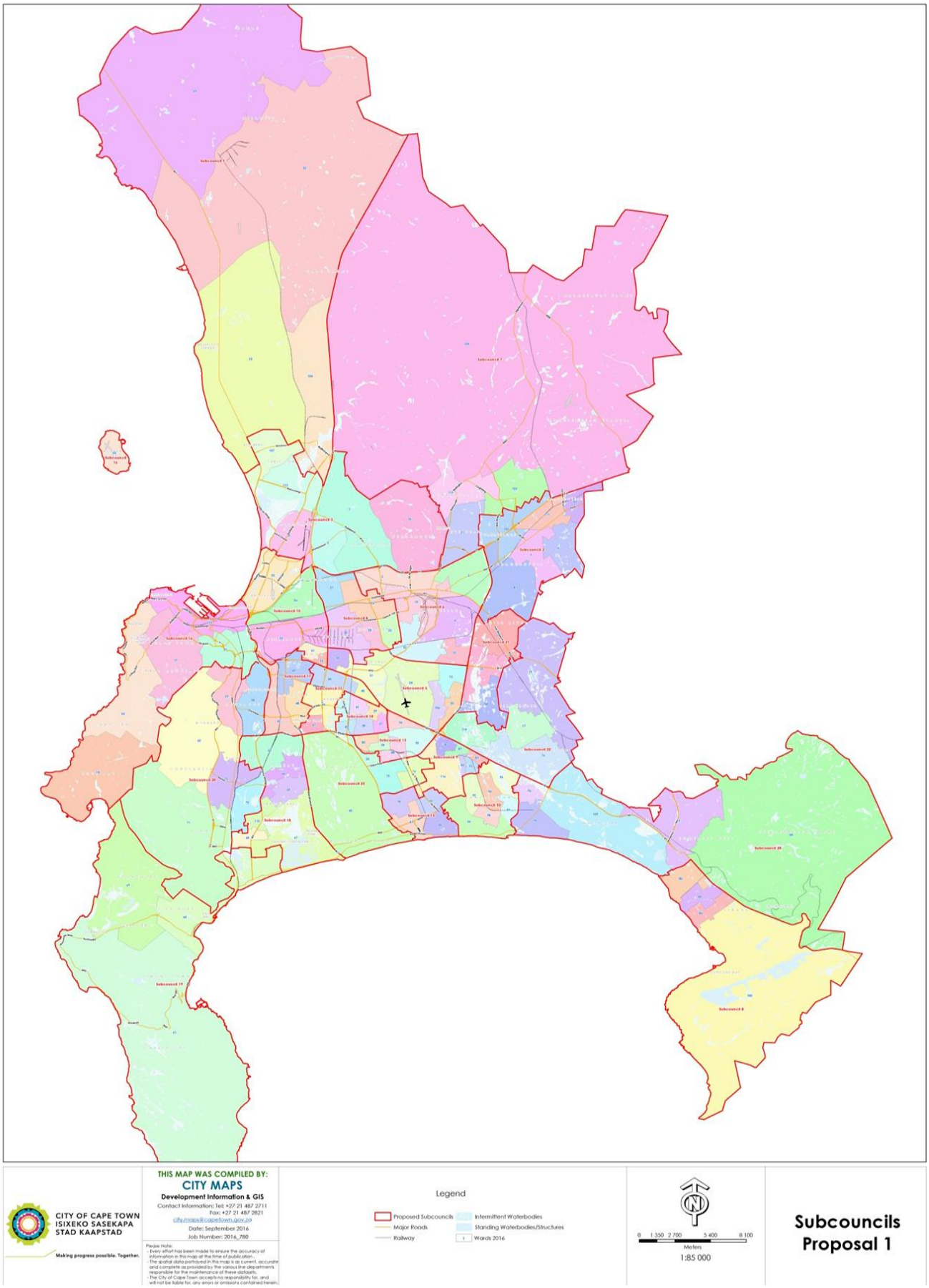


Figure 2: City of Cape Town ward boundaries (Zoom in to get a clear view)

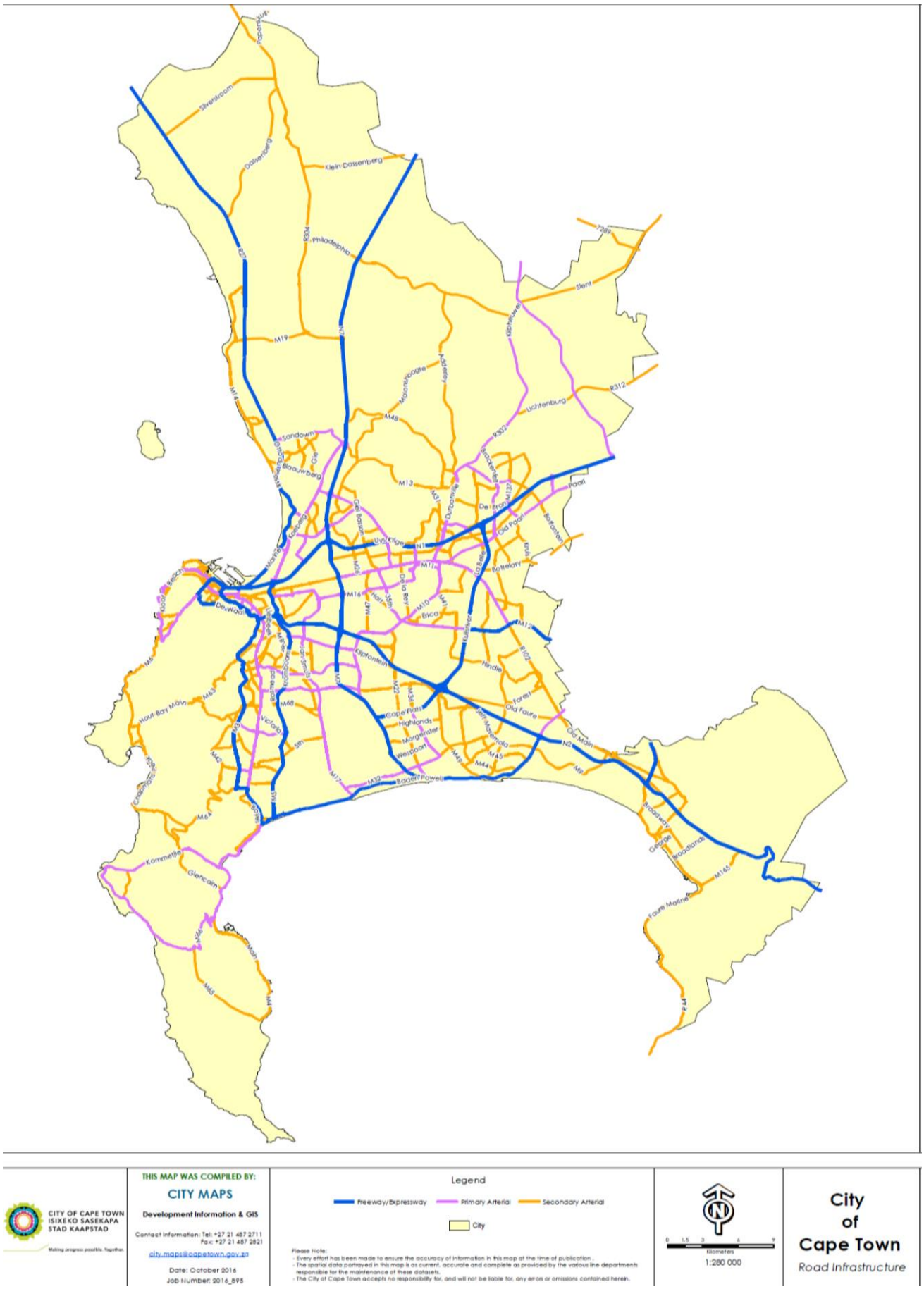


Figure 3: City of Cape Town transport routes

1.3. Strategic Linkages

Strategic linkages, Policy and institutional framework

The IWM Plan is aligned with National and Provincial plans and policies. It also aligns with the City's Integrated Development Plan (IDP), endorsing its11 transformational priorities set for the next term of office as part of its Organisational Development and Transformation Plan (ODTP). The IWMP provides for all Solid Waste projects to be aligned with the prescribed priorities as depicted in Table 1: **STRATEGIC ALIGNMENT TO THE IDP** below.

In addition, the principles, service levels and standards for waste management are contained in the City's IWM policy. The overarching policy objectives are to ensure basic waste management services to all residents, to reduce waste that is landfilled, to conserve resources and the environment, to clear illegally disposed waste and to reduce the impacts of waste on the health, well-being and environment. The service levels and payment of waste management services is in accordance with the tariff information contained in the City's Tariff Schedule, which is reviewed and adopted by Council at the same time as the Integrated Development Plan (IDP) and the IWM Plan.

City's IWM By-law, for the regulation of waste management activities, is aligned with National imperatives (NWMS), and was adopted by Council (resolution C15/03/09), and promulgated on 21 August 2009. This is the first comprehensive waste management by-law aligned to the objectives of the National Waste Act. The by-law was amended to align with administrative, legal and juristic requirements in 2010 and the most recent amendment and promulgation was in June 2016.

<u>The approved SWM IWMP aligns with the following plans, policies and institutional frameworks;</u>

i. Integrated Development Plan (IDP) for the 2017/18 - 2021/2022 cycles and its strategic pillars

Opportunity City

1. Invest in infrastructure for growth in a way that:
    a. Ensures that our infrastructure planning and budgets provides for both infrastructure growth and the maintenance of our existing infrastructure assets;
    b. Supports the spatial integration of the City and the City's priorities in relation to Transit Oriented Development;
    c. Responds to real needs – determined through evidence-based analysis; and
    d. Enhances infrastructure maintenance through a proactive service response system.

2. Improve the ease of doing business by:
    a. Scrapping or reviewing policies and by-laws that stifle growth;
    b. Decentralising decision-making on planning applications; and
    c. Maintaining strong partnerships with the private sector in support of a clear strategic vision for Cape Town and its economy.

3. Promote and build Cape Town's image as a place to do business by:
    a. Building a business brand and identity for the City;
    b. Funding investment promotion through key SPVs;
    c. Actively promoting the city to identified markets for development;
    d. Enhancing the business support function in the Trade and Investment department to assist businesses in navigating the regulatory landscape and unlock investment opportunities; and
    e. Lobbying the provincial and national government for legislative and policy changes that can enhance the business climate.

4. Make Cape Town more energy secure by:
    a. Exploring all available options to buy energy directly from Independent Power Producers;
    b. Encouraging embedded generations;
    c. Developing a revenue model that is less reliant on the sale of electricity; and
    d. Working towards a more sustainable mix of energy sources with a greater emphasis on renewables.

5. Prioritise transversal efforts to make the City more resilient to the social, economic and physical shocks and stresses faced in an urban environment, with a specific focus on:
    a. Adapting to Climate Change;
    b. Protecting the natural environment and the ecosystem services that it supports; and
    c. Supporting the development of a more resource efficient economy.

6. Invest in the skills that the economy needs and create work opportunities for young people through:
    a. Apprenticeships and internship programmes in the City
    b. Funding skills development activities through Special Purpose Vehicles; and
    c. Continuing to invest in and exploring innovative uses of EPWP opportunities in City projects and programmes.

7. Focus economic development on areas and sectors with high growth capacity, export possibilities and potential for labour absorption by:
    a. Supporting relevant SPVs
    b. Providing targeted incentive packages;
    c. Investing in targeted urban upgrade programmes;
    d. Supporting improvement districts with the potential to contribute to growth and job creation.

8. Support a growing economy and the livability by investing in the City's roads, with a specific focus on:
    a. Addressing maintenance backlogs;
    b. Relieving congestion; and

c. Resisting the imposition of e-tolls without due regard for economic impact assessments and consultation with affected communities.

9. Advocate for a an expansion of the mandate of the City in relation to the built environment, including:
    a. Devolved power in relation to transport and transport regulation;
    b. Devolved power in relation to the passenger rail system; and
    c. Full housing assignment.

10. Leverage the City's investment in human settlements more effectively to achieve the City's priorities around spatial integration and promote and support economic growth, by:
    a. Leveraging our own capital investments to improve urban densities and economies of agglomeration;
    b. Promoting demand-side market solutions for housing and property markets.

11. Actively drive the City's objectives around becoming a truly Digital City, with a specific focus on:
    a. Completing outstanding phases of our broadband roll-out programme;
    b. Improving last-mile connections;
    c. Driving a consolidated agenda of technology-led innovations to (i) improve service delivery, and (ii) enhance the City's engagement with its residents.

12. Build partnerships to support economic growth and maintain responsiveness to the needs of the business sector by maintaining active, open engagement through:
    a. A strong Trade & Investment Department; and
    b. Creating opportunities for business leaders to engage with the political leaders and key decision-makers of the City.

Safe City

1. Maintain the independence and integrity of the City's policing forces and, where necessary, resist national government intention to consolidate all policing resource under the banner of the South African Police Service

2. Actively move to change policing functions by:
    a. Engaging SAPS, via the provincial department of Community Safety, in discussions of resource allocation and deployment
    b. Exploring mechanisms within the ambit of the constitution, focusing upon operational practice changes
    c. Lobbying for the inclusion of municipalities to influence police strategy decisions in order to make policing more inclusive and responsive to social needs

3. Assume a 24-hour safety and policing service by:
    a. Improving the City's capacity to address safety and emergency situations through the increased number of personal available
    b. Providing adequate and regular training for all safety oriented personal
    c. Amending duty rosters to reflect the demands of a 24-hour service

4. Leverage technology in order to fully utilize the available benefits of information, data, and evidence-led policing by:
    a. Capitalizing on the data benefits of project EPIC to understand the spatial distribution of crime problems
    b. Continuing the extensive rollout of CCTV cameras

5. Optimise information and localise approaches to improving policing,through:
    a. Implementing the 5-point neighbour policing strategy
    b. Localising deployment so as to invest in area-based safety resources as part of an enhanced urban regeneration programme
    c. Investing in additional areas for urban management upgrades
    d. Implementation of the Neighbourhood Safety and School Resource Officer programmes

6. Utilise volunteers to assist with disaster and safety services through heightened recruitment and increased training opportunities

7. Prioritise substance abuse programmes through the increased investment in:
    a. Matrix centres
    b. Awareness programmes
    c. Policing interventions such as raids and roadblocks

8. Focus on crime hotspot areas through:
    a. Data-led screening techniques that permit area profiling
    b. Development and execution of safety deployment strategies designed for intended areas.

Caring City

1. Pursue universal access to high quality basic services by :

    a. Prioritising areas of basic service need – particularly backyarders and informal settlements.

2. Provide social relief by increasing the number of work opportunities within the EPWP work programme by:
    a. Mainstreaming the programme throughout City departments
    b. Instilling management structures that manage the programme for the organisation and for the communities in which it is rolled out
    c. Altering the focus of the intervention to a City Public Works Programme, noting the difference between EPWP and City investments
    d. Localising community works and EPWP programmes such that sub-councils are involved in drawing up labour-intensive community programmes which draw on local residents during implementation

3. Foster a climate which deals with homeless people compassionately through ensuring:

   a. A responsive approach which balances community concerns with the imperative to treat homeless people humanely
   b. A focus upon the reasons for vulnerability which result in homelessness
   c. A focus upon the circumstances leading to substance abuse, victims of abuse, and victims of LGBTI discrimination

4. Develop an integrated substance abuse response:
   a. Coordinating between service and social departments to tackle supply and demand problems around substance abuse
   b. Address preventative and reactive strategies
   c. Work with provincial and national government agencies and departments as well as local community structures

5. Effectively work with non-governmental organisations (NGOs) and non-profit organisations (NPOs) to assist in combating substance and violence abuse, by:
   a. Creating a profiling criteria with which to assess these organisations
   b. The establishment monitoring and evaluation frameworks which clearly define expected deliverables and intended social impact
   c. Empowering organisations with relevant resources in order to have an impact within the community
   d. Reforming the model of funding local organisations via sub-council structures

6. Advocate for the City to assume the mantle of overseeing a fully-funded primary healthcare system, by petitioning provincial and national government for the formal recognition of this mandate and the requisite supporting grant funding.

7. Recognise the critical role that the environmental health services play within the health system, by:
   a. Increasing the number of inspectors who assess and enforce standards of cleanliness and sanitation within communities
   b. Integrate the expertise of the inspectors with the City's sanitation, solid waste, and cleanliness services so that health standards become mainstream within all monitoring and evaluation frameworks of these programmes

Inclusive City

1. Implementation of the Integrated Human Settlements Framework:
   a. Highlighting that the majority of the City's spending will shift toward embracing informality and semi-formality, and providing services in existing as well as new informal settlements areas
   b. Acknowledging the selection of service areas according to optimal densification potential and their responsiveness to the dynamic conditions of population movement
   c. Pursuing new housing developments which build upward in order to encourage density along TOD corridors

   d. Providing the means of formalisation to some informal settlements with delineated plots accommodated within our spatial frameworks
   e. Encouraging a mix of formal and semi-formal approaches to settlements, with attendant support
   f. Encouraging private ownership through the transfer of title deeds and City rental stock
   g. Engaging the private sector and national government to meet the level of housing demand
   h. Lobbying for subsidy and grant conditions to transform the end user's financing options in order to break dependency cultures
   i. Aggressively pursue assignments of housing functions to give full effect to the City's capabilities within the built environment

2. Make sure that everybody feels welcome and valued in Cape Town by:
   a. Continuing the inclusive, consultative methodologies of the Naming and Renaming process
   b. Celebrating memorial and heritage sites through the City's role as cultural custodian
   c. Continuing the anti-racism campaign as an annually-resourced vehicle

3. Enhance the cross subsidisation of the poor, and buttress the sustainability of this system through:
   a. Rates, service, and tariff rebates for the poor and vulnerable in society
   b. Restructuring of the rates and tariff regime to ensure that those who can pay for services do so, whilst those who cannot afford to pay (including new customers accorded by the IHSF) are accommodated

4. Cater for public spaces and amenities within under-served areas by:
   a. Establishing partnerships with private sponsors
   b. Leveraging city assets through asset rationalisation and optimisation in order to stimulate economic benefit for the City

5. Strike a refreshed balance between meaningful public engagement and the compliance orientated requirements of public participation, such that democratic engagement:
   a. Is continuous and adds value to City projects
   b. Reduces the space for unnecessary conflict

6. Transform the City communication platforms to become more customer-centric:
   a. Providing interfaces for more meaningful dialogue and engagement across City programmes

Well-Run City

1. Ensure continuity in service delivery by executing the City's mandate in a manner that is:
   a. Makes efficient use of the available resources and capacity; and

   b. Financially responsible and sustainable.

2. Establish compliance measures that support the City's service delivery needs (maintain an appropriate balance between prioritising service delivery and ensuring compliance with relevant laws and regulations).

3. Become an effective, strategy-led organisation through:
   a. An appropriate system of strategy development;
   b. Clear sites of decision-making;
   c. A streamlined system of monitoring and evaluation;and
   d. An effective system of transversal management that is entrenched across strategy and delivery management systems.

4. Improve service delivery and manage service levels through a well-coordinated area-based approach which makes effective use of the City's sub-council system.

5. Maintain a customer centric approach to service delivery by:
   a. Arranging the organisation, its processes and its people for optimal service delivery;
   b. Hardwiring innovative, design-led approaches to service delivery in the City's structures and processes; and
   c. Effective engagement with customers on the decisions that affect them.

6. Become a model for data/evidence-led decision-making at both the strategic and operational level through:
   a. The effective use of digital and IT tools;
   b. Effectively analysing, packaging and distributing data that can inform better decision-making.

7. Drive excellence in service delivery by ensuring that the City has the right level and blend of skills. This can be achieved by:
   a. Evaluating the level distribution of skills in the City (including: project management, engineering and operational skills);
   b. Identifying skills gaps; and
   c. Designing and implementing interventions to address gaps where required.

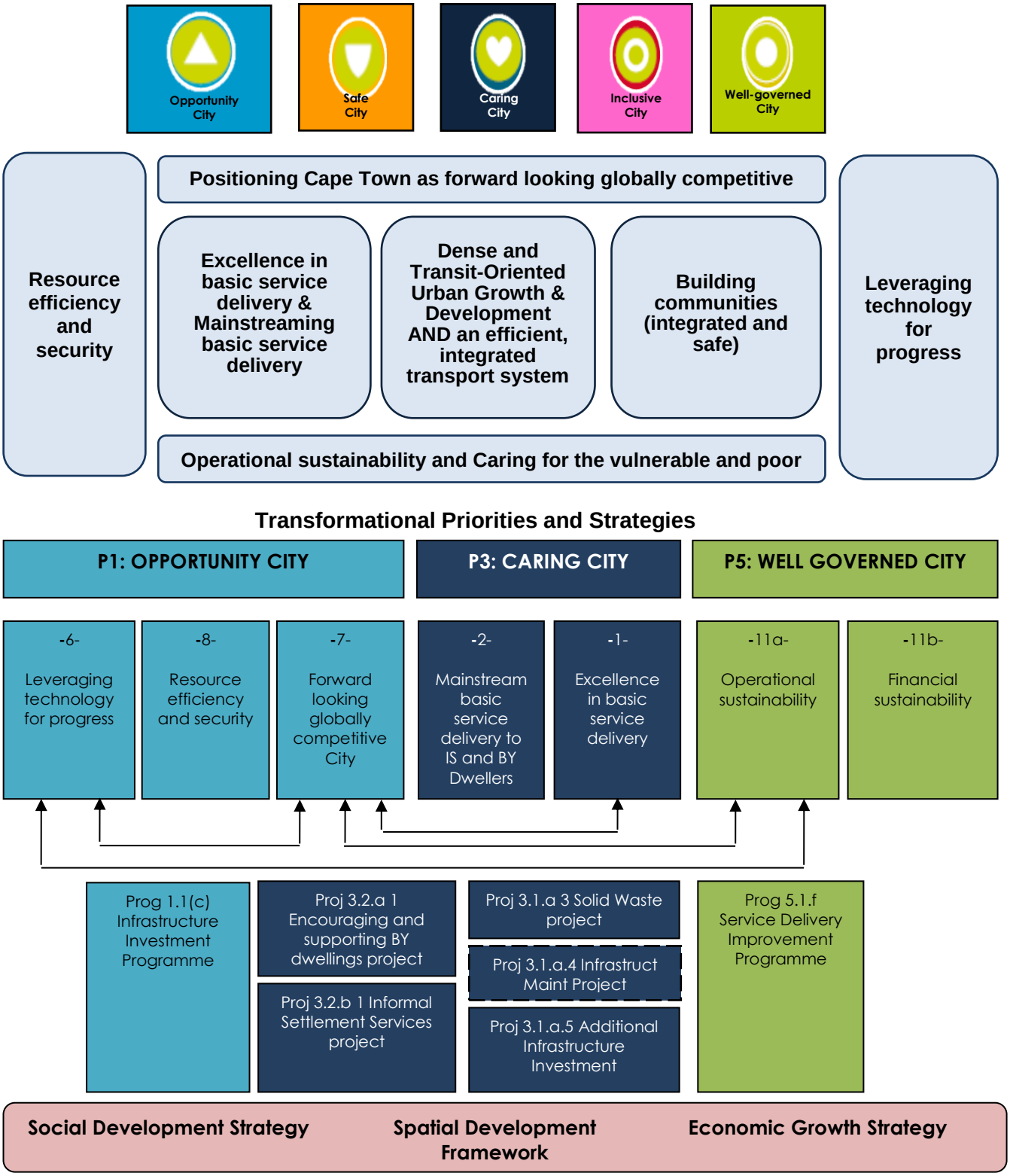
8. Promote organisational values and behaviours that drive excellence in service delivery through:
   a. Suitable change management mechanisms; and
   b. Recognising and rewarding behaviours that demonstrate the City's values and service-orientation.

9. Establish an effective governance and compliance system, including:
   a. Clear roles and responsibilities at the level of political oversight and strategic management;
   b. Clarity on the role between political and managerial actors;

c. Appropriate consideration for legislative requirements as well as the efficacy of the system.

10. Adopt an international best practice approach to implementing anti-bribery and anti-corruption measures in the City leadership on both a political an administrative level.

Table 1: Strategic Alignment to the IDP



The City's Integrated Development Plan (IDP) is supported by 11 transformational priorities set for the next term of office as part of its Organisational Development and Transformation Plan (ODTP).

PRIORITY 1: Excellence in basic service delivery
Associated with strategic pillars: "Caring City" and "Well-Run City"

Key commitments in pursuit of excellence in basic service delivery include:

a) The City recognises that basic services are delivered through interacting systems which drive vitality and human well-being. The City endeavours to deliver services across the various systems of public management, such that they represent a holistic commitment to improving the living conditions and health of residents, and promote individual and community welfare.
b) The digital age presents enormous opportunities for the development of individuals and communities and to improve quality of life. However, this opportunity cannot be limited to the few with appropriate access to digital services. The City, therefore, views digital access as a matter of basic service and commits itself to achieving universal access to the internet as part of its service delivery standard. This will ensure that all residents are given an opportunity to enjoy the benefits, and leverage the potential, of the digital age.
c) Excellence in service delivery requires a commitment to excellence in customer service. The City thus commits to excellence in its customer engagement and its response to service faults or complaints.

PRIORITY 2: Mainstreaming basic service delivery to informal settlements and backyard dwellers
Associated with strategic pillars: "Caring City" and "Well-Run City"

Key commitments in pursuit of mainstreaming basic service delivery to informal settlements and backyard dwellers:

a) The City will work with communities that are ready to partner with us to develop service delivery models that are appropriate in less formal contexts.
b) By addressing the contextual realties of urbanisation in a time of economic austerity, the City will strive to become a centre for excellence in servicing the immediate needs of informal settlements and backyard dwellers.
c) The City will commit resources to creating a sense of place in less formal communities and to promote security of tenure for residents in less formal areas.

PRIORITY 3: Safe communities
Associated with strategic pillars: "Safe City" and "Opportunity City"

Key commitments related to keeping communities safe:

a) By deploying a comprehensive response to security distractors, partnering with communities and other agencies whilst deploying dedicated resources in targeted interventions, the level of security experienced by communities will be increased.
b) The application of appropriate technology and use of information management systems will support localised crime prevention operations and result in the optimal deployment and outcomes tracking of safety and by-law enforcement interventions.
c) The City will implement holistic social crime prevention programmes to address the root causes of gangsterism

PRIORITY 4: Dense and transit oriented growth and development
Associated with strategic pillars: "Opportunity City" and "Inclusive City"

Key commitments related to dense and transit oriented urban growth and development:

Cape Town will overcome apartheid spatial planning, transport inefficiencies and costs and progressively respond to urbanisation by promoting and prioritising transit – oriented development and densification.

a) New development in the city will be strategically located around public transport (existing and planned)
b) New development will have the right mix and intensity of land uses to optimise the efficiency of the public transport network
c) The high quality of public space will serve to promote the use of public transport and non-motorised forms of transport
d) The City will prioritise its investments to maintain and upgrade infrastructure and services and promote a greater density and intensity of urban development in priority transit corridors
e) The City will leverage its strategically located land holdings and partner the private sector to lead by example to achieve transit oriented development

PRIORITY 5: Efficient, integrated public transport
Associated with strategic pillars: "Opportunity City" and "Inclusive City"

Key commitments related to efficient, integrated public transport include:

a) Cape Town will continue with its programme to ensure that Cape Town has an efficient, high public transport system (including rail) with more frequent public transport services for longer hours, which will enable residents to live car independent lifestyles and enhance access to opportunities so that one's future is not determined by where one lives.
b) Cape Town will continue to establish an integrated public transport network supported by a broader mobility system that supports economic development, equity and inclusivity.
c) The City will continue to roll out MyCiti as an integrated system that includes BRT, scheduled busses and minibus taxis

d) The City will implement targeted programmes to reduce congestion – including both investment in road capacity and initiatives to change commuter choices and driver behaviour
e) Cape Town will manage all land based public transport for the purposes of improving the quality of service/ holding service providers accountable to eliminate fragmentation/ authorities

PRIORITY 6: Leveraging technology for progress
Associated with strategic pillars: "Opportunity City", "Caring City" and "Well-Run City"

Key commitments related to leveraging technology for progress include:

Using digital technology to transform the City and make Cape Town the most digital city in Africa. This will be achieved through:
a) Enhancing its Digital Government capabilities to drive operational transparency, enhance service delivery through process automation and online services whilst improving citizen engagement through ICT enable channels.
b) Emphasising Digital Inclusion in order to close the digital divide by promoting digital access through its public Wi-Fi programmes, improving digital skills and supporting digital initiatives that enhance quality of life.
c) Growing the Digital Economy within the city by creating an enabling environment for the growth of tech-enabled enterprises and maximising its job creation potential
d) Investing in Digital Infrastructure to underpin the digital city objectives and reduce the cost of telecommunication in the city.

PRIORITY 7: Position Cape Town as a forward-looking (innovative), globally competitive business City
Associated with strategic pillar: "Opportunity City"

Key commitments related to positioning Cape Town as a globally competitive business City:

a) City of Cape Town together with various partners will roll-out a business brand aimed at positively positioning Cape Town in the mind of global investors.
b) Cape Town will seek to address major constraints currently deterring investment while being responsive to investor needs (including providing bespoke investment incentives)
c) Growth coalitions between the government and the private sector in Cape Town will be forged in those sectors which show the best potential for growth and job creation.

PRIORITY 8: Resource efficiency and security
Associated with strategic pillars: "Opportunity City" and "Well-run City"

Key commitments related to resource achieving resource efficiency and security:

a) Facilitate and promote the provision of goods and services and the use of production processes that are more resource efficient, enhance environmental resilience, optimise the use of natural assets and promote social inclusivity.
b) The City will also look at future-proofing strategies that will ensure that our systems and business models are designed to optimize resource efficiency and promote innovative practices and technologies.
c) Institutionalise resilience (thus: making the organisation and the communities in the city more resilient to shocks and stresses)

PRIORITY 9: Building integrated communities
Associated with strategic pillars: "Inclusive City" and "Caring City"

Key commitments in support of integrated communities:

a) Partner with NGOs, the business community and tertiary institutions to facilitate and promote difficult conversations aimed at promoting understanding and acceptance amongst communities.
b) Make optimal use of our existing facilities to promote and support such cultural activities and sporting events as well as honor and respect events that allow communities to display their heritage.
c) The City (as an organisation) will lead by example in attracting a diverse pool of South African talent and create an institutional culture in which this talent can thrive.
d) Dedicate resources and effort to the spatial transformation of the City – for example: by scaling up affordable housing provision and promoting inclusionary land use/ housing policies.
e) Deepen the conversation around race and inclusion in Cape Town by investing in research (building an evidence base) that will help us understand the real lived experiences of our residents and exploring the root causes of the culture of exclusion.

PRIORITY 10: Economic inclusion
Associated with strategic pillars: "Opportunity City" and "Caring City"

Key commitments in support of economic inclusion will include:

a) The City will invest in expanded public works and community works programmes that equip beneficiaries for longer term employment. Our expanded public works and community works projects will be aimed at addressing real service needs – identified in partnership with communities
b) The City will work with its partners to support skills development initiatives in high-growth sectors. These programmes will boost the employability of participants and create the skills base required for a growing economy.
c) The City will fund bursaries for studies in areas of scarce skills and offer apprenticeships and other forms of work experience to young people that will prepare them for the world of work.

PRIORITY 11: Operational sustainability

Associated with strategic pillars: "Well-run City"

Key commitments in support of operational sustainability will include:

a) Maintain continuity in service delivery by delivering services in a manner that :
   - Makes efficient use of available resources; and
   - Is financially sustainable.

b) Become an effective, strategy-led organisation through:
   - Collaborative, transversal strategy development;
   - Clear sites of decision-making;
   - A streamlined system of performance management, monitoring and evaluation; and
   - An effective transversal management system that is entrenched across strategy and delivery systems.

c) Position the City of Cape Town as the 'Best employer brand 'through our Values and a compelling Employee Value Proposition.

d) Be a "best of breed" local government by attracting, training, and retaining staff members with the skills that we need to succeed.

e) Dedicating resources/ capacity to revenue generation (beyond traditional revenue streams).

f) Effectively leveraging the City's assets in support of the financial sustainability of the organisation and to the benefit of communities.

ii. City of Cape Town SDF for the 2017/18 – 2021/2022 cycle,
   a. Align the City's spatial development goals, strategies and policies with those of the national and provincial spheres of government;
   b. Indicate the area best suited to urban development, the areas that should be protected, and the areas where development may occur if it is sensitively managed;
   c. Indicate the desired phasing of urban development;
   d. Guide changes in land-use rights;
   e. Help spatially guide, coordinate, prioritize and align public investment infrastructure and social facilities in the City's 5 year Integrated Development Plan

iii. Integrated Waste Management Policy (under review 2016)

iv. The Draft Western Cape Integrated Waste Management Plan (IWMP), 2nd Generation,

v. The National Department of Environmental Affairs initiatives regarding Industry Waste Management Planning as required in part 7 of the National Environmental Management: Waste Act (Act 59 of 2008),

vi. Western Cape Provincial Spatial Development Framework (SDF),

vii. National Policy on Free Basic Refuse Removal (FBRR) (Government Gazette, 22 June 2011)

viii. National Policy on Thermal Treatment of general and hazardous waste, 2009

Table 2 illustrates the linkages between the City's IDP focus areas, the Provincial /National and the City's IWMP goals.

	GOALS: CCT IWM PLAN	CITY - IDP	PROVINCIAL/ NATIONAL GOALS
PROVISION OF BASIC WASTE MANAGEMENT SERVICES	**Improve access to basic waste management services (cleaning, collection and disposal), minimize (reduce and divert) waste to landfill.**	**Priority 1- Excellence in basic service delivery** **Priority 2 – Mainstreaming basic service delivery to informal settlements and backyard dwellers** **SFA 3** - Caring City 3.1 Basic Service Delivery Programme: 3.1.1 Service Need Prioritisation Project: Prioritising areas of basic service need – particularly backyarders and informal settlements. **Priority 11- operational sustainability** 5.3 Customer Centricity Programme 5.3.1 Micro-design Project: Arranging the organization, its processes and its people for optimal service delivery; 5.5 Service Delivery Improvement Programme: Improve service delivery and manage service levels through a well-coordinated area-based approach which makes effective use of the City's sub-council system.	**WCIWMP Goal 3: Promote sound, adequate and equitable waste management practices** **NWMS (2011) Goal 2: Ensure the effective and efficient delivery of waste services**

INTEGRATED WASTE MANAGEMENT PLANNING	**Promote general Integrated Waste Management practices**	**Priority 9- Building Integrated communities SFA 4 - An Inclusive City** 4.4 Public Participation Programme Strike a refreshed balance between meaningful public engagement and the compliance orientated requirements of public participation, such that democratic engagement	**WCIWMP Goal 1:** Educate, strengthen capacity and raise awareness in Integrated Waste Management; **Goal 2**: Improve waste information management; **Goal 4:** Mainstream Integrated Waste Management planning in municipalities and industry; **Goal 6:** Strengthen the waste regulatory system/framework **NWMS (2011)** **Goal 4:** Ensure that people are aware of the impact of waste on their health, well-being and the environment; **Goal 5:** Achieve integrated waste management planning; **Goal 8:** Establish effective compliance with and enforcement of the Waste Act **National Pricing Strategy Annexure A** Full cost accounting by 2018 All Municipalities to charge for services including recovery and recycling of waste by 2018
ALTERNATIVE WASTE TECHNOLOGIES	**Identify and promote catalytic sectors** ;	**IDP: SFA1 - Opportunity City** **Priority 8 -Resource efficiency and security** 1.10 Energy Security Programme 1.10.2 Embedded Generation Project: Encouraging embedded generations (Include solid waste).	**WCIWMP Goal 5:** Mainstream sustainable waste management practices **NWMS (2011) Goal 3:** Grow the contribution of the waste sector to the green economy **NDP 2030 : Objectives** Achieve the peak, plateau and decline trajectory for greenhouse gas emissions, with peak being reached by 2025 Absolute reduction in the total volume of waste disposed to landfill each year. Supporting action point 33 to stimulate renewable energy and waste recycling

WASTE INFRASTRUCTURE MANAGEMENT	**Provide and maintain infrastructure:**	**Priority 7- Position Cape Town as a forward looking globally competitive City** **IDP: SFA1 - Opportunity City** <u>1.1Infrastructure Investment Programme</u> 1.1.1 Infrastructure Maintenance Project**:** Ensures that our infrastructure planning and budgets provides for both infrastructure growth and the maintenance of our existing infrastructure assets; 1.1.4Infrastructure Maintenance Service Project: Enhances infrastructure maintenance through a proactive service response system. (Water, Electricity, TCT, water and sanitation, solid waste, safety and security)	**WCIWMP Goal 3:** Promote sound, adequate and equitable waste management practices **NWMS (2011) Goal 2:** Ensure the effective and efficient delivery of waste services
WASTE MINIMISATION	**Provide and maintain waste minimisation infrastructure**	**SFA1 - Opportunity City** 1.11.2 Resource Efficiency Project: Supporting the development of a more resource efficient economy.	**WCIWMP** **Goal 4:** Mainstream Integrated Waste Management planning in municipalities and industry; **Goal 5:** Mainstream sustainable waste management practices **NWMS (2011)** **Goal 1:** Promote waste minimisation, re-use, recycling and recovery of waste; **Goal 3:** Grow the contribution of the waste sector to the green economy. **NDP 2030 : Objectives** Absolute reduction in the total volume of waste disposed to landfill each year supporting action point 33 to stimulate renewable energy and waste recycling

1.4. Public Participation

The NEMWA (4) (a) states that "Each municipality must—

Include the approved integrated waste management plan in its integrated development plan contemplated in Chapter 5 of the Municipal Systems Act, which prescribes the public participation process to be followed when adopting an Integrated Development Plan (IDP)".

In alignment with the prescribed legislation, the stakeholder engagement process for this IWMP was implemented as follows;

1.4.1. Internal stakeholder engagement

A workshop was conducted with all the Solid Waste Management branches to update the status quo of the 2nd Generation IWMP, to determine gaps, to review objectives and re-align them with current legislative requirements.

1.4.2. External stakeholder engagement

A workshop was conducted with various stakeholders in the industry, neighboring municipalities and the Provincial government. Certain key stakeholders were also informed via email. These were advertised in 3 languages as follows:

Cape Argus: 4 October 2016
Die Burger: 4 October 2016
City Website Oct 2016 onwards

IDP Stakeholder engagements were held as follows:

DATE	VENUE	TIME
7 September 2016	Milnerton Hall, Jansen Street, Milnerton	19:00
8 September 2016	Sidney Kuhn Civic Centre, Burg Street, Macassar	19:00
13 September 2016	Lentegeur Civic Centre, Merrydale Road, Mitchells Plain	19:00
14 September 2016	Parow Civic Centre, 1 Tallent Street, Parow	19:00

A copy of English adverts is included as **ANNEXURE A**

The City's public participation process also included meetings at all sub-councils within the City. The community was given opportunity to also identify their needs with regard to waste management during the IDP engagement processes.

Targeted stakeholder engagement was advertised in local newspapers as well as our CCT website.

Attendance registers are attached hereto as ANNEXURE B

2. STATUS QUO

2.1. Legislative requirements

2.1.1. Constitution of RSA

The SA Constitution, Schedule 5B requires municipalities to provide cleaning and waste collection and disposal services and related infrastructure.

2.1.2. The Local Government Municipal Systems Act, S.11

Requires a Council to formulate policies for which the Integrated Waste Management Policy was developed in 2006 and currently being reviewed.

2.1.3. The Local Government Municipal Structures Act (Act 117 of 1998);

To provide for an appropriate division of functions and powers between categories of municipality which include solid waste disposal sites, in so far as it relates to-

(i) the determination of a waste disposal strategy;
(ii) the regulation of waste disposal;
(iii) the establishment, operation and control of waste disposal sites, bulk waste transfer facilities and waste disposal facilities for more than one local municipality in the district.

2.1.4. The Local Government Municipal Finance Management Act (Act 56 of 2003);

The objective is to ensure the sound and sustainable management of financial affairs within municipalities and other local government institutions.

2.1.5. The National Environmental Management: Waste Act (No 59 of 2008) (NEMWA.)

In terms of S.12 of the NEMWA, a municipality must formulate an Integrated Waste Management Plan as a means of minimizing waste disposal, providing services, preserving natural resources and extending the use of landfill sites, and protecting the health and the environment

2.1.6. The National Waste Management Strategy (NWMS)

It was approved by Cabinet on 09 November 2011 for implementation. The NWMS is a legislative requirement of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) that aims to achieve the objects of the Waste Act. It also aims to address the legacy of inadequate waste services, poorly planned and maintained waste management infrastructure and limited regulation of waste management, persistently threaten the health and wellbeing of everyone in the country. The National Waste Management Strategy (NWMS), and the National Environmental Management: Waste Act (NEMWA), are the national policy and regulatory instruments that define an integrated waste management approach, focusing on waste minimization and service delivery.

The NWMS also aims to redress the past imbalances in waste management. The NWMS has a direct bearing on future waste management strategies of the SWM Department and is structured against a framework of eight goals. An action plan that sets out how the goals and targets will be met forms part of the strategy, and the actions include roles and responsibilities for different spheres of government, industry and the civil society. The eight goals are:

- Promote waste minimisation, re-use, recycling and recovery of waste
- Ensure effective and efficient delivery of waste services
- Grow the contribution of the waste sector to the green economy
- Ensure that people are aware of the impact of waste on their health, well-being and the environment
- Achieve integrated waste management planning
- Ensure sound budgeting and financial management for waste services
- Provide measures to remediate contaminated land.

- Establish effective compliance with and enforcement of the Waste Act

2.1.7. The National Environmental Management Act (Act 107 of 1998) (NEMA);

Chapter 1 sets the following principles for sustainable waste management development, which requires consideration of the following:

- that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- that waste is avoided or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimized and remedied

2.1.8. The Environment Conservation Act (ECA) (Act 73 of 1989,

Repealed with the exception of section 20 which is still applicable for landfill sites permits issued in terms of ECA. This section is still in force until the facilities reaches the end of their lifespan.

2.1.9. White Paper on Integrated Pollution and Waste Management for South Africa (Government Gazette 20978, 17 March 2000) – DEA national waste management policy;

Focused on a holistic and integrated system and process of management, aimed at pollution prevention and minimisation at source, managing the impact of pollution and waste on the receiving environment and remediating damaged environments

2.1.10. The National Water Act (Act 36 of 1998);

It provides for the protection of water sources. Section 19 states that an owner of land, a person in control of land or a person who occupies or uses the land on which any activity or process is or was performed or undertaken; or any other situation exists, which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring including compliance with any prescribed waste standard or management practice.

2.1.11. The Hazardous Substances Act (Act 15 of 1973) & Regulations;

provides for the control of substances which may cause injury or ill-health to or death of human beings due to their toxic, corrosive, irritant, strongly sensitizing or flammable nature, the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification and disposal of such substances and products.

2.1.12. The National Health Act (Act 61 of 2003);

Provides for the effective and equitable municipal health services provided by metropolitan and district municipalities. The definition of Municipal Health Services includes Waste management, environmental pollution control and chemical safety.

2.1.13. National Environment Management: Air Quality Act, No. 39 of 2004

The objective of this Act is to protect the environment by providing reasonable measures that prevent air pollution and ecological degradation, promote

conservation and secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development.

2.1.14. Western Cape Health Care Waste Management Act, 2007 (Act 7 of 2007), and amendments.

It provides for the effective management (handling, storage, collection, transportation, treatment and disposal) of health care waste in order to protect communities and the environment from the risks posed by this waste as required in terms of section 24 of the Constitution

2.1.15. Other supporting legislation includes;

The Occupational Health and Safety Act (Act 85 of 1993) and Regulations;
The Road Traffic Act (Act 29 of 1989);
Consumer Protection Act (Act 68 of 2008, S.59 Recovery and safe disposal of designated products or components)

Regulations and standards

2.1.16. The National Environmental Management: Waste Act: Waste Classification & Management Regulations (R.635 **August 2013)**

This regulation provides for the classification of waste by waste generators in accordance with SANS 10234:2008, within 180 days of generation. The GHS classifies waste in terms of their physical and health hazards as well as the hazards they present to the aquatic environment.

Waste that was previously classified in terms of the Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (1998) must now be classified in terms of SANS 10234:2008. Waste listed in Annexure 1 of the WCMR does not require classification in terms of SANS 10234:2008.

2.1.17. National Environmental Management: Waste Act: National Standard for Disposal of Waste to Landfill August 2013

The standard provides for the new classification of landfill sites and requirements for containment and barrier designs. The new classifications are class A, B, C and D. The standards prescribes types of waste (as per the classification of waste by R.635) to be disposed at different classes of landfill sites). The standards also provides for waste disposal restrictions on certain types of waste such as tyres, Asbestos, PCB's and POP's.

2.1.18. National Environmental Management: Waste Act: National Standard for Assessment of Waste August 2013

The standards prescribe the requirements for the assessment of waste prior to disposal to landfill, as required by regulation 8(1) (b) and (c) of the Waste Classification and Management Regulations of 2013. The standards classify waste into 4 categories based on their total concentration (TC) and leachable concentration (LC) in comparison with the acceptable limits.

2.1.19. National Environmental Management: Waste Act (59/2008): List of Waste Management Activities that have, or are likely to have a detrimental effect on the environment. R921 November 2013.

These regulations provide a list of waste management activities that have, or are likely to have, a detrimental effect on the environment. These activities are set out in three categories, namely Category A, B and C. For Category A

activities, a basic assessment process, as set out in the Environmental Impact Assessment Regulations made under section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) must be undertaken as part of a waste management license application, which a scoping and environmental impacts process is required for Category B activities.

However, a person who wishes to commence with a waste activity under Category C is not required to undertake a waste management license, but must comply with the relevant norms and standards of 2013. These include the Norms and Standards for the Storage of Waste, Standards for Extraction, Flaring or Recovery of Landfill Gas, and the Standards for Scrapping or Recovery of Motor Vehicles.

2.1.20. National Environmental Management: Waste Act: National Waste Information Regulations, January 2013

Waste generators are obliged to report waste quantities generated, diverted and treated. This is required in order to ensure efficient planning for waste management activities. In terms of the regulations, certain requirements must be complied with during reporting such as the name of the facility, waste types and quantities generated percentage of waste diverted etc.

The Provincial Department of Environmental Affairs developed the IPWIS where waste data from the City is reported to. The data is subsequently forwarded to the South African Waste Information System (SAWIS)

2.1.21. Waste Tyre Regulations (per S.24B of ECA – came into effect 30 June 2009)

The Department: Environmental Affairs approved the Recycling and Economic Development Initiative of South Africa (REDISA) Integrated Industry Waste Tyre Management Plan (IIWTMP), which was published in the Government Gazette [No. 35927] in November 2012. The plan aims to apply a unique methodology to waste management. The plan promotes tyre recycling and provides support by providing for the collection and depot infrastructure required to collect waste tyres from across the country and deliver them to approved recyclers.

2.1.22. National Environmental Management Act: NEMA, EIA Regulations, 18 June 2010.

Regulates the procedure and criteria relating to the preparation, evaluation, submission, processing and approval of applications for environmental authorizations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimize positive environmental impacts. Waste activities which should be subjected to EIA are prescribed in GN. 921, NEMWA schedule.

2.1.23. National Organic Waste Composting Strategy: Draft Strategy Report and Guideline.

The draft strategy aims to ensure (where viable) that organic waste generated within South Africa is diverted from landfill sites for composting, as one alternative treatment method, through integrated and sustainable waste management planning.

2.1.24. National Domestic Waste Collection Standards (DWCS) (Government Gazette, 21January 2011)

The Standards came into effect on 21 January 2011 and aim to redress the past imbalances in waste collection services. Through these minimum standards, municipalities are required to meet waste services in urban, peri-urban and rural areas. Municipalities will use the standards to determine the level of service (on-site disposal, central collection points, kerbside collection or a mixture of the latter 2) to provide and to select the best options for waste collection, separation at source, provision of receptacles, collection vehicles, and health and safety standards.

2.1.25. Conventions, Treaties and protocols

South Africa is a signatory to the following conventions, treaties and Protocols;

- **i.** The Basel Convention addresses the need to control the trans-boundary movement of hazardous waste and their disposal. It sets out the categorization of hazardous waste and the policies between member countries.
- **ii.** The BAN Amendment to the Basel Convention on the Control of trans-boundary movements of hazardous wastes and their disposal prohibits the export of hazardous waste from a list of developed countries to developing countries.
- **iii.** The Rotterdam Convention promotes shared responsibilities and enforces transparency in relation to importation of hazardous chemicals.
- **iv.** The Stockholm Convention aims to eliminate or restrict the production and use of persistent organic pollutants.
- **v.** The Montreal Protocol phases out the production of numerous substances that is responsible for ozone depletion.
- **vi.** Agenda 21 (Sustainable Development principles at a local government level –

2.2. Demographic profile

The South African nation comes from diverse cultural and ethnic backgrounds and has 11 official languages. This diverse population is characterised by eight distinct factors, namely race (population group), culture, ethnicity, language, religion, class, education and politics.

The South African population in 2015 was estimated at 54 956 900 people, of whom approximately 51% (some 28.07 million) were female. The Western Cape population in 2015 was estimated at 6 200 100, which constituted 11.3% of the country's total population, having declined slightly since 2014 when it constituted 11.4% of the total South African population. The female population in the province is slightly higher, comprising 50.73% of the total population.

The Western Cape's population is predominantly urban, mainly as Cape Town's population makes up a significant portion of the provincial population. Cape Town is ranked as the tenth most-populous City in Africa. In 2016, the City's population estimated at 4 004 793. (*State of Cape Town Report 2016*)

The population grew by 45.9% between 1996 and 2011 from 2 563 095 to 3 740 026 people. The clearest trend that emerges is the steady growth in the number and proportion of black Africans in Cape Town between the period 1996 to 2011 (at a rate of 124.3%). The difference between the size of the black African and Coloured population also decreased rapidly, from a 1996 variance of 23.3%, with the Coloured population significantly larger, to 3.8% in 2011.

The total number of households in Cape Town grew from 653 085 in 1996 to 1 068 572 in 2011, which represents an increase of 63.6%. There seems to be a trend towards smaller

household units across all population groups. In 1996, the average household size in Cape Town was 3.92 members; in 2011, it had declined to 3.50. Cape Town's household size is below that of developing countries' average household size of 5 members, and is moving closer to the average of 2 to 3 members noted in many developed countries.

Challenges associated with this trend are increased demand for basic services, waste infrastructure and landfill airspace.

A ten-year trend analysis of migration into Cape Town between 2001 and 2011, drawing from Census data, highlights that the majority of new arrivals into Cape Town in the period under review were from outside the Western Cape, among the black African population group (57.9%) followed by the white population group (22.4%).

New arrivals predominantly fell in the age category of 25 to 64 years, and their destinations in Cape Town were influenced by their places of origin. For example, the majority of new arrivals from the Eastern Cape tended to settle in destinations traditionally considered as black African townships.

According to the United Nations (UN) classification, Cape Town's population is mature or of intermediate age. The proportion of children (0 to 14 years) in Cape Town decreased from 28.48% in 1996 to 24.80% in 2011. The economically active population (15 to 64 years) increased from 66.47% to 69.70%, while the elderly population (65 years and above) grew slightly from 5.05% to 5.50%.

Of the economically active population, 49.70% had been absorbed in the economy in 2011. This represents an increase compared to 2001, when the labour absorption rate was 47.41%, but a decrease if compared to 1996, when the labour absorption rate stood at 53.94%. This reflects that Cape Town's economy is not growing fast enough to support the growing economically active population.

The high ratio of potential workers in relation to dependants presents the so-called "window of opportunity" for accelerated economic development, which could have possible positive effects on Cape Town's economy. If the population continues to age, however, there will be negative impacts not only on the economy, government and pension expenditure, but also on health care, social services, housing and the family.

Key developments in South Africa's health sector during the 20 years since 1994 include the shift from a curative, hospital-based approach to a primary healthcare approach, with an emphasis on prevention of disease and decentralised provision of health-care services

Other applicable information pertaining to the population is as follows:

Census 2011 reported statistics on the demographic, economic and household Solid Waste Management services profiles are respectively included as Tables 2, 3 and 4.

Table 3: Demographic profile

DEMOGRAPHIC PROFILE- 2011 Census						
Cape Town Population	Male		Female		Total	
	Number	%	Number	%	Number	%
Black African	722755	19.3	722184	19.3	1444939	38.6
Coloured	759559	20.3	825727	22.1	1585286	42.4
Asian	26155	0.7	25631	0.7	51786	1.4
White	280133	7.5	305698	8.2	585831	15.7
Other	42097	1.1	30087	0.8	72184	1.9
Total	1830699	48.9	1909327	51.1	3740026	100

Table 4: Economic profile and household service profile

ECONOMIC PROFILE						
Cape Town labour force indicators	Black African	Coloured	Asian	White	Other	Total
Population ages 15 to 64 years	1024871	1078456	38443	409264	53178	2604212
Labour Force Employed Unemployed	675037 441911 233126	662814 512551 150263	23719 21369 2350	301202 287029 14173	37457 31379 6078	1700229 1294239 405990
Non economically active Discouraged work seekers Other non- economically active	349834 40453 309381	415642 37010 378632	14724 553 14171	108062 2481 105581	15721 936 14785	903983 81433 822550
Rates % Unemployment rate Labour absorption rate Labour participation rate	 34.54 43.12 65.87	 22.67 47.53 61.46	 9.91 55.59 61.7	 4.71 70.13 73.6	 16.23 59.01 70.44	 23.88 49.7 65.29

Cape Town Refuse Disposal	Black African		Coloured		Asian		White		Other		Total	
Measure	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%
Remove by local auth. at least once a week	393751	88.5	352156	98.2	14034	98.4	229829	98.7	17518	97	1007288	94.3
Removed by local authority less often	5248	1.2	895	0.2	46	0.3	926	0.4	147	0.8	7260	0.7
Communal Refuse dump	25631	5.8	2656	0.7	111	0.8	1053	0.5	162	0.9	29613	2.8
Own refuse dump	12506	2.8	1455	0.4	21	0.1	531	0.2	169	0.9	14682	1.4

No Rubbish Disposal	6145	1.4	825	0.2	26	0.2	181	0.1	33	0.2	7210	0.7
Other	1499	0.3	642	0.2	29	0.2	308	0.1	40	0.2	2518	0.2
Total	444780	100	358629	100	14267	100	232826	100	18069	100	1068571	100

Household Services Profile												
Household	**Black African**		**Coloured**		**Asian**		**White**		**Other**		**Total**	
Measure	**Num.**	**%**	**Num.**	**%**	**Num.**	**%**	**Num.**	**%**	**Num.**	**%**	**Num.**	**%**
Formal House	250762	56.4	327383	91.3	13852	97.1	230575	99	14961	82.8	837533	78.4
Informal Dwelling/Backyard shack	54500	12.3	18082	5	150	1.1	337	0.1	1889	10.5	74958	7
Informal Dwelling/Shack not in back yard	134914	30.3	7531	2.1	141	1	387	0.2	850	4.7	143823	13.5
Other	4607	1	5634	1.6	123	0.9	1528	0.7	369	2	12261	1.1
Total	444783	100	358630	100	14266	100	232827	100	18069	100	1068575	100

2.3. Waste Management Cost and Financing

The basis of funding is determined by the nature and the type of service and related resources, fleet, plant, equipment or infrastructure, and whether a fee can be used to recover the cost of the service (as determined by the Council's Tariff Schedule). The Council has a prerogative regarding the choice of service mechanism and service provision in line with its obligation to assess an appropriate service mechanism per MSA S.77, and to set tariffs per the Tariff Policy for its waste management services.

In both the SWM Integrated Waste Management and the SWM Tariff policies the following funding groups are provided for Council's waste management functions:

Tariffs:

- Collection of waste in formal residential areas;
- Waste disposal and treatment, including landfill sites, transfer stations and related waste handling and waste minimisation infrastructure;
- Collection of waste in informal areas

Rates:

- Cleansing services;
- Drop-off facilities,
- Waste planning, including waste minimisation,
- Support Services (incl. Human resources, administration, Finance & Commercial, Loss Control, Technical Services and management overheads)

The Council's ability to obtain and provide funding and to generate income and recover costs is directly influenced by the City's stakeholders' ability and willingness to pay the rates and tariffs. The level of indigence and the ratio in proportion to the total population, as determined by the Council's Indigence Policy; and the Council's financial policy and decisions relating to the level of payment (credit policy) and to accommodate bad debt that may lead to shortfalls; the Council's ability to raise funds for capital projects from sources other than the annual budget allocation by the National Treasury;

In general the funding provided for SWM specific integrated waste management aspects are as follows:

2.3.1 Budget

2.3.1.1. Operating Costs

The Operating Costs can be defined as those costs expended by Solid Waste Management (SWM) in managing and implementing the day-to-day operations required for solid waste management services rendered by the City of Cape Town. It also includes the cost of external service providers, consultants and contractors employed by the SWM; the cost of repairs and maintenance of existing infrastructure, plant and equipment as well as the purchase of new plant and equipment requiring replacement.

Council acknowledges that it is in the interest of its citizens and the environment to keep areas under its jurisdiction clean, and subscribes to the principles that this service is provided for the public good.

Table 5: The operational expenditure for the SWMD for the 2015/16 was as follows

Department	Rand(m)	%
Disposal	443.40	16
Collections	1,090.00	40
Cleansing	970.20	36
Support Functions	205.20	8
Total	**2,708.80**	**100**

The projected operating cost structure for the SWM from 14/15 to 21/22 summarized below:

Table 6: Operating budgets (rates and tariffs)

	14/15 (Rm)	15/16 (Rm)	16/17 (Rm)	17/18 (Rm)	18/19 (Rm)	19/20 (Rm)	20/21 (Rm)	21/22 (Rm)
Disposal - Tariffs	443.30	443.40	498.70	526.13	555.07	585.59	617.80	651.78
Collections - Tariffs	983.40	1,090.00	1,196.40	1,262.20	1,331.62	1,404.86	1,482.13	1,563.65
Cleansing - Rates	843.20	970.20	1,106.60	1,167.46	1,231.67	1,299.42	1,370.88	1,446.28
Other - Rates	184.50	205.20	316.60	334.01	352.38	371.76	392.21	413.78
Total	**2,454.40**	**2,708.80**	**3,118.30**	**3,289.81**	**3,470.75**	**3,661.64**	**3,863.03**	**4,075.49**

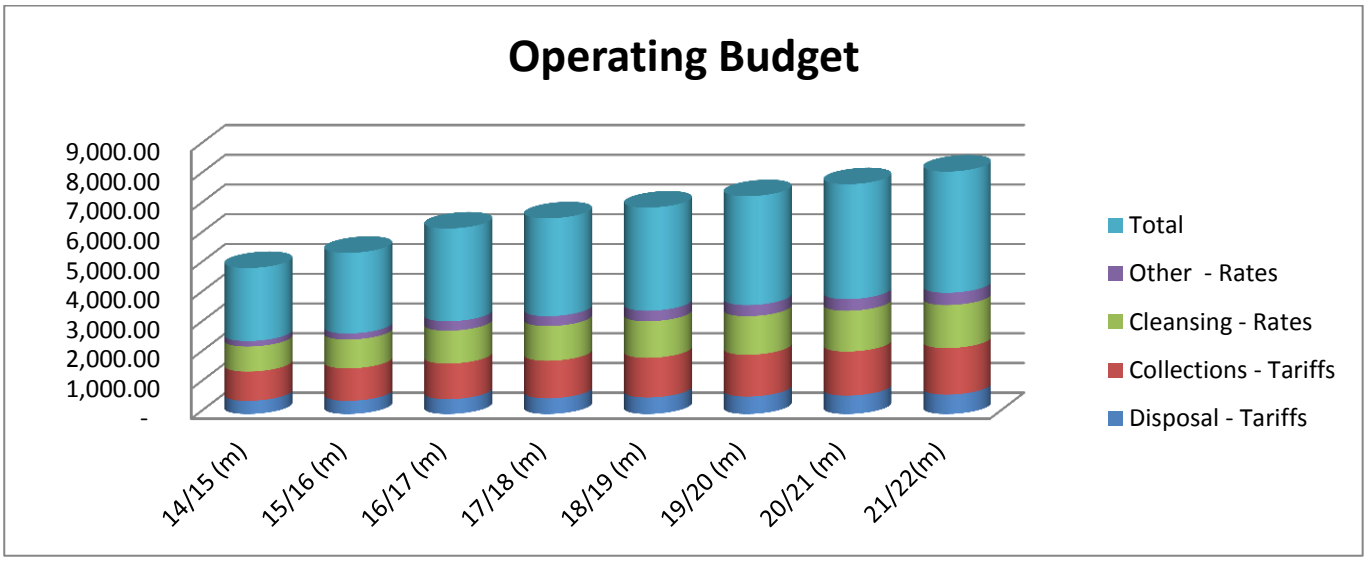


Figure 4: Solid Waste Management operation budget

2.3.1.2. Capital Costs

May include, but not limited to technical investigations/studies/consultation fees, land acquisition, infrastructure development, vehicles, plant and equipment acquisition, new service infrastructure, buildings and facilities (i.e. liners for landfills, transfer stations, drop off or recycling centers, composting plants, etc.).

Capital funding options

The following funding options are currently available:

1. Application for Urban Settlement Development Grant (USDG)Funds
2. Provision of Capital Replacement Reserve(CRR)
3. Obtaining external financing funds (loans, international or private grants, etc.).

Table 7: Capital expenditure for the 2015/16 was as follows:

Capital	Rand (m)	%
Collections	0.20	0.07
Disposal	163.30	60.46
Cleansing	1.00	0.37
Technical services	97.60	36.13
Support Functions	8.00	2.96
Total	**270.1**	**100**

The projects Capital cost structure with funding sources of the SWMD, from 14/15 to 21/22 Financial years are summarised below:

Table 8: Capital budget per funding source

	14/15 (Rm)	15/16 (Rm)	16/17 (Rm)	17/18 (Rm)	18/19 (Rm)	19/20 (Rm)	20/21 (Rm)	21/22 (m)
EFF	142.00	108.30	164.69	144.15	221.90	173.88	182.85	242.90
USDG	50.00	-	-	-	-	30.00	51.50	10.00
CRR	36.00	78.80	68.80	169.50	91.00	61.00	74.00	79.00
REV	0.50	83.00	4.00	4.00	4.00	4.00	4.00	4.00
Total	**228.50**	**270.10**	**237.49**	**317.65**	**316.90**	**268.88**	**312.35**	**335.90**

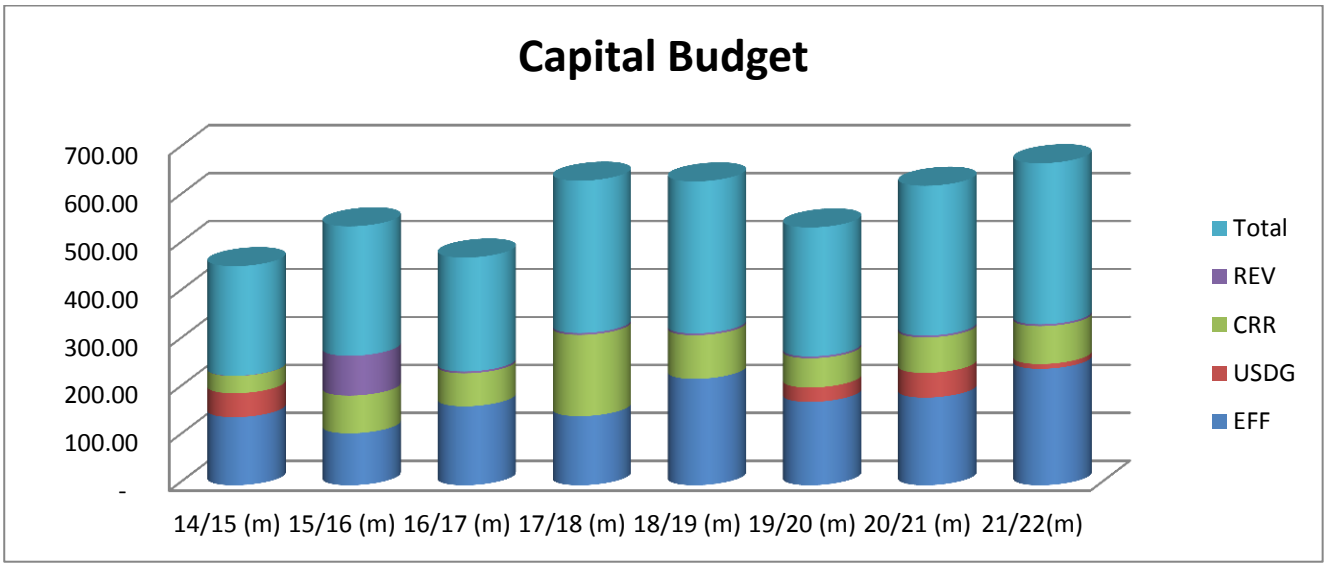


Figure 5: Solid Waste Management Capital budget

Table 9: Capital Budget per service

	2014/15		2015/16		2016/17		2018/19		2019/20		2019/20		2020/21		2021/22	
	R (m)	%Of Total Budget	R (m)	%Of Total Budget	R (m)	%Of Total Budget	R (m)	%Of Total Budget	R (m)	%Of Total Budget	R (m)	%Of Total Budget	R (m)	%Of Total Budget	R (m)	%Of Total Budget
Collection	0.20	0.09%	0.20	0.07%	0.20	0.08%	0.20	0.06%	0.20	0.06%	0.20	0.07%	0.20	0.06%	0.20	0.06%
Disposal	150.70	65.95%	163.30	60.46%	140.60	59.22%	249.30	78.48%	248.05	78.27%	199.80	74.31%	243.90	78.09%	267.50	79.64%
Cleansing	2.00	0.88%	1.00	0.37%	1.00	0.42%	1.00	0.31%	1.65	0.52%	1.00	0.37%	1.00	0.32%	1.00	0.30%
Technical Services	68.80	30.11%	97.60	36.13%	89.50	37.70%	61.40	19.33%	61.40	19.38%	62.18	23.13%	61.40	19.00%	61.40	18.28%
Support Services	6.80	2.98%	8.00	2.96%	6.10	2.57%	5.75	1.81%	5.60	1.77%	5.70	2.12%	5.85	1.87%	5.80	1.73%
Total	228.50	100.00%	270.10	100.00%	237.40	100.00%	317.65	100.00%	316.90	100.00%	268.88	100.00%	312.35	100.00%	335.90	100.00%

2.3.2. SWM Tariffs and Rates

In relation to the Council's Tariffs, SWM functions will be funded as follows:

- Collections of waste (100% of its budget requirement)
- Disposal (per mass determined by weighbridge measurement or carrying cas per the tariff schedule)

2.3.2.1. CONSUMPTIVE SOLID WASTE TARIFFS 2014 / 2015

All Tariffs reflected below are exclusive of VAT

Table 10: Consumptive Solid Waste Tariff Increases 2014-2016

Solid Waste		**2014/15 (excl. VAT)**	**2015/16 (excl. VAT)**	**2015/16 (incl. VAT)**	**2016/17 (excl. VAT)**
RESIDENTIAL COLLECTIONS					
Formal					
240l Container including Lockable Container	Rand per month	R 95.96	R 103.95	R 118.5	R 127.9
INDIGENT REBATE - 240l Container					

including Lockable Container					
Block 1 (100% rebate) – property value up to R100 000	Rebate Rand per month	R -95.96	R -103.95	R -118.5	R -127.9
Block 2 (75% rebate) – property value from R100 001 to R150 000	Rebate Rand per month	R -71.97	R -77.96	R-88.9	R -95.9
Block 3 (50% rebate) – property value from R150 001 to R350 000	Rebate Rand per month	R -47.98	R -51.98	R -56.05	R -63.9
Block 4 (25% rebate) – property value from R350 001 to R400 000	Rebate Rand per month	R -23.99	R -29.6	R -28.07	R -32
100% Indigent Relief	As determined by the Credit Control & Debt Collection Policy	R -95.96	R -103.96	R -118.5	R -127.9
ENHANCED SERVICE LEVEL INCLUDING LOCKABLE CONTAINER					
240l - Additional Container	Rand per container per month	R 95.96	R 103.95	R 118.5	R 127.9
240l - 3x per week for cluster	Rand per container per month	R 287.72	R 311.67	R 355.3	R 383.4
Informal					
Basic Bagged service	Rand per month	Free	Free	Free	Free

NON-RESIDENTIAL COLLECTIONS					
240 LITRE CONTAINER INCLUDING LOCKABLE CONTAINER					
1 removal per week	Rand per container per month	R 114.56	R 124.12	R 141.5	R 152.7
3 removal per week	Rand per container per month	R 335.35	R 372.28	R 424.4	R 458
5 removal per week	Rand per container per month	R 544.56	R 620.53	R 707.4	R 763.4
REFUSE AVAILABILITY					
All vacant Erven	Rand per month	R 56.84	R 61.58	R 70.2	R 75.8
DISPOSAL SERVICES					
General Waste	Rand per ton	R 317.28	R 346.84	R 388.77	R 443.2
Special Waste	Rand per ton or part thereof	R 420.61	R 459.65	R 524.00	R 587.3

In relation to the Council's rates policy, SWM functions will be funded as follows:

- Cleansing services (100% of its budget requirement);
- Service Authority/Regulatory Head Office function, Waste Planning, Administration and Waste Management Support function overheads (100% of budget requirement).

2.3.3. Funding of Services for the Indigent

Waste management services for the indigent will still be supported through the Council's Indigent Fund, from which an equitable portion must be transferred to the Solid Waste Management Department's annual budget.

2.4. Services and Delivery

2.4.1. Waste Collection: Formal Residences

Residential services are provided by the Council (SWM) and via Council tenders. The Council derives income by billing residents in accordance with the annually revised Tariff policy. Services to indigent households are deemed "free basic services", and are funded from government grants and cross-subsidised by a portion of the collected tariffs. There are also rebates for properties valued up to R400 000 as depicted in Table 9, which range between 25 to 100% depending on the property value.

In the City of Cape Town residential consumers must have a contract with the City unless otherwise determined. The City currently has a prerogative regarding the choice of service mechanism and service provision and to set tariffs as per the tariff policy for its waste management services.

The standard service level for formal residences is a once-a-week, kerbside containerised waste collection service. In this category, all households, including backyard dwellings, other than those where geographic or other service constraints make this impractical are provided with a 240L wheelie bin at council approved tariffs. The occupant must ensure that all non-recyclable residential waste is stored in the bin. The bin may only be placed outside the property boundary for waste collection on the scheduled days.

2.4.2. Waste Collection: Informal Settlements

The standard service level for informal settlements dwellings is aligned with the Council's Indigent Policy. This is a once-a-week, bagged door-door waste collection service provided to indigent families. In this category, each informal household will be provided weekly with Council refuse bags, of a size, number and design determined by the City.

The service offered is an integrated area cleaning and refuse collection service provided through external contactors.

2.4.3. Servicing of Backyarders in the City

The City introduced a formal refuse collection service to backyarders residing on council housing stock properties. Most of these backyarders have been issued with an additional 240l refuse container.

The City currently pilots the roll-out of an additional 240l refuse container to backyarders residing on formal private properties. The first area to receive this service is Dunoon.

2.4.4. Waste Collection: Non-residential (Commercial and Business Waste Collection Services)

Non-residential, Commercial waste collection services are partly provided by the City. The balance of commercial services is provided by the private sector. All Commercial waste

collection services must adhere to our integrated waste management principles and standards per the City's Integrated Waste Management policy.

Industrial and health care entities must have a contract with a licenced and accredited service provider. Waste collection and related services for industrial and hazardous waste are part of "non-residential" services and not provided by the City. These services require special handling, transport and treatment before disposal.

2.4.5. Waste Collection: Agricultural land

Agricultural land is defined as land primarily used for farming purposes and zoned as agricultural land and is generally serviced by the private sector according to the integrated waste management principles and standards of the City's Integrated Waste Management policy.

2.4.6. Cleaning of Public Spaces

All City owned spaces are cleaned by the cleaning section of the Solid Waste Management Services and is done in accordance with cleansing standards as prescribed from time to time.

2.5. Compliance and Enforcement

2.5.1 Status of Closed Disposal Facilities

Table 11: Depicts status of the closed disposal facilities

Closed Landfill Sites							
Name	**Location**	**Licensing Status**	**Adherence to permit conditions**	**Complaints**	**Salvaging issues**	**Rehab Time Frame**	**Rehab Costing**
Witsand	Scarborough	License issued-variation process in progress	Annual Rehab of dunes and bush	Minimal	No Salvaging Allowed	Continuous ongoing	R1m annual rehabilitation and engineering budget
Everite (Private)	Brackenfell	Licensed	Yes	Minimal	No Salvaging Allowed	Completed 2010	Private
Brackenfell	Brackenfell	Licensed to Closure	Yes	Minimal	No Salvaging Allowed	Completed 2007	R10m between 2006/7
Bellville Park (Private Hume Quarry)	Bellville	Licensed	Yes	Minimal	No Salvaging Allowed	N/A	Private
Faure	Faure	Licensed to closure	Yes	Minimal	No Salvaging Allowed	Completed July 2012	R22 million
Kraaifontein	Kraaifontein	Licensed to closure	Yes	Minimal	No Salvaging Allowed	Completed 2 Feb 2016	R10 million
Various History other sites	Macassar Serepta Mamre Radnor Strand Strandfontein Simons Town	Licensed but variation license in progress	Listed as one of the top 10 historic sites to be rehabilitated	Minimal	No Salvaging Allowed	In Planning	In Planning

	Ocean View Fishhoek						
Swartklip	Mitchell's Plain	Licensed to closure	Yes	Minimal	No Salvaging Allowed	Final Completion will be 26th October 2016	R96.5 million
Table View	Table View	Licensed to closure	Yes	Minimal	No Salvaging Allowed	Completed June 2011	R6.5 million
Waterkloof	Somerset West	Licensed to closure	Yes	Minimal	No Salvaging Allowed	Engineering to be commencing July 2016	25 million to be completed Feb 2018
Atlantis	Atlantis	Licensed to closure		Minimal		No Salvaging Allowed	To be completed Aug 2017

Table 11: Operational Landfill Sites

Name	Location	Licensing Status	Adherence to permit conditions	Complaints	Salvaging Issues	Available airspace (May 2016)
Bellville South	Bellville	licensed	Yes	Neighborhood pressure to close	No Salvaging Allowed	2496090 m3
Coastal Park	Muizenberg	licensed	Yes	Minimal	No Salvaging allowed	6179078 m3
Vissershok H:h	Farm Outspan (N7)	Licensed	Yes	Minimal	No Salvaging allowed	1120797m3

LANDFILL AIRSPACE DATA AS AT 12 MAY 2016 Description	Unit	Bellville	Vissershok	Coastal Park
Date of survey	**09 May 2016**		**12 May 2016**	**11 May 2016**
Type of survey	**Ground based**		**Ground based**	**Ground based**
Airspace remaining to final profile	M3	2,496,090	1,120,797	6,179,078
Average monthly reduction in airspace over the past 12 months calculated from weighbridge tonnages	M3/Month	55,298	88,680	84,702
Average monthly reduction in airspace over the past 12 months calculated from surveyed data	M3/Month	38,029	36,208	45,644
Remaining lifespan of site based on weighbridge tonnages	Months	45	13	73
Remaining lifespan of site based on surveyed data	Months	66	31	135
Remaining lifespan of site based on Licence restrictions (Bellville only)	Months	28	N/A	N/A

Figure 6: Visserhok (H: h) disposal facility

2.5.2 Compliance Audits

The monitoring systems used by the Solid Waste Management Department are governed by the following legal requirements and other guidelines, namely:

- Section 20 (1) Operations or Operations-to-Closure Permits in terms of the Environment Conservation Act, 1989 (Act 73 of 1989);
- National Environmental Management: Waste Management Act, Act 58 of 2009 (NEMWA);
- Record of Decision in terms of section 21, 22 and 26 as well as listed activity (No 8) in terms of the EIA regulations promulgated in terms of the Environment Conservation Act, 1989 (Act 73 of 1989);
- Amendments by DWAF to the section 20 (1) Permit in terms of the Environmental Conservation Act, 1989 (Act 73 of 1989);
- Status Quo Reporting in the quarterly external audit by Naude Associates; In-house standards;
- Special projects such as the Hg air disposal study requested by the Morningside;
- Residents Monitoring Committee;
- Other studies or guidelines may occur from time to time.

Waste management facilities operated by the CCT are monitored for the following:

- Waste types, waste volumes/mass;
- Groundwater quality and management (except for ARTS), groundwater trends, leachate quality and management, surface water quality and management;
- Biogas monitoring, air analysis (where required);
- Health of workers, reporting of incidents, annual figures to DWAF;
- Continuation of first aid training and stock, continuation of fire register upkeep, stock and usage of personal protective clothing;
- Management of contactor employing salvage workers (where required), other compliance requirements in the said permit and RoD, construction and engineering operations in the DWAF approved permit, monitoring of FFS audit compliances by the

ROSE Foundation and other parameters when required.

Compliance scores ratings:

Total	Status Indicator	Action
85 – 100 %	Green	Small changes needed
65 – 84 %	Amber	Improvements required
0 – 64 %	Red	Major improvements required

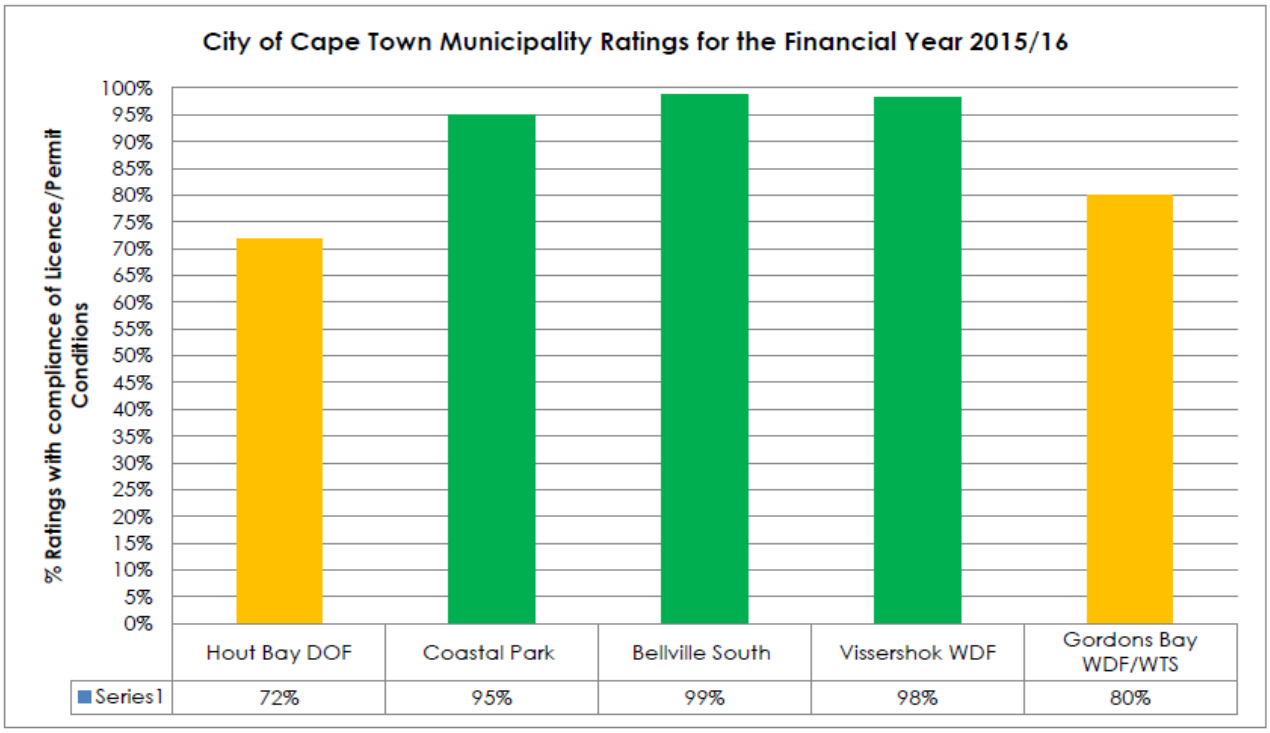


Figure 7: Compliance Audit Outcomes of waste management facilities

2.5.3 Illegal Dumping and cost associated with clean-up efforts

Illegal dumping in the City is an ongoing challenge with the City spending millions on clean-up costs throughout the City. The composition of the illegally dumped waste varies and includes bulky household items, rubble, domestic waste, tyres and clean ups from Fire.

Bulk of illegally disposed waste is domestic waste (48%) followed by builder's rubble (35%). The total cost associated from clean-up efforts ranged between R180 million (2013/2014) and R46 million (2015/2016).

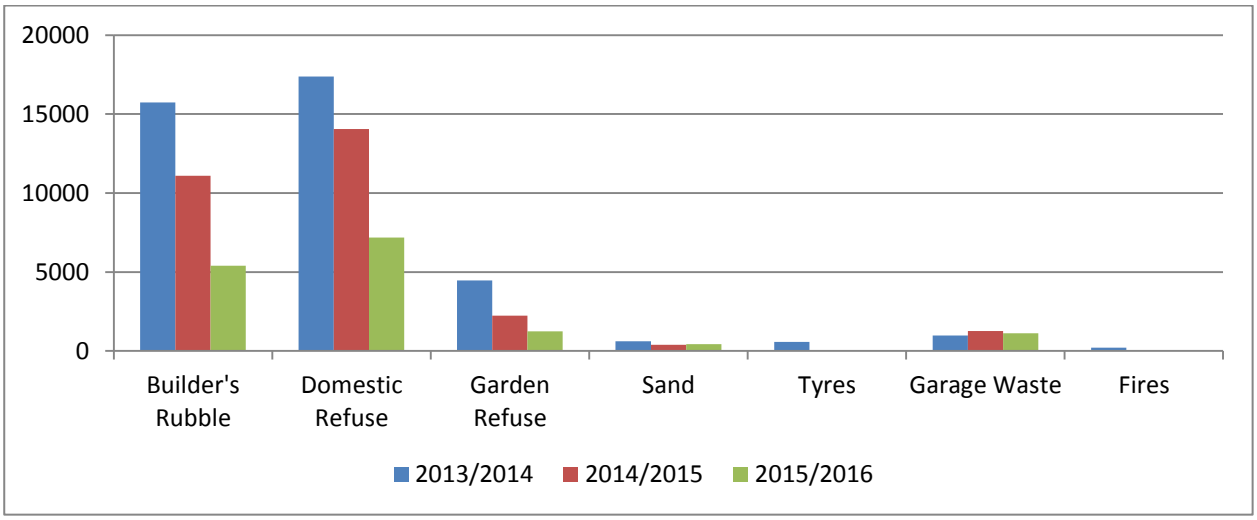


Figure 8: Loads illegally dumped per waste type City of Cape Town

The reduction in clean-up can be attributed to a tender coming to an end in the middle of 2014/2015 financial year and has not yet been renewed. This has resulted in reduced capacity and also the associated reduction in cost for clean-up efforts.

Despite all efforts to reduce the illegal dumping in the City and the increased enforcement and stringent penalties illegal dumping still continue. Below find statistics for the illegal dumping in the City between financial years 2013/14 and 2015/16.

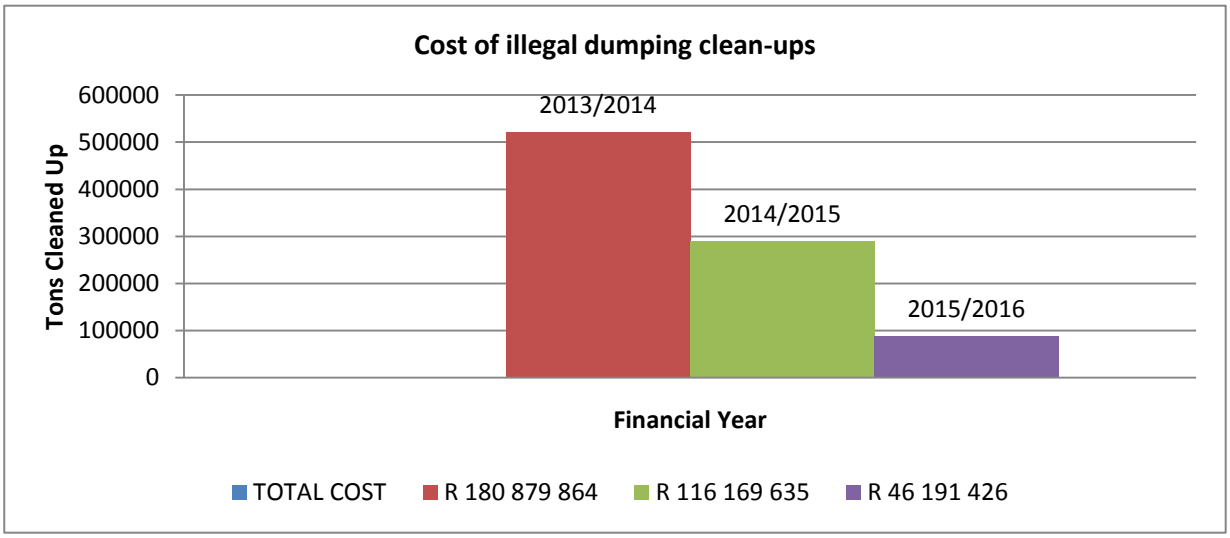


Figure 9: Annual Cost to clean-up illegally dumped City of Cape Town

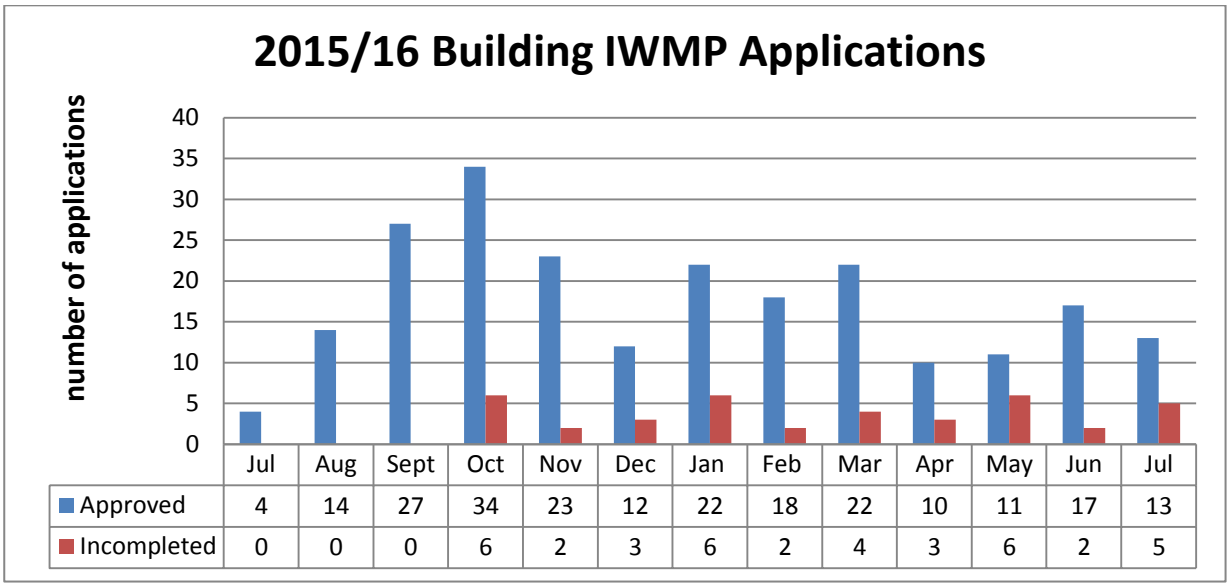
2.5.4 Regulation of the City Integrated Waste Management By-Law 2009 as amended Accreditation of waste service providers and Integrated Waste Management Plans

The Policy and strategy section has progressively implemented the Integrated Waste Management by-law since its promulgation in 2009. One of the key instruments to monitor the compliance within the City of Cape Town is the accreditation of waste service providers and generators. This is done by ensuring that generators and service providers all comply with legislation, regulations and municipal by-laws and have an integrated waste management plan in place. This ensures that all are contributing to the diversion of waste from landfill and dealing with waste responsibly.

To date 46 accredited waste generators and 212 waste service provider were accredited.

The challenge of illegal dumping of builder's rubble in the City has resulted in providing special focus on the construction and demolition industry. There is a requirement that for both demolition applications and new property development applications, the latter greater than 500m² the need to submit integrated waste management plans for Council approval.

The Solid Waste Management has put strict measures in place for the approval of building applications to ensure that the applicant comply with requirements of the by-law.



	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Approved	4	14	27	34	23	12	22	18	22	10	11	17	13
Incompleted	0	0	0	6	2	3	6	2	4	3	6	2	5

Figure 10: The number of approved demolition applications over the past year

2.6 Waste generation and composition

A waste categorization study was commissioned in 2007 to update the data generated for the draft IWM Plan in 2003/04. This study was augmented in 2009 by a further study. This entailed evaluating the types of waste that are generated in clearly delineated areas to understand what infrastructure and systems are best suited. These reports and data will still be used in years to come to plan further initiatives and schedule services as part of creating efficiencies and improve the effectiveness of the City's waste management system.

The split between waste from residential areas vs. industrial and commercial areas is approximately 45:55. Analyses are complex for a variety of reasons, and will become more complex in future due to densification strategies and the nature of land use in central business districts and adjacent industrial areas, which are being developed more and more with a residential component in mind.

It is estimated that households generate approximately 45%, industry (free and hazardous waste) approximately 30% and commerce (trade waste) approximately 25% of waste in the City. Demolition and construction (or builder's) rubble and garden waste (greens) together constitute approximately 30% of the total waste stream. Other significant fractions collectively make up what is referred to as "packaging waste" that represents 15%, while the remainder consists of a variety of organic waste, hazardous materials, e-waste, tyres sand, etc.

Organic fractions tend to be higher in informal areas, whilst packaging waste volumes are quite high in formal areas, especially in high income areas. In 2007/08, 2.1-million tons of general waste was landfilled in the three City owned landfill sites in the municipal area, whilst in 2008/09 1.7-million tons of waste was landfilled, and 1.6-million tons in 2009/10. During

2013/14 1.83- million tons, 2014/15 1.38- million tons and 2015/16 1.18-million tons of waste was landfilled to the three landfill sites. During this same period waste diverted from landfill through City initiatives ranged from 7.61% in 2013/14, 9.15% 2014/15 and 20.58% in 2015/16

Landfill airspace savings have been achieved, using various landfill diversion mechanisms that include the composting of garden greens, the crushing and reuse of builder's rubble, diverting glass, paper, cardboard, certain plastics and metal cans from landfill, as well as the pilot separation at source project ("Think Twice") that services 200 086 formal households which has been operational for a number of years now.

An additional waste characterisation study (PDNA) was carried out during 2011 on the household waste stream ONLY. A consolidated summary of their results follows:

Table 12: Household waste fractions

Waste fraction (Household only)	**PDNA Feb 2011**
Paper (%)	15.50%
Glass (%)	7.30%
Plastics - Containers (%)	14.10%
Food Waste (%)	8.10%
Greens/ Garden Waste (%)	15.20%
Metals (%)	3.60%
White Goods (%)	1.30%
Textiles (%)	7.20%
E-waste (%)	0.50%
Hazardous Waste (%)	1.70%
Others (%)	25.50%
TOTAL	**100.00%**

2.6.1 Problem waste streams

2.6.1.1 Agricultural waste

Agricultural land is generally serviced by the private sector as per the integrated management principles and standards of the CCTs Integrated Waste Management Policy.

2.6.1.2 Sewage sludge

The IWM Policy excludes waste originating from sanitation systems, which are regulated under separate National and Council policies. It however makes provision for the disposal of treated sewage sludge of an acceptable quality.

Table14: Depicts sewage sludge management in the CCT.

Wastewater Treatment Works and sewage sludge disposal Wastewater Treatment Works	**Sludge quantities**	**Disposal methods**
Athlone	31.2 tonnes per day	Agricultural land application and transfer to another WWTW (Primary sludge is gravity thickened and then anaerobically digested on site and thereafter dried in sand drying

		lagoons. Sludge is stockpiled on site, removed during summer, and applied to agricultural land. Secondary sludge is thickened by dissolved air floatation. Some of the sludge is anaerobically digested on site while the majority is discharged into the sewer feeding the Cape Flats WWTW for further handling on that site).
Bellville	10.4 tonnes per day	Agricultural land application (Waste activated sludge is mechanically dewatered on belt presses, deposited into skip bins and removed off-site for application to agricultural land. There is a small area on site available for emergency temporary storage).
Borcherds Quarry	10.5 tonnes per day	Landfill and land application (Primary sludge is mechanically dewatered and taken off-site for composting by a contractor. The secondary sludge is mechanically dewatered and taken off site for land application to agricultural land by a contractor. There is a temporary storage lagoon and sand drying beds for emergency use) .
Wastewater Treatment Works	Sludge quantities	Disposal methods
Cape Flats	32.6 tonnes per day	Agricultural land application and landfill (Sludge is thickened, digested, dewatered and then dried into pellets. When certain units of the palletisation plant are not operational, the sludge may have to be pumped to drying lagoons or storage lagoons. At other times, it may be possible to dewater the sludge, but not dry it then it will be taken off-site in a skip bin).
Fisantekraal	2.8 tonnes per day	Agricultural land application
Gordon's Bay	1 tonne per day	Transfer to another WWTW (Secondary sludge is dewatered on sand drying beds. It is then taken off site for disposal by land application by contractor).
Hout Bay	No information received	No information received
Kraaifontein	3.2 tonnes per day	Agricultural land application. (The primary sludge and the humus sludge from the biological filters is cold-digested and then dewatered on a belt press. The wastewater activated sludge is dewatered separately on the belt press to prevent phosphate solubilisation. The dewatered sludge is removed by contractors, some of it is composted and the balance applied

		to agricultural land).
Klipheuwel	<0.1 tonnes per day	Septic tank cleaned and sludge removed to Kraaifontein WWTW.
Llandudno	<0.1 tonnes per day	Septic tank cleaned and sludge removed to larger works.
Macassar	10.4 tonnes per day	Agricultural land application (Secondary sludge is mechanically dewatered on belt presses and removed off site for disposal by application to agricultural land).
Melkbosstrand	0.9 tonnes per day	Agricultural land application (Secondary sludge is dried on sand drying beds and stockpiled on site. When necessary, sludge is removed and applied to land.)
Millers Point	<0.1 tonnes per day	Septic tank cleaned at intervals and sludge removed to a large works for disposal.
Mitchells Plain	8.5 tonnes per day	Agricultural land application (sludge is thickened, digested, dewatered and taken off site for land application on agricultural land).
Oudekraal	<0.01 tonnes per day	Septic tank cleaned at intervals and sludge removed to a large works for disposal.
Wastewater Treatment Works	Sludge quantities	Disposal methods
Philadelphia	Not applicable (Ponds)	Not applicable (Ponds)
Potsdam	14.7 tonnes per day	Landfill disposal and agricultural land application (raw primary sludge is mechanically dewatered and transported off site to be composted. Secondary sludge is dewatered and transported off site for land application to agricultural land).
Scottsdene	3 tonnes per day	Agricultural land application/ Secondary sludge is dried on drying beds and stockpiled. It is removed from site by Council Depots as and when required.
Simon's Town	0.4 tonnes per day	Cold digestion of primary and humus sludge. Sludge is then dried on sand drying beds. Dried sludge removed to Cape Flats works for disposal.
Wesfleur	2.5 tonnes per day	Land application (the secondary sludge is dried on sand beds and used off site for the cultivation of roll-on lawn by private persons).
Widevoelvlei	2.3 tonnes per day	Agricultural land application
Zandvliet	25.8 tonnes per day	Agricultural land application

2.6.1.3 Abattoir waste

There are no abattoirs in the CCT, however, Vissershok landfill site accepts abattoir waste and respectively disposed of 41.7 tonnes and 9 tonnes during the 2014 and 2015 calendar years.

2.6.1.4 Tyres

The City still accepts quartered tyres at our Vissershok landfill site per approved city tariffs.

Tyre waste is largely managed under the REDISA waste management plan and therefore tall tyres should be diverted to their facilities for storage, treatment and recycling.

There is however still a challenge with many tyres being illegally disposed throughout the City, but is expected to dissipate once mechanisms (i.e. collection) by the tyre industry have been fully implemented. The City supports the REDISA Industry Waste Management Plan.

2.6.1.5 Sanitary Waste

The City has 2 general landfill site and one low hazardous site (H:h). The H:h site is currently receiving treated sanitary waste from certain businesses issued with a delisted permit.

The current legislation however is not clear as to whether the sanitary waste should be treated as health care risk waste or health care general waste. This poses a challenge with the industry being uncertain as to which method of disposal is acceptable

2.6.2 Projected Waste Quantities

The MSA S.78(3) study depicted that apart from the waste minimisation initiatives by the City, the bulk recovery and recycling initiatives are undertaken by commerce and industry (and in particular by private waste companies) as well as some NGOs. Waste processing data for most of these initiatives is not freely available and therefore it is not possible to accurately quantify their current contribution and certain assumptions had to be made.

Although all indications are that local industrial initiatives within Cape Town manages to divert a significant portion of waste away from landfills through re-use and recycling, it can still be improved substantially through a concerted effort on re-use, reduction and recycling.

Currently the City is experiencing a steady increase in the percentage of waste diverted by its own initiatives from Council landfills, with the average of 11% in 2012 and 20.58 % in 2016. It is estimated that there will be sufficient airspace in the City for an estimated 10 years only, at a 2.5% disposal growth rate and without a new regional landfill site.

The international guideline for airspace provision is considered to be a minimum of 15 years and the City is below this norm. The Vissershok privately owned and operated hazardous waste landfill (H:H) (the only such facility in the Western Cape) will reach its current capacity in 7 years.

This therefore provides a rationale for intervening in the waste streams that have the largest impact on airspace, namely recyclables (packaging and paper), greens and builder's rubble. Of the total amount of free waste (rubble and greens) arriving at landfills, a sizeable amount of almost 24% (by mass) or 15% (by volume) of the total waste land filled, only an estimated 15% (by mass) is currently diverted through crushing and chipping. Figure 11

Illustrates the projected waste quantities disposed at all the landfill sites and the proposed regional facility for the next 25 years.

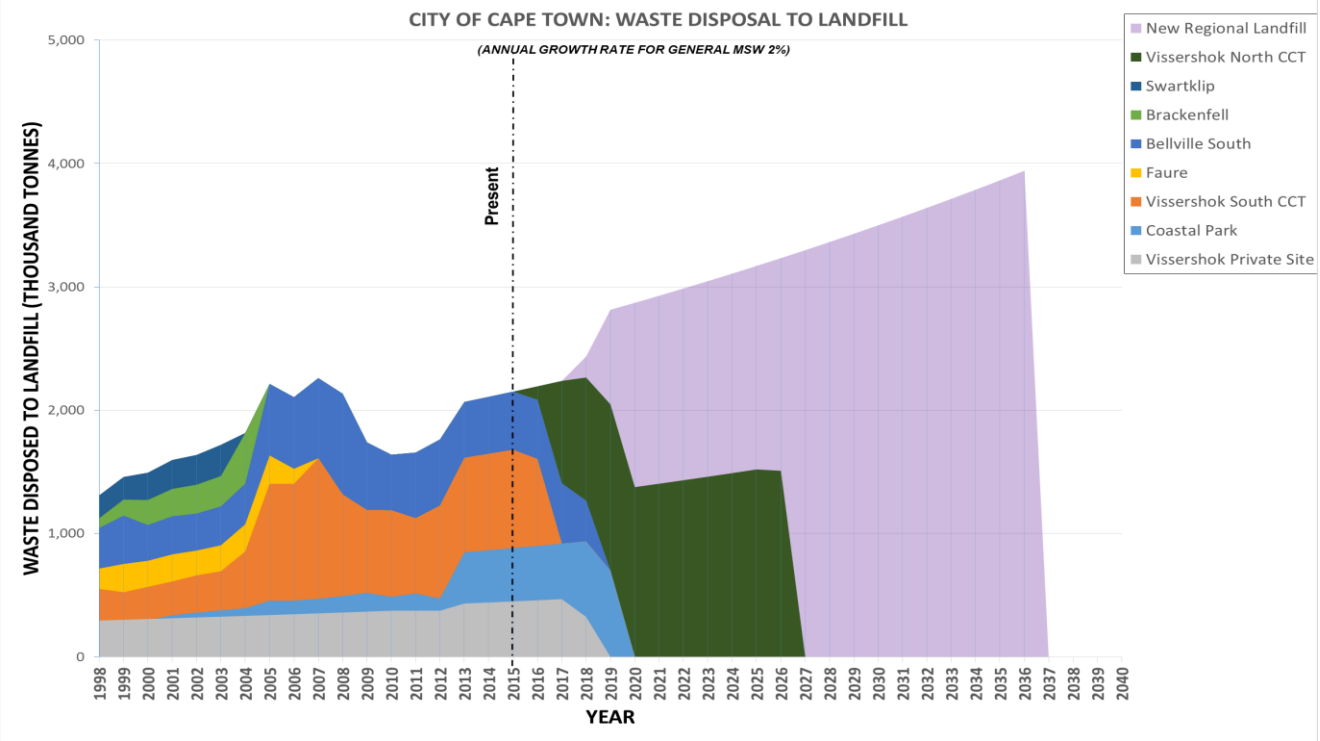


Figure 11: City of Cape Town waste disposal to landfill site.

Waste generation statistics for the period 2007 to 2015 show a gradual increase with an estimated population growth of 2.6% which included migration. The average generation rate per person/annum was calculated at 0.58 tons. By projecting the average population growth the estimated future waste generation is calculated below:

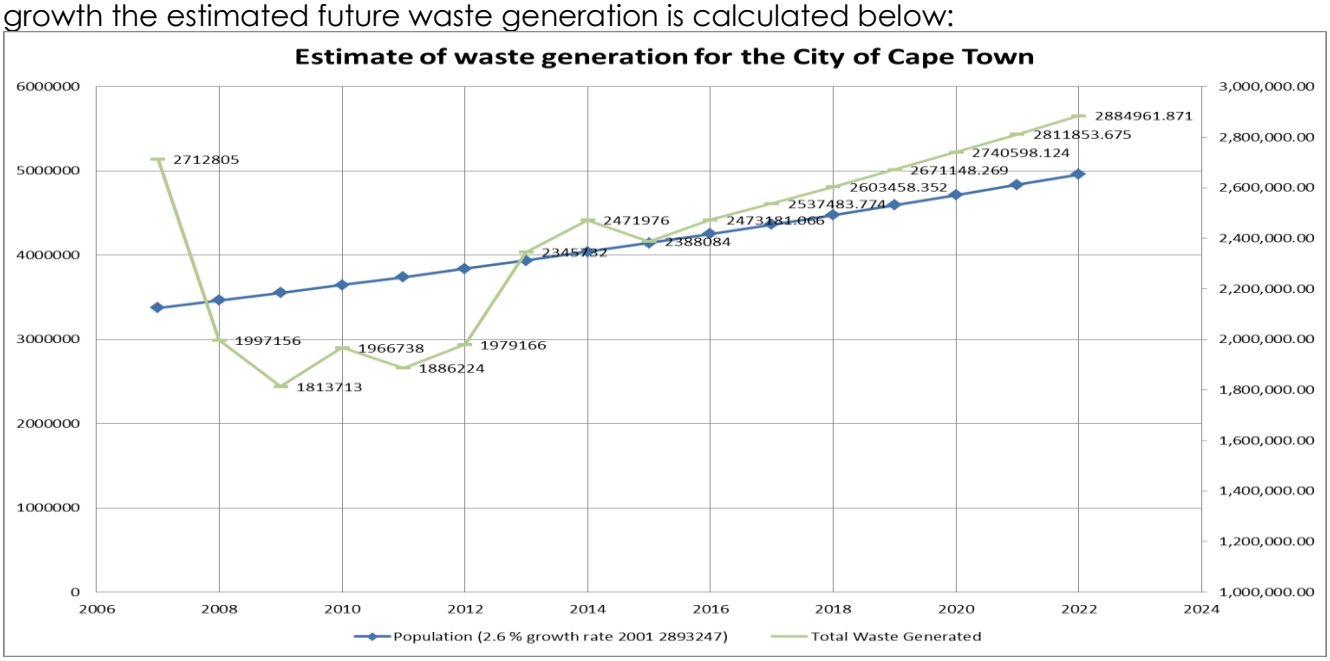


Figure 12: Projection of *waste generation for the City of Cape Town*

The need to reduce, reuse and recycle waste and divert waste from landfill has become essential with dwindling landfill space and increasing waste generation. The City has

therefore implemented various waste minimization initiatives in and supports private sector efforts to divert waste from landfill.

2.7 Waste avoidance, reduction and recycling

Waste Minimization initiatives run by Solid Waste Management Services are integrated into the core activities of the Department. The mandate to minimize waste became a statutory function under the NEMWA and the City's Integrated Waste Management Bylaw (2009, as amended). Legal opinion furthermore obtained informs that the removal of recyclable waste at source by the City is part of the municipal service. Once such waste is removed from the waste stream, the waste enters the "beneficiation stream" and no longer forms part of a municipal service.

In the MSA S.78 (3) Assessment it was concluded that not only would waste minimisation interventions require additional financial resources, but some options would be more cost-effective than other options. For example, low-volume kerbside recycling and drop-off/buy-back options in their current form are expensive options. Drop-offs have to cope with high costs of establishment in relation to low volumes of waste recovered. The assessment concluded that larger-scale MRFs, rubble crushing and chipping of garden waste (greens) as well as composting or other organic waste technology options in partnership with the private sector are more likely to be more cost-effective to the City and could divert much larger quantities of waste from landfills; however the cost and availability of capital could be problematic.

The following alternative service delivery focus areas to achieve our waste minimisation and sustainability goals in the long term were identified through the MSA S78.3 study and feasibility and risk studies would need to be conducted prior to approval by council.

Table 15: Alternative service delivery focus areas

NO.	KEY FOCUS AREAS* (MSA Executive Summary 11 Feb 2011)	DETAILED FOCUS AREAS
1.1	Group A: IWMF's	Additional and optimisation of Materials Recovery Facilities (MRFs)
1.2		Integrated waste management facilities (IWMFs) with appropriate technologies, focusing on changes in materials handling to divert waste
2.1	Group B: Recyclables Separation and Collection	Co-mingled waste recyclables collection service; feedstock for Kraaifontein IWMF and other IWMF's
2.2		Informal areas separation at source
2.3		Separate waste stream - area cleaning and education campaign (Appendix N)
3.	Group C: Sewage Sludge	Synergies between SWMD and Waste Water Branch for waste minimisation and Waste-to-Energy
4.1	Group D: Composting and Organic Waste	Radnor composting facility: Implement PPP and sell/transfer if no City alternative use for site
4.2		Consider separate collection of greens – potentially linked to composting or chipping contracts and/or

		Waste-to-Energy facilities (possible PPP)
4.3		Consider cost-benefit of reducing collection costs by promoting home composting
5	Group E: Landfill gas	Landfill gas-to-energy systems – alternative options
6.1	Group F: Management of builders' rubble and inert waste materials	Review and improve builder's rubble crushing contracts to improve quality of material and cost-effectiveness of market, supported by a policy to enforce re-use of builders rubble in Cape Town.
6.2		Establish (or co-ordinate) guidelines for suitable use of crushed rubble related to its quality
6.3		Use of policy instruments, tariffs etc. to support and improve quality of crushed builders rubble, supported by awareness creation of its quality and re-use goal for this material.
7.1	Group G: Household Hazardous Waste (Appendix T; Appendix EE	Establish 6 HHW facilities at Drop-off sites, 3 of which accept all types of HHW and remainder accept E-waste, CFL's and Batteries.
7.2		Receipt and storage is Departmental function, with bulk transfer and management a potential PPP.

*Further detail on each focus area, including sub-activities can be found in the appendices of the MSA S78.3 indicated

2.7.1. Current municipal waste minimisation activities and progress with focus areas above

The City carries out a number of ongoing waste minimization activities to reach National waste minimization targets. These include ongoing, as well as new waste minimization and related activities in response to MSA 78 recommendations, including National and Provincial targets and imperatives. The status quo (30 June 2016) of activities recorded during the tenure of the 2nd Generation Integrated Waste Management Plan are reported below:

It should be noted that a number of the focus areas above require the intervention of a Transaction Advisor in terms of assessing feasibility for potential Public Private Partnerships (PPPs) envisaged as alternative service delivery mechanisms for waste beneficiation (in terms of the MFMA Municipal PPP Regulations). This Transaction Advisor, in conjunction with a panel of qualified specialists, was appointed in early 2016, following a complex supply chain management process. The implementation of a number of the focus areas related to Public Private Partnerships will thus be dealt with in the 3rd generation Integrated Waste Management Plan.

2.7.2. Group A: IWMF's

- Since 2011, the Kraaifontein IMWF has been commissioned, and has been processing mixed clean recyclables from the City's "Think Twice" kerbside recycling collection programme, which was rolled out to an additional 45 000 households in Durbanville and surrounding areas in August 2011. The Kraaifontein Contract for Think Twice is currently in its second tender period, which will extend until 2018.
- The Athlone MRF has continued to operate in terms of its original Public Private Partnership which was extended to cover 10 years, and is due to conclude in June 2017. This MRF currently diverts an average of 3055 T/A of recyclables from landfill.
- The site selection and waste license process has been completed for an IWMF at the Coastal Park Landfill, but this has not yet been constructed.

- The Bellville RTS and drop off was completed and commission in 2016 and will become operational once the Bellville Landfill Site is closed.
- Infrastructural work has been done to upgrade the Woodstock Drop-off Site to a mini MRF, which will be linked to the Sea Point/Green Point "Think Twice" programme. Currently the waste licensing activities for this implementation are in progress.
- Specific feasibility studies to inform the further design and technology options for these and additional IWMF's will commence through the Transaction Adviser in the 3rd Generation IWMP.

Figure 13: Kraaifontein Integrated Waste Management Facility

Group B: Recyclables Separation and Collection

- The City's "Think Twice" kerbside recycling collection (separation at source) programme has been continued and includes areas along the Atlantic Seaboard, the Southern Peninsula, the Helderberg and the Northern Suburbs east of Tygerberg Hills, totaling over 120 000 households, as well as over 840 complexes and businesses in the Sea Point, Green Point, Mouille Point and Three Anchor Bay area with City waste contracts.

- "Think Twice" is a household recycling collection programme for dry-recyclables (including plastics, paper, tins and glass) using "clear" bags separately removed by an appointed contractor and taken to a material recovery facility for sorting and baling.
- To further inform the potential sustainable rollout of "Think Twice", a "Willingness to Pay" survey was carried out during 2015 with over 8000 participants throughout the City. A total of **64% of the participants indicated that they would be interested in a kerbside recycling collection service** such Think Twice, and over 80% of these were willing to pay a tariff of at least R25/month for such a service.

The City has also expanded its recyclable separation activities at its Drop-off Facilities as follows:

- Contracts for the recycling and/or re-use of all recyclable/re-usable materials have now been introduced at 20 of the City's 24 Drop-off facilities.

- Appropriate Waste Licenses were applied for and obtained for larger drop-off facilities.
- Unfortunately, due to circumstances beyond our control, 3 Drop-off facilities were required to apply for Closure Licenses during the period. 2 Waste Licenses have been received for planned facilities (Beaconvale and Prince George Drive) and 1 for an expansion to Retreat Drop-off facility.

2.7.3. Municipal office paper, used oil and scrap metal recycling programmes:

The City continues to manage contracts for the collection and sale of waste paper and cardboard, scrap metal and used oil from municipal facilities across the City, for which the Municipality receives some income, in addition to diverting this waste from landfill.

2.7.4. Group C: Sewage Sludge

The terms of reference of the Transaction Adviser have been structured in such a way that provision is made for feasibility analysis of cross-cutting waste beneficiation facilities which would require input from the City's Solid Waste Management Department and the Waste Water Branch of the Water and Sanitation Department.

2.7.5. Group D: Composting and organic waste

Since Council resolution C18/12/10. which recommended that long term PPP's be investigated for the City's Radnor and Bellville compost plants, minimal progress has been realized, due to the delays associated with the appointment of a Transactional Advisor. However, now that said advisor is appointed, it is expected that the appropriate feasibility studies will commence in the 3rd Generation IWMP.

Similarly, the linked investigations on the consideration of a separate green waste collection service to potentially be linked to a waste-to-energy or similar PPP have been placed on hold.
A pre-feasibility study (25 participants) in 2012 and a feasibility study (approximately 700 participants) in 2013-14 were carried out to assess the practical feasibility of introducing home composting to various areas in Cape Town. The studies focused on low to medium income areas in the City, and the results indicated the potential to divert approximately **17kg/household/month** of organics waste from landfill. Unfortunately, due to the dispersed nature of the home composting participants, it was not yet possible to obtain an indication of the impact this may have on Collection costs for Solid Waste Management, as envisaged.

These studies informed the approval of budget to roll-out 15 000 home composters to homeowners from 2015-16 to 2017-18, at a rate of 5000 per annum. To date (in addition to the study participants), 5500 home composters have been rolled-out to homeowners and, due to the overwhelming enthusiasm by which these were received, It is envisaged that further budget would be approved in the 3rd Generation IWMP for further roll-out of home composters

Garden waste is currently chipped at 12 facilities within the City (including drop-off and landfill sites) and this chipped green waste is composted at either the City-owned Bellville South Composting Facility or at private composting facilities around the City.

Figure 14: Home composting containers (home composters) rolled out to homeowners

2.7.6. Group E: Landfill Gas

Please note that this is not strictly a waste minimization activity, and its progress is thus reported under waste disposal and can be seen in the deliverables of the IWMP.

2.7.7. Group F: Management of builders' rubble and inert waste materials

- The City uses a significant tonnage of builders' rubble on the landfill sites, for activities such as covering the daily waste disposed of, building and stabilizing roads on the sites and capping closed cells with clay-based material. These activities allow the SWMD to realize significant savings from not needing to purchase this material. As such, since July 2015, the department has begun recording the tonnages of builders' rubble used for such activities, within our waste minimization statistics. It can be seen that a substantial amount of builders' rubble has thus been made use of.
- The City engaged a contractor during the period of this IWMP for the crushing and sale of builders' rubble, but it was found not to be economically feasible for them to crush the builders' rubble.
- As a result, this tender has been re-worked with input from industry, and it is expected that the contract be awarded in 2017
- It should be noted that, in a bid to minimize illegal dumping, clean builders' rubble is accepted at the landfills at no cost..

2.7.8. Group G: Household Hazardous Waste

- A fully fledged Household Hazardous Waste Drop-off Facility was constructed and commissioned at Athlone RTS as a pilot facility. This facility is equipped to accept all types of HHW. Should the drop-off be successful, the City may develop similar drop-off facilities if approved and funded.
- The City's Integrated Waste Exchange (IWEX) platform is a free online system that is available to business, individuals, institutions, schools, NGOs or community groups for the exchange of waste. The system underwent a major upgrade in 2015, which significantly increased its user friendliness. At the time of the upgrade, the system has over 1000 registered users.
- To further stimulate waste exchange and industrial symbiosis in Cape Town, the City supports Green Cape, both financially and with resources, guidance and networks, with its Western Cape Industrial Symbiosis Programme (WISP). The five-year cumulative impact of this programme is 5200T landfill diversion, over R13 Million cost savings and over R11 Million additional revenue for its members. The programme currently has more than 300 members. This programme has the potential to sustainably transform the way business manages its waste in Cape Town.
- The City continues to maintain, upgrade and improve its recycler's database to facilitate more aggressive marketing of anyone who is involved with providing either the public or businesses or both with recycling or waste minimisation related services.
- Recently, the City has significantly improved the public accessibility to this recycler's database, by developing a user-friendly recycling web page, which leads to a GIS-

enabled Recycling Web Portal, where residents can search on a map for their closest City Recycling Facilities, as well as the Private Recycling Service Providers in their suburb. To support this, the City employed a service provider to identify and verify as many recycling service providers in Cape Town. At present, approximately 450 recycling service providers have been identified in Cape Town, some of which still require accreditation.

- To further assist the private recycling service providers, the City has offered various types of business skills and entrepreneurial training and support, with over 50 recycling entrepreneurs having been trained.

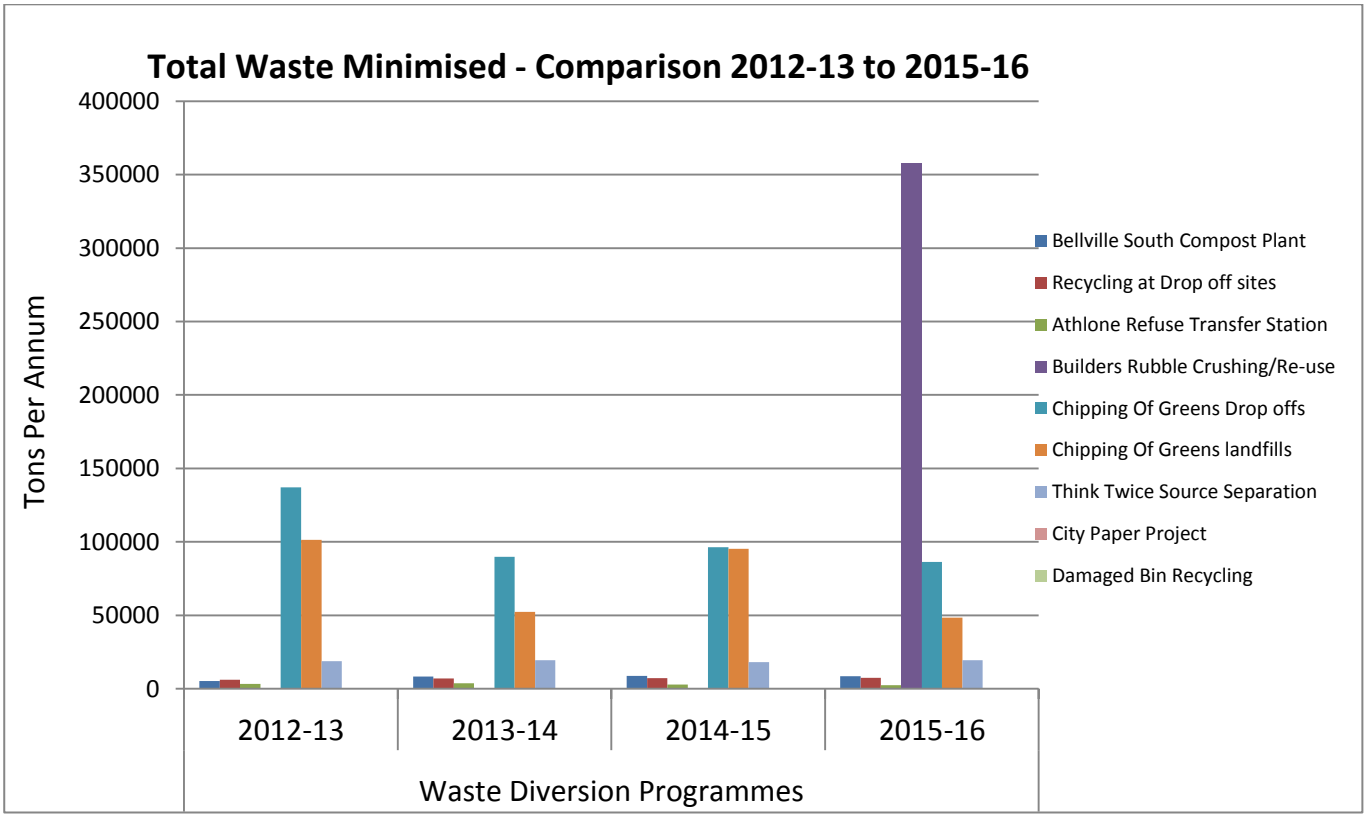


Figure 15: Waste diverted from selected City of Cape Town programme from 2012/13 to 2015/16

2.7.9. Planned Waste Minimisation Interventions

Continued waste minimization interventions are required to meet National and City Council agreed targets. These planned interventions include:

- The implementation of the Municipal Systems Act Section 78 investigation regarding the management of waste minimization through community partnerships and Public-Private Partnerships as alternate service mechanisms to aid job creation, local economic and SMME development, and to alleviate poverty, whilst improving general cleanliness conditions in the City;
- Obtaining External funding to reduce the onerous financial implications of implementing various waste minimization initiatives per the IWM Plan, especially where there are private sector economic benefits;
- The development of strategic partnerships, both financial and non-financial, with business, industry and other sectors of society to commission large scale waste minimization initiatives; A pilot project will be undertaken with CSIR to test their SASCOT model of separation at source.
- Raise capital for establishing integrated, multiple activities, where clustered waste management infrastructure exists or is being planned, such as at new integrated waste management facilities.

- The provision and expanding of garden greens management at drop-off facilities including chipping and composting;
- The identification and development of further drop-off facilities in a closer grit than the 7km radius currently provides 24 drop-off sites which the public can use for free to drop-off waste, including recyclable materials and most types of green and construction waste generated at the household level;
- The continued roll-out of outsourced recycling activities at council drop-off facilities.
- Continuation of the "Think Twice" project and planning for the expansion

Figure 16 : City of Cape Town waste minimization initiatives

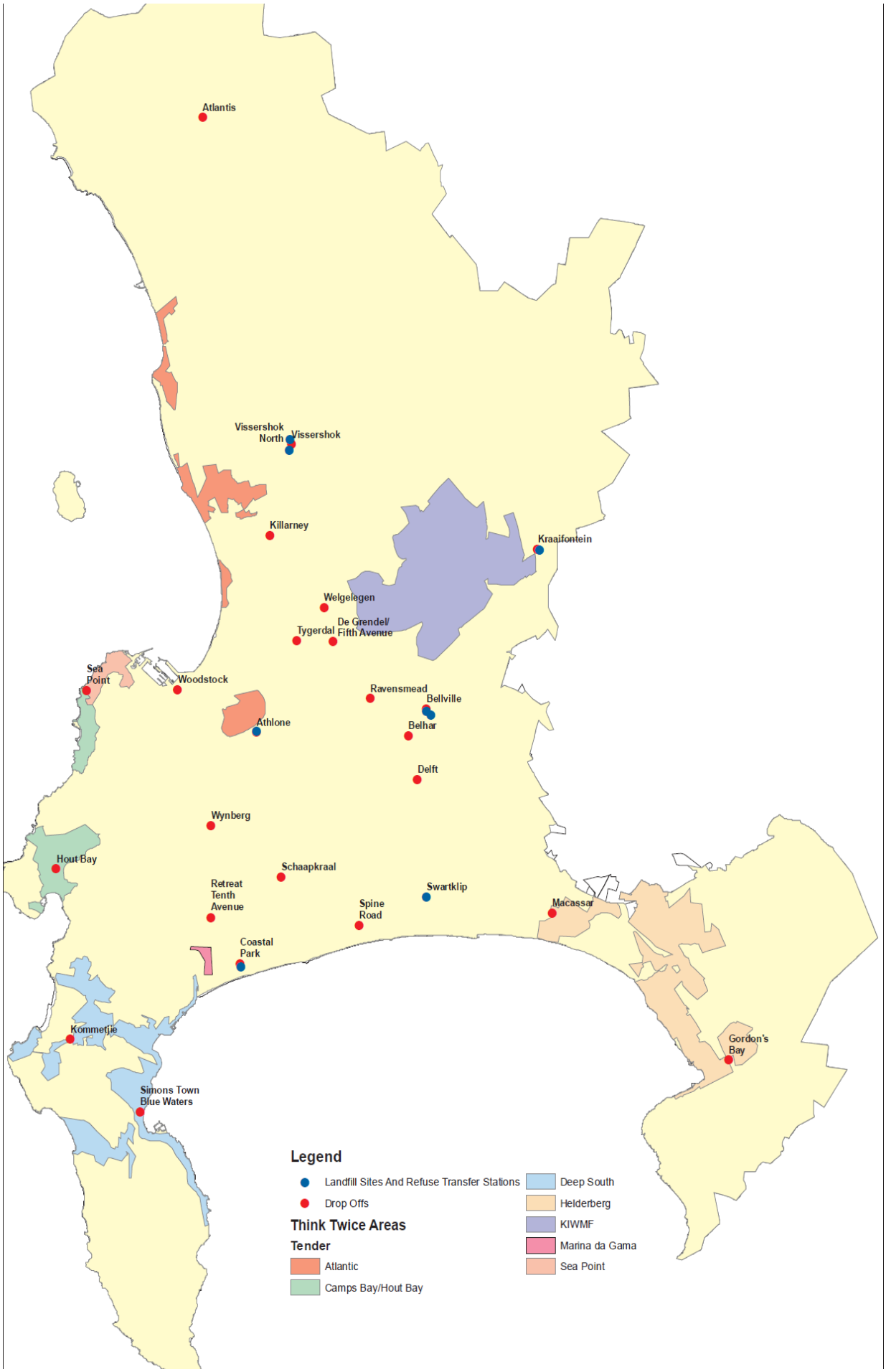


Figure 17: Think-twice areas

2.8 Operational Structure and Staff Capacity

The IWM Plan and approved IWM Policy enables the City to ensure and regulate the provision of waste management services, either through internal or departmental services, or external service mechanisms, where City has to act as a Service Authority in terms of the MSA, to execute its Constitutional mandate. The policy applies in the Cape Town municipal area, as defined by the Demarcation Board. The City of Cape Town's Solid Waste Management (SWM) Department is the service authority and regulator of waste management activities in Cape Town, as per the system of delegations and the municipality's executive powers conferred on it by law.

The City provides the following services in the metropolitan municipal area;

1. The management and minimization of waste that will be collected, sorted, diverted, processed or treated through City waste minimization initiatives.
2. The management of waste that will be disposed of at a Council licensed landfill sites or any other waste management facility under its direct control;
3. The management of waste generated at residential and business premises as well as the regulation of entities doing business or providing any form of private, public or community service requiring waste management services;
4. The management and regulation of all waste that may include liquid or fluid wastes, which are generated in the municipality, with special provisions on the handling, processing, treatment and disposal of hazardous waste, as well as waste generated by the health services industry (including veterinary services);
5. The regulation of waste crossing the City's boundaries to ensure proper management, recycling and disposal.
6. Creating awareness of the impact on waste on the environment and human health.

Whilst the City employs a dedicated staff complement for the provision of various waste management services, the extent of population and City growth in geographic terms need to be offset against budgetary, infrastructure, equipment and staffing constraints and balanced by community needs. Service delivery may be ensured through a combination of mechanisms that include City staff, equipment and infrastructure, EPWP-type projects, SMME and community contracting initiatives related to community-based service programme, and private sector services, which may also include partnerships.

The City's staffing requirements to sustain the implementation of the IWM Plan and the concurrent management of and/or provision of waste management services in the long term are mainly influenced and determined by, and must be balanced against:

- Annual budget allowances and allocations made by National Treasury;
- Statutory requirements in respect of environmentally-sustainable waste management;
- Statutory requirements and provisions for financially sustainable and affordable municipal services;
- The availability and affordability of other funds for the procurement of assets and the development of infrastructure for the management of waste, or for the implementation of extraordinary or special programme and projects;
- The urban growth and development strategy adopted by the Council in anticipation of the City's net population and economic growth, balanced against the needs of its citizens;
- The City's policies linked to the National Government's Poverty Relief Strategy, Expanded Public Works Programme and SMME development;
- Extraordinary programme, such as Urban Renewal;

- *Non-routine major and international events hosted in the City of Cape Town;*

2.8.1. Role of the Waste Management Officer

Section 10(3) of the National Environmental Management: Waste Act, 2008 requires the City to designate in writing a waste management officer: "*Each municipality authorised to carry out waste management services by the Municipal Structures Act, 1998 (Act No.117 of 1998), must designate in writing a waste management officer from its administration to be responsible for co-ordinating matters pertaining to waste management in that municipality.*"

The City has designated a Waste Management Officer in its Integrated Waste Management By-Law, 2009, as amended, in terms of the definition in section1: "*Waste management officer*" *means the Director: Solid Waste Management or an officer referred to in section 25 of this By-Law.*" Section 25 of the By-law confers the following functions and powers on the waste management officer: *The waste management officer shall be responsible for regulating, controlling, managing and enforcing the provisions of this By-Law and national and provincial legislation relating to waste management.*"

To confirm the abovementioned, and to comply with Section 10(3) of the National Environmental Management: Waste Act, 2008 and the Integrated Waste Management By-Law, 2009, as amended, the City Manager has appointed the Director: Solid Waste Management as the City's Waste Management Officer, responsible for co-ordinating matters pertaining to waste management.

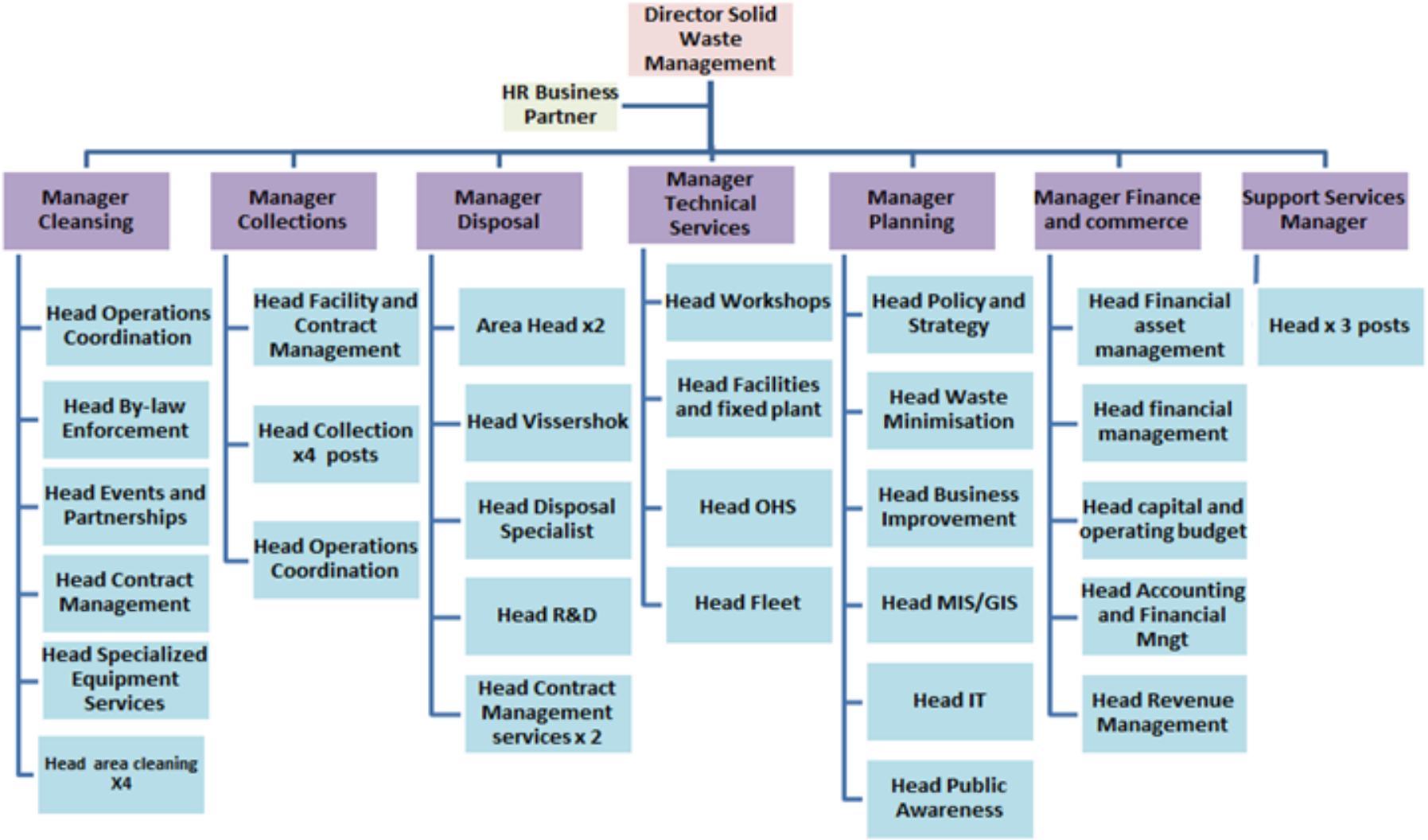


Figure 18: solid waste management organogram

The Solid Waste Management Department comprises of the following branches; Collection & Drop-offs, Cleaning, Disposal, Planning and Support Services. The Director, who is also designated as the Waste Management Officer, is responsible for coordinating all matters pertaining to waste management within the City.

Currently the service is divided into 4 areas with the civic centre being the central coordinating office. One of the objectives of the department is to continue with the alignment of the depots with staff to achieve improved service efficiencies, equitable and predictable service, and to improve asset utilisation, access and use by the public.

The Solid Waste functions are divided and it can be clearly seen that bulk of the staff complement sites with the cleaning and collections function as they cover the greater part of the Metro.

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The current (2016) staff complement of the Solid Waste Management Department is depicted in the table below

Table 16: SWM staffing complement

BRANCH	NO OF EMPLOYEES
Cleansing Total	1,644
Collection and Drop-Offs Total	1,058
Director's Office Total	3
Disposal Total	246
Finance & Commerce Total	32
Loss Control Total	14
Planning Total	38
Support Services Total	25
Technical Services Total	167
GRAND TOTAL	3,227

To give effect to the deliverables in this IWM Plan the staff requirements would be reviewed as new facilities are commissioned, alternative service delivery mechanisms are introduced and service requirements or methodologies change.

2.8.2. Waste Disposal

There is limited airspace available at the City's three operating landfills. The City has managed to extend the closure of the Bellville landfill until 2018. A basic assessment process has also been initiated to obtain authority to increase the capacity of the Vissershok landfill. The final Basic assessment report (BAR) was submitted to the competent authority for a decision and the City awaits further communication in this regard from DEA.

The process of identifying a new regional landfill site continues. Following an extensive technical process that commenced in 2000, a subsequent scoping and a supplementary EIA process on two shortlisted sites, a record of decision was issued during 2013 in favour of a site near Kalbaskraal. An appeal has however been received, which is still being addressed.

A legal process still ensues with the Department of Environmental Affairs as the first respondent and the City of Cape Town as the second respondent. It is uncertain as to when this will be resolved at this stage. If approved, this site will assist the City in carrying out its constitutional mandate to provide essential services to its residents in terms of adequate and legal disposal of solid waste. Essentially, it will form part of an integrated approach in order provide more time to achieve minimisation targets and to reduce the amount of waste requiring final landfill disposal. The regional landfill site

will also assists neighbouring municipalities who have very limited landfill airspace to extend the lifespan of the landfill sites and provide a space for disposal should landfill space be depleted.

The branch is also responsible for the operation and maintenance of disposal facilities, as well as the capping and rehabilitation of landfill site. The closure of landfills is undertaken according to regulatory requirements and maintained and monitored for a period of up to 50 years post-closure or when the landfill becomes environmentally dormant/ inactive. The City has commenced with the capping and rehabilitation of a number of closed landfill sites and completed cells at existing landfill sites. A programme is currently in place to systematically address the back-log of sites that require capping and rehabilitation.

The City falls within a rainwater surplus region (in terms of the water balance between precipitation versus evaporation) which requires that special collection, treatment and disposal systems and management are implemented to prevent contamination of groundwater and other detrimental environmental impacts caused by leachate generation. The City has one leachate treatment plant located at the Vissershok H:h landfill site. The waste Disposal branch currently operates two GLB+ general waste disposal sites (Coastal Park and Bellville South) and one H:h selected hazardous waste disposal site (Vissershok South). The Vissershok South waste disposal site is planned to expand northwards (the "Triangle" and Vissershok North sites).

The City also operates three waste transfer stations at Athlone, Swartklip and the Kraaifontein transfer station which were commissioned in September 2010. A further two transfer stations (Tygerberg and Helderberg) are in the in the planning stages where the sites for these two proposed facilities have received approval and operating permits. Currently the City is recovering recyclables at the Athlone Refuse Transfer Station (ARTS) which has been re-designed to provide the function of a dirty MRF for various waste sources (e.g. contaminated but selected packaging waste containing household wastes from high income areas and recyclable-rich litter fractions.

Hazardous wastes are currently disposed of to either the municipal owned-and-operated Vissershok South landfill (specifically defined low hazardous wastes – H:h) or the privately owned-and-operated Vissershok Waste Management Facility (extreme/high-rated hazardous substances H:H).

The recovery of landfill gas from the larger closed and operating landfills for beneficial use (methane gas-to-energy) is currently being investigated by the City in partnership with the Central Energy Fund (CEF). Capital funds have been allocated for the installation of gas recovery infrastructure at landfill sites up to flaring stage for operating sites

2.8.3. Disposal Services provided by the City

The City must ensure the provision, safe operation and availability of a variety of licensed disposal facilities, equipment and related infrastructure. This ranges from, but does not exclude alternative disposal infrastructure and technologies that may be needed to be introduced or established in future.

Landfill sites, which are licensed in accordance with the requirements of the National Water Act, and the Department of Water Affairs and Forestry guidelines and the National Environmental: Waste Act.

Table 16: Depict City of Cape Town waste statistics in tonnages

CITY OF CAPE TOWN WASTE STATISTICS FINANCIAL YEARS	13/14	14/15	15/16
Waste Entering Disposal Facilities over Weighbridge			
General Waste	1813758	1365426	1157631
Hazardous Waste	21949	19813	22773
Total Incoming General + Haz Waste Landfilled	**1835707**	**1385240**	**1180404**
Builders Rubble (BR) entering Landfill sites **stockpiled** for cover, slope or roads	347033	892692	1090995
Garden Greens (GG) entering Landfill sites to be c**hipped**	83352	9775	10710
Total Incoming Waste sent for BR Stockpile or GG Chipping	**430385**	**902468**	**1101705**
Total Incoming Waste (Tons)	**2266093**	**2287709**	**2282110**
Total Waste Diverted from Landfill	**182287**	**229463**	**502805**
Total Waste Generated	**2395965**	**2507396**	**2443147**
% Waste Minimisation (based on Council activities and disposal sites)	**7.61%**	**9.15%**	**20.58%**

2.8.4. Waste Collection

This section provides collection services to residential and some non-residential properties as well as the management of various City owned public waste drop-off facilities. Four main depots with a number of sub-depots are used to provide a base for delivering the collection services. Waste is currently collected from approximately 820 000 domestic and commercial service points throughout the City.

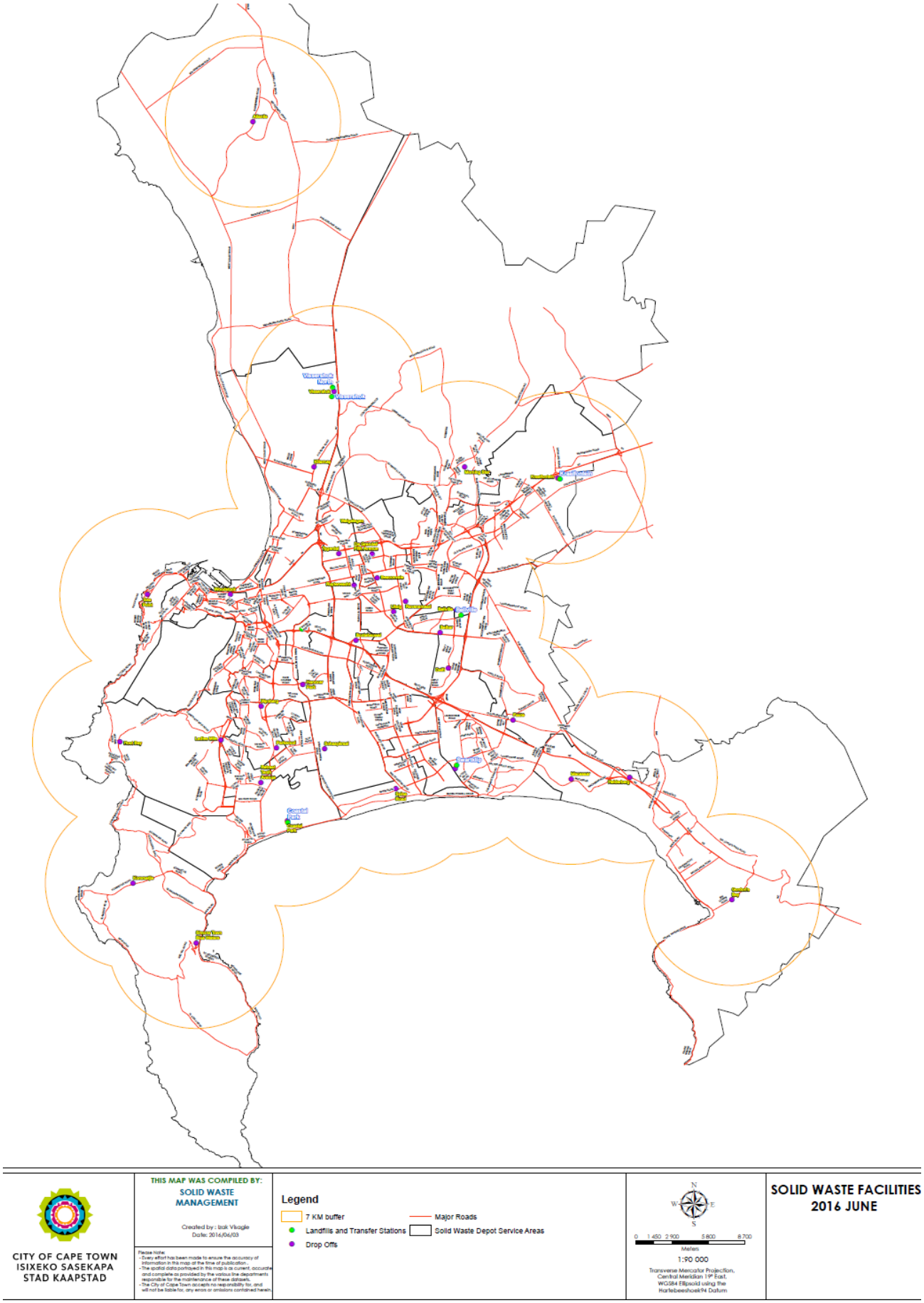

Figure 19: Map indicating the 7km coverage of waste drop off facilities throughout the City

2.8.5. Area Cleaning

The branch is responsible for multiple functions such as street and area cleaning, animal carcass removal, cleaning of sandy areas and clearing of illegally disposed waste.

Integrated refuse collection and area cleaning services in informal areas are provided through private contracts where labour is sourced from the local community. This practice is considered best national practice to service informal settlements.

2.8.6. Area Cleaning Services provided or managed by the City

The City is responsible for ensuring general cleanliness in public spaces in its area of jurisdiction in terms of its Constitutional obligation for cleaning and cleansing in a municipal area. A "boundary-to-boundary" principle is followed to ensure that public places that the City is responsible for, are maintained according to the policy. The City provides services through both internal and externally-contracted mechanisms, which include community partnerships, to maintain cleanliness and hygiene standards. Cleaning services consist of:

1. The provision and servicing of street litter bins where necessary;
2. Litter picking where required;
3. Street sweeping;
4. Street cleansing through the use of water tankers;
5. Beach cleaning in accordance with the National Coastal Management Plan and the Council's Beach Cleaning Policy (2004);
6. The clearing of illegal dumping.
7. Animal carcass removal from public space.
8. IWM By-law Enforcement
9. Contract management for tenders related to informal settlement waste collection and cleaning.

Illegal disposal of waste remains a challenge within the City's jurisdiction. The City has recorded a decline in illegally disposed waste quantities. It was discovered that this decline is not necessarily due to improved behaviour but closely attributed to reduced resources for cleaning and disposing at disposal facilities. The City needs to develop intervention measures for addressing illegal dumping.

2.8.7. Technical Services

The section is responsible for the asset management, requisition, management and maintenance of the SWM fleet, facilities and workshops. They are also responsible for occupational health and safety regarding the SWM technical operations.

There are dedicated facilities for the safe storage and maintenance of fleet used in providing solid waste services to the public. These include heaving industrial machines such as compactors, compactor vehicles, excavators, front end loader as well as commercial vehicles. There general inspection and minor services are undertaken and major services and repairs are outsourced to various external and specialist service providers. These services are either undertaken in workshops, on solid waste facilities or booked in at vendors.

The usage of all fleet is strictly monitored to assess usage, age and servicing requirement to ensure effective use. The fleet age is monitored to ensure that they are replaced after a certain period of time to ensure a functional fleet at all times.

All assets are registered on SAP and maintenance is done via the Technical services department together with other City departments. The outsourcing for specialist repairs is also initiated by line management with the support of the technical services department.

The health and safety section of technical services have a dedicated team that deals with all risk related to the Solid Waste Management Operations and activities. The team provides technical support to line management and ensures compliance and reporting in the event of injuries, accidents and health and safety compliance.

2.8.8. Planning

2.8.8.1. Policy and Strategy

This section provides regulatory services and ensures compliance with waste management statutes. This is done through:

i. continuous engagement with line management on initiative to give effect to legislation and regulations applicable to the waste management
ii. identifying and addressing any risks to the business and addressing risks
iii. providing technical support to line management and industry related to legislation, regulations and solid waste policy
iv. regulation of the Integrated waste management By-Law 2009 as amended
v. accreditation of waste service providers and industry waste generator industry waste management plans
vi. approval of building waste management plans as part of the building planning process
vii. engagement with National and Provincial authorities on matters of common interest
viii. engagement with industry to ensure compliance with waste regulation, policy and by-laws
ix. to develop, review and update all solid waste management policy, plans and by-laws
x. provide input into all City policy and strategies and environmental applications

2.8.8.2. Business Improvement

The Solid Waste Department has a dedicated business improvement section that provides support to line functions in improving operational efficiencies and development and streamlining of processes and procedures. The section exists to give effect to the MSA chapter 8 section 73 (2) which states:

Municipal services must-

- be equitable and accessible:
- be provided in a manner that is conducive to-
- the prudent, economic, efficient and effective use of available resources;
- the improvement of standards of quality over time;
- be financially sustainable;
- be environmentally sustainable; and
- be regularly reviewed with a view to upgrading, extension and improvement.

It is understood that with continuous improvement of the business processes, efficiency, sustainability and capacity can be improved and ensuring that the municipality can therefore provide a sustainable service at the best quality and lowest cost to the community.

2.8.8.3. Green Procurement

The City subscribes to the principle by which it will procure goods on a preferential basis from manufacturers, agents and providers that undertake to minimise waste during production and manufacturing, and who align their production and waste management policies with EPR guidelines. The City has a draft policy on green procurement which the Solid Waste department is involved in drafting and will subscribe to.

2.9 Waste Awareness and Education

The City has embarked on the Public Awareness and Education programme designed to integrate and supplement all efforts to minimise waste, combat illegal dumping and littering within the City. The fundamental principle of the programme is to support the creation of waste minimisation, encourage a no litter and dumping behaviour by employing numerous waste awareness and waste education programmes.

The aim of the programme is to encourage communities to take ownership, practice responsible waste management and take care of their environment. Therefore, programmes have been strategically designed and projects conceptualized and developed to be implemented at various target groups, internal to the City of Cape Town as well as various external groups such as schools, communities, organisations, institutions and business markets.

Key Strategic Programme
- Broader Public awareness programme
- Education and schools recycling Programme
- Communications (incl. marketing) Programme

Listed below are a few of the many projects conducted within this function.

2.9.1. Sustainable long term
Broader Public Awareness Location: City Wide

The broader public awareness and education strategy focusses on a broad range of activities from schools to communities, internal staff to external market, which aims to achieve meaningful engagement with schools and Cape Town's various target stakeholders. Listed here as some of the projects for this programme;

2.9.2. Learning institutions: Waste education and awareness
Location: City Wide

This waste Awareness programme provided at schools, institutions and various places of learnings. It was developed to plant the seed on good waste management practices from the onset at home. The Learner would be taken through a waste journey on how to recycle, what to recycle and how to dispose of the waste responsibly. The project also aligns itself to:

- our integrated outcomes based schools waste education project

- the training and development programmes for staff
- special projects

This programme focuses at places of leaning such as tertiary institutions, colleges, technical colleges and institutions.

The second element of this programme aims at waste training and development component that to provide target audiences with the necessary skills to improve their waste educational level. It also prepares the learners to develop entrepreneurial skills.

2.9.3. Councillor Awareness Programme
Location: Council specific

Ensure sustainable waste education and awareness to Councillors, through knowledge sharing and building of waste expertise. The objective of this programme is to assist Councillors to encourage good waste management practices within communities and for them to see the value of waste.

2.9.4. Informal areas/ markets
Location: City Wide

Engagement with informal communities on their waste management needs and finding solutions to key challenges. Broad objectives of projects within these target audience were:

- Ensure participatory engagement processes appropriate to the local community.
- Encourage and formalise Partnerships we possible between various participants that could lead to self-sustaining projects or beautification projects.
- Share knowledge and create the understanding of waste by developing appropriate educational materials.

2.9.5. Increase Visibility of Waste Management Services.
Location: City Wide

Showcasing Solid Waste Management services at various platforms to create awareness and visibility.

2.9.6. Waste Tours
Location: Site Specific

Guided waste awareness facilitated tours to various Solid Waste Management sites. It aims to provide continuous waste awareness to schools, learning institutions, the broader public and visitors to the City.

2.9.7. Waste Education and Training
Location: Site Specific

Provide education and training to SMME's who wants to enter the waste sector and to educate on best practices and compliance. Provide training on how to conduct a sustainable business in the waste industry.

2.9.8. Information Dissemination
Location: City wide

Provides Solid Waste Management the support to communicate to the residents of Cape Town on its operational requirements including services it renders. All information shared is done in collaboration with the Cities Integrated Strategic Communication and Branding office, the media office and Mayoral Committee member's office of the Utility Services. Therefore communications is operational bound and aligned to positive messaging for effective service delivery.

2.10 Waste Information Management

The municipality has operating weighbridges at all its facilities (excluding drop-offs), which are used for the recording and measuring of waste entering facilities and final disposal thereof. Additional data captured includes waste type, feeder area, service provider, vehicle detail, time and date of disposal. Special waste requires a permit, issued by Disposal after analyses of waste, for disposal at Vissershok (H:h) landfill.

All SWM waste information is stored in a centralized database which is managed by the departments IT section.

Since 2010/11 the municipality attended various IPWIS workshops and training sessions to ensure alignment with IPWIS. The City's licensed facilities are all registered and reporting to the Provincial IPWIS. Continuous efforts are made to ensure alignment of the City's systems and processes with IPWIS and SAWIS.

SWM has a fully developed spatial viewer and database on all:
- SWM disposal, drop-off and depot facilities,
- Services,
- Refuse collection beats,
- Informal Settlements
- Property information
- Servicing depots,
- Disposal facilities,
- Drop-off facilities,
- Informal settlements,
- Sub-Council/Ward information
- and Ward Councilors.

Other databases and high-level business and management information include:
- Spatial plans
- Staffing records
- Budgets and expenditures
- Revenue
- Property records
- Demographic records

3 GAPS AND NEEDS ANALYSIS

3.1. GAPS ANALYSIS

This entails the identification of goals, objectives and targets which the City intends to achieve in the five (5) year period (2017- 2022). In analysing the gaps within the service, it is crucial to indicate the overall goals that the department wishes to achieve as

envisaged in the departmental vision. An analysis is then carried between the status quo and the desired objectives and the difference will then be identified as a gap. In addition, the City's strategic policy direction, the amended/ new Provincial and National legislation as well as 2nd Generation WCIWMP will serve as key drivers to the development of objectives.

3.1.1. Key Strategic drivers

Key strategic drivers informs the approach towards managing and addressing gaps and needs in Solid Waste Management service delivery plans and which is summarised as follows:

Table 18: Key strategic drivers

Key Legislative References	Integrated Development Plan Integrated goals	Equity Service Framework
1. Constitution of the RSA, 1996 2. Local Government Municipal Systems Act, 32 of 2000 3. Local government Municipal structures Act 4. The National Environmental 5. Management Act No 117 of 1998 6. . Municipal Finance Management Act, 56 of 2003 7. National Environmental Management Waste Act 59 of 2008 8. National Environmental Management amendment Act 2014 9. National Waste Management Strategy of 2011 10. Waste information Regulations 2012 11. Waste classification and Management Regulations 2013 12. National Waste Pricing Strategy 13. National norms, standards and Policies 14. Western Cape 2nd Generation IWMP	The City identified five strategic focus areas (SFAs) based on the inputs from the community. These are: 1. The opportunity City; 2. the safe City; 3. the caring City; 4. the inclusive City; and 5. the well-run City. **Priority 1:** Excellence in basic service delivery **Priority 2:** Mainstreaming basic service delivery to informal settlements and backyard dwellers **Priority 3:** Safe communities **Priority 4:**Dense and transit oriented urban growth and development **Priority 5:** An efficient ,integrated transport system **Priority 6:**Leveroging technology for progress **Priority 7:** Positioning Cape Town as a forward-looking, global competitive business City. **Priority 8:** Resource efficiency and security **Priority 9:** Building integrated communities **Priority 10:** Economic inclusion **Priority 11:** Operational sustainability	1. Service Equity 2. Service provision balanced with viability principles 3. Service Delivery mechanisms 4. Stable Rates & Tariff structures 5. City's viability 6. Complexity of balance 7. Sustainability & affordability 8. Geographical definition (areas, districts, depots) 9. Cleaning demand (formal & informal) 10. Collection format (containerisation) 11. Disposal (facilities) 12. Community Education 13. Waste minimisation 14. Waste information and reporting 15.Monitoring, performance management

3.1.2. Key Strategic Issues and Challenges in Cape Town

The following issues remain challenges in the delivering of waste management services and meeting the 2nd Generation IWMP objectives in the City. Certain issues were raised in the stakeholder and community engagements held for the IWMP and the IDP. These issues included the following:

1. Illegal dumping in areas and stricter enforcement;
2. The need for improved cleaning;
3. Need for additional bulk storage (shipping) containers in informal areas;
4. The need to increase the roll-out of separation at source services to more communities;
5. The need to increase recycling by residents in certain areas;
6. The need to include private sector waste operators during planning;
7. Consider the regionalization of waste facilities and services;
8. Consider the use of rail transport for waste movement from City waste facilities;
9. A collaborated effort with CID's to keep CBD's clean;
10. Increase diversion of waste from landfill;
11. The need for improved waste collection service to informal areas and backyarders.

Achieved	
Partial achieved	
Not achieved	

Table 19: Depicts IWMP Gaps identified

OBJECTIVE - 2nd GENERATION IWMP	STATUS	CHALLENGES IDENTIFIED
Implementation of "Think Twice" (at-source collections) and commissioning of Kraaifontein Integrated Waste Management MRF		Achieved, Kraaifontein Integrated waste management MRF was commissioned and current Think Twice footprint = 173 233 households and 847 businesses & blocks of flats.
Continue to monitor and evaluate the efficiency of a residential split-bag waste collection ("Think Twice") pilot project in 5 areas (200 086 households) that gives effect to the separation-at-source principle, already started in Aug 2007;		Various Models and collections methods have been assessed in different areas within the City. The current Think Twice covers various areas in the City and the use of a bag system is currently being done. Decisions to be made to roll out containers instead of bags and further roll out of separation at sources to be considered. Ongoing monitoring to be done.
Institute aggressive waste management, minimization and reuse of demolition /construction rubble through the establishment of rubble crushing plants.		Waste Minimisation has been instituted at all City Waste Drop off sites, for recyclables, garden greens and second hand goods. 5000 home composters have been rolled out to residential properties. The re-introduction of rubble crushing at City landfill sites will be done in 2017.
Improve access to basic waste management services (cleaning, collection and disposal), minimize (reduce and divert) waste to landfill.		Access to basic waste management services is at an acceptable level and will be maintained with investigations into servicing of backyarders on City owned properties.

Roll-out of a mini-MRF's (material recovery facilities) – a 2010 initiative (Russell Street);		One Mini MRF developed at Sea-point; Russell Street Mini-MRF declined by residents Concept of Mini-MRFs replaced by Drop-Offs or Satellite Drop-offs
Development of drop-offs and satellite drop-offs- to meet demand in all areas		Objective was met to develop drop off facilities within a 7 km radius. Ongoing challenge with dumping sparks the need to review distance and development of additional drop-off facilities.
Continue with implementing a split bin litter system in strategic public areas;		Tested in 2010 context and did not succeed, due to additional pressures during this period.
Implement the comprehensive MSA S.78 (3) assessment into alternate service delivery mechanisms, particularly focused on changes to the Council's waste management system to incorporate large scale waste minimisation.		MSA Assessment Study completed. Appointing a Transaction Adviser to carry out the specific feasibility and risk assessments and related work required for full implementation of MSA S78.3 recommendation was done January 2016.
a. Waste-to-energy (or energy-from-waste) synergies are investigated in respect of organic solid waste and sewerage sludge, and initiates projects as soon as possible, in support of Council's Energy Policy and targets;		Now that TA is appointed, can expand the specific scope of this deliverable in terms of the TA's work.
b. The Solid Waste Management Department reprioritizes and amends its medium to long-term capital works programme, its proposed capital or operating budgets to include the alternative service delivery mechanism mentioned in the report;		Achieved, however, further prioritization will be needed when results of the TA research are made available.
c. The Solid Waste Management Department is authorized to initiate the process to generate alternative (non-Council) funding through Public Private Partnerships (PPPs) for the implementation of initiatives for which the detailed feasibility and risks are to be determined during the PPP process, viz:		Now that TA is appointed, scope of works includes initiation and the detailed feasibility and risk assessment related to PPP.
i. Upgrading the Material Recovery Facility and expanding capaCity of the Athlone Refuse Transfer Station to also include Energy-from-Waste infrastructure;		Not yet done, due to delays associated with TA appointment, and also ARTS precinct planning.
ii. Incorporating an appropriate mixture of processing and Energy-from-Waste infrastructure at the Kraaifontein Integrated Waste Management Facility;		Pilot project was initiated with JICA to convert plastics to biodiesel. The pilot was later not considered for sustainable consideration due to limitations in the types of materials to be used in the plant. TA to advise on ASD options
iii. Establishing a fully integrated facility at the planned site at the Bellville South Landfill;		RTS and drop-off constructed. Remainder not yet done, but plans are in place for upgrading over the next few years.
iv. Establishing Energy-from-Waste infrastructure and other infrastructure as deemed feasible according to plan at the Swartklip Refuse Transfer Station;		TA project underway to assess ASD options
v. Establishing a fully integrated facility at the planned site as deemed feasible according to plan in the Helderberg area;		Feasibility done

vi. The Solid Waste Management Department initiates and registers all Council-approved waste minimization and certain Energy-from-Waste PPP initiatives with the National Treasury as soon as possible, and project manages these as a programme to improve administrative and other efficiencies to avoid further delays;		Part of TA scope of works
x. An inter-departmental task team is established by the Solid Waste Management Department to agree on policy for the reuse of recycled materials or implementing a separation and disposal mechanism for the re-use of recovered and processed materials in Council projects (e.g. crushed builder's rubble).		Task team established but not effective, no basis for policy. City's green economy and sustainable procurement policy framework - soon to be finalized - can in future be utilized as a basis to motivate these activities.
xi. Council's Procurement Policy and goods contracts to include standard requirements for recycled material in terms of "green procurement" principles as a means to stimulate local consumption of recycled goods.		City's green economy and sustainable procurement policy framework - soon to be finalized - can in future be utilized as a basis to motivate these activities.
xii. The Socio-Economic Development Department liaises with the Utility Services Directorate prior to any work to being undertaken via WESGRO or any other agency in respect of matters that could enhance opportunities for waste minimization or energy, or other matters related to the services provided by the Utility Services Directorate.		No interaction with WESGRO. However, a link has been developed with Trade and Industry Department, as well as Green Cape, to support and partner on the Western Cape Industrial Symbiosis Programme (WISP). This also links in with our IWEX programme.
Appointment of Transactional advisor and establishment of PPP`s regarding waste beneficiation and alternative-technology disposal facilities to give effect to Council`s adoption of the MSA S.78 (3) recommendation, evaluation of feasibility of the PP`s will be conducted in 2013/2014 financial year;		Achieved, transactional advisor appointed
Continue with public education and awareness programmes regarding waste management and waste minimization		Achieved

In considering all the inputs provided through the Public Engagement sessions and internal stakeholder engagements, the Objectives and Targets have been set to address the Gaps and concerns raised by the residents of the City.

4 OBJECTIVES AND TARGETS

4.1. SETTING STRATEGIC GOALS, OBJECTIVE AND INDICATORS

Solid Waste Vision

The City's Solid Waste vision serves as a compass upon which goals and objectives will be developed.

The vision aims to integrate waste management services in such a way that they are able to not only provide basic services, but to augment economic activity and minimise the effects of waste on human and environmental health.

The long-term vision for the Cape Town Waste Management sector is -

- to improve access to basic services for residents to as close to 100% as possible within the constraints of available funds and unplanned growth;
- to develop multiple integrated initiatives that will reduce waste and the associated impacts substantially as well as contribute to and support economic development;
- to generate other sources of funding for integrated waste management through Public-Private Partnerships within the Cape Town municipal area.
- to improve the income generated by the Council's waste services;
- to optimise the utilisation of the Council's resources and capital; and
- to regulate waste and the associated services that will ensure sustainability and prevent impact or harm to people and the environment.

In developing the objectives, the gaps and community needs identified during the status quo analysis of the 2nd Generation IWMP, the strategic planning of the City (IDP) and other legislative requirements from the national and provincial government were considered.

The following critical success factors are required in achieving the determined objectives and deliverables.

a. Adequate capacity for service delivery in terms of staffing, resource allocation, expenditure and procurement approvals;
b. Realistic adjustment to tariffs and the introduction of new tariffs for services provided to ensure that increasing capital and operating requirements can be funded sustainably;
c. Accurate and complete billing with effective revenue management;
d. Management of all contracts to ensure performance and delivery;
e. Public private partnerships or alternate funding mechanisms for alternate technologies to landfill to provide for growing capital and operational waste management needs and develop capacity to minimize waste to landfills.
f. Implementation of the Integrated Waste Management By-law that can be used to enforce waste minimisation initiatives needed to meet policy and national targets

STRATEGIC PROGRAMMES, GOALS & OBJECTIVE WITH DELIVERABLES

1. Complete the roll-out of landfill gas extraction and flaring at Coastal Park, Bellville South and Vissershok Landfill Sites.

2. Finalise the Transactional Advisor Project flowing from the MSA S78.3 Recommendations (2011), investigating Waste-to-energy (or energy-from-waste) synergies in respect of organic solid waste and sewerage sludge, and to were deemed feasible initiate projects as soon as possible, in support of Council's Energy Policy and targets.

   a. Complete inception stage: (Planning, Scoping, Project Preparation);

   b. Complete inception projects to inform cluster projects for assessment as potential partnerships;
      i. Appointment of external Coordinating and Management Entity (CME) to manage carbon in terms of CDM or SA carbon offset legislation;
      ii. Inception project 1: Resource Economy study;
      iii. Inception project 2: Waste Characterisation Study;
      iv. Inception project 3: Waste System Cost Model results update Study;
      v. Inception project 4: Assessment of contracts in SWM & WWT for consistency.
      vi. Inception project 5: Investigate status of all licences, permits and authorisations at facilities related to waste, water and environmental management.
      vii. Inception project 6: Assess current systems used for waste management and disposal in SWM Dept. and WWT branch of W&S Dept. to establish a baseline from which BPR and change management recommendations will be made when projects are to be implemented.
      viii. Inception project 7: Assess the institutional arrangement of a future Contract Management Office (structure, staffing, JDs), which may include the requirements of the PPP Regulations if a PPP/partnership is approved by Council
   c. Feasibility and risk assessments for cluster projects to recommend procurement mechanism to Council;
   d. Subject to the findings and recommendations of the Inception projects, incorporate cluster projects via an appropriate mixture of processing and Energy-from-Waste infrastructure at:

   i. The Athlone Refuse Transfer Station (RTS);
   ii. The Kraaifontein Integrated Waste Management Facility;
   iii. The Bellville Refuse Transfer Station;
   iv. The Swartklip Refuse Transfer Station
   v. The Cape Flats Waste Water Treatment Anaerobic Digestion energy project.*[1]
   vi. The future Northern Biosolids Beneficiation Facility (sewage sludge treatment,

beneficiation and energy recovery).[2*] f. Procure and implement cluster projects: possible partnerships for alternative service delivery mechanisms to reduce waste to landfill.
3. Subject to the TA finding, initiate and register all Council-approved waste minimisation and certain Energy-from-Waste PPP initiatives with the National Treasury.
4. Subject to the TA finding, initiate a process to generate alternative (non-Council) funding through Public Private Partnerships (PPPs) for the implementation of such alternate service delivery mechanisms initiatives.
5. Subject to the TA findings and Council resolutions, reprioritise and amend the SWM medium to long-term capital works programme, its proposed capital or operating budgets to include provisions and changes for alternative service delivery mechanisms.
6. Upgrade the Material Recovery Facility (MRF) at the Athlone RTS into a Clean MRF.
7. Establish a small-scale Integrated Waste Management facility in the Helderberg area.
8. Develop a MRF at the Coastal Park LS.
9. a. Develop and implement additional drop-offs at Disposal facilities, including Swartklip RTS, Faure LS and Helderberg drop-off at Vaalfontein site (part of the integrated facility above); b. Implement recycling at landfill and RTS drop-offs where feasible.
10. Drop offs, satellite drop-offs and mini-MRF's a. Planning, development and licensing of drop offs, satellite drop-offs and mini-MRF's to meet demand in all areas, to ensure: - Reduction of illegal dumping; - Landfill diversion of all possible waste streams dropped off. b. Amendment of existing drop-off licenses to allow for expansion where required.
11. Phase out the operation of the BS landfill in 2018 (on closure).
12. Continue with the project to increase height and maximise airspace utilisation at Vissershok South LS.
13. Finalise the legal / environmental process to amend the waste license at Vissershok North LS.
14. Finalise the regional landfill appeal, commence with a project to seek another site for a second future landfill.
15. Subject to finalisation of the regional landfill appeal, commence with the construction and commissioning of the Regional landfill site.
16. Rehabilitate and manage closed landfill sites (ongoing permit and MFMA requirements).
17. Monitor the effectiveness of the HHHW drop-off and plan for the roll out at Bellville South RTS.

18. Implement an integrated builders' rubble waste minimisation programme, including builders' rubble beneficiation at Coastal Park LS, Vissershok LS and Bellville South LS.

19. Continually improve access to basic waste management services (cleaning, collection and disposal):

    a. Investigate the viability and draw up a business case for Council to provide the infrastructure and equipment for the transportation by road of Refuse Transfer Station waste to landfills instead of using the current outsourced service;

    b. The Solid Waste Management Department investigates a suitable system, infrastructure and mechanisms that will increase economic opportunities pertaining to waste management in informal areas. This should be done in partnership with the waste industry, the community and with the aid of other City Departments that are directly involved in community development and socio-economic development with the objective of enabling local community benefit;

    c. Research and implement a split bin litter system in strategic public areas;

    d. Continue with contract services for integrated area cleaning, sandy areas clean-up programmes in disadvantaged formal areas and waste collection in informal areas;

    e. Realign depots, staff and implement flexible working hours to achieve improved service efficiencies, to provide an equitable and predictable service, and to improve asset utilisation, access and use by the public;

    f. To initiate the business improvement projects involving possible internal changes to its SWM structure and functions with respect to a proposed Contract Management Unit;

    g. Establish a financial waste information system to ring-fence cost and revenue for all services;

    h. Continue servicing backyarder structures on Council rental stock land;

    i. Investigate the feasibility to service hostels on Council land and backyarders on private properties. Review SWM policies and roll-out services;

20. Continually improve access to residential waste minimisation services:
    a. Continue to promote home composting and roll-out 5000 home-composters per year to residents;
    b. Support the development and implementation of the above kerb-side split-bag (recycling) collection strategy by ongoing monitoring of its efficiency and cost effectiveness, and research on alternative business and costing models for kerb-side recycling collection;

21. Establish Continue with roll-out and further development of an integrated infrastructure asset management programme for SWM fixed and movable assets, plant, equipment, infrastructure and superstructure to optimise asset use and service delivery, focusing on waste management fleet as a priority.

22. Continue with public education and awareness programmes regarding waste management and waste minimisation.

23. Cyclic review of Council's Integrated Waste Management (IWM) Policy, IWM By-laws and the IWM Plan.

24. Continue and accelerate implementation of the IWM By-law:
    a. To register and accredit waste management service providers,
    b. To approve Building Waste Management Plans of generators of building waste.
    c. To improve enforcement of IWM By-law
    d. Priorities accreditation of large scale health care risk waste generators/service providers
25. Align Waste Information System with both the SAWIS & Waste Classification and Management Regulations.
26. Support and further stimulate the recycling economy by:
    a. Supporting information and networking links between recycling and related service providers and their potential public and private clients
    b. Supporting and promoting integrated waste exchange and industrial symbiosis in Cape Town
    c. Regulate building management plan applicants to recycle and/or re-use their builders rubble. Investigate the feasibility of incentive options.
    d. Working in collaboration with the City's green economy and sustainable procurement policy framework to ensure that an inter-departmental task team be established to:
    i. research and consultatively develop a policy for the reuse of recyclable construction and other materials in Council projects (e.g. crushed builder's rubble).
    ii. research and consultatively developed Standard requirements for purchasing of recycled material in Council's Procurement systems and goods contracts.
27. Continued roll-out of internal (internship, learnership, in-service -training) and external (bursaries) training opportunities;
28. Explore the possibilities of regionalizing waste management services with other stakeholder /municipalities
29. Explore the utilization of rail in transportation of waste
30. Continued implementation of a SETA-accredited apprenticeship programme ;
31. Development of tariffs for recovery and recycling as per national waste management pricing strategy
32. Development of Strategies to address Challenges (Illegal Dumping) and Priority Waste Diversion (Rubble, Green Waste and Recyclables)
    a) Development of an Illegal Dumping Reduction Strategy
    b) Develop long term strategy (25 year) for phased expansion of kerb-side split-bag (recycling) collection and initiate implementation of this strategy (THINK TWICE or similar model) in line with development and commissioning of additional MRF's, to reach a minimum total of 260 000 households in Cape Town for the current phase;
    c) Develop a formal strategy and plan for changes to hazardous waste management to align with the Waste Classification and Management Regulations per the National Environmental Management: Waste Act and norms and standard for disposal waste to landfill

[1] Project responsibility is with Waste Water Branch in Water & Sanitation Department. TA will assess best economic option between electricity generation on site and using biogas as a fuel source for City's bus fleet.

[1] Project is being planned for implementation by Waste Water Branch in Water & Sanitation Department. TA will assess best economic option between electricity generation on site and using biogas as a fuel source for City's bus fleet

5 IWMP IMPLEMENTATION

For the Solid Waste Department to provide effective and efficient service, adequate operational and capital budget should be provided to effectively achieve the deliverables

For more details related to budget and resources, refer to sections 2.3 and 2.8 respectively.

The Implementation Plan for the IWMP is included as **ANNEXURE C**

6 MONITORING AND REVIEW

A Departmental Business Plan will be developed annually for the duration of the IWM Plan to give effect to the objectives. The implementation plan and annual Business Plan will be monitored and be reviewed annually. SDBIPs reports will be sent to council on a quarterly basis to monitor progress and budget expenditure against set objectives.

The annual business plans, reviewed IWMP and SDBIPs will be forwarded to Western Cape Department of Environmental Affairs and Development Planning.

ANNEXURES

ANNEXURE A

HAVE YOUR SAY!
WORKSHOP FOR WASTE MANAGEMENT INDUSTRY, INSTITUTIONS, GOVERNMENT AND COMMERCE TO PROVIDE INPUT FOR THE CITY OF CAPE TOWN'S THIRD GENERATION INTEGRATED WASTE MANAGEMENT PLAN (IWMP)

The City of Cape Town is in the process of developing the Third Generation Integrated Waste Management Plan (IWMP) for 2017 to 2022 in line with the Integrated Development Plan cycle. The Second Generation IWMP (2012 to 2017) with strategic programmes, goals and objectives with key deliverables was approved by Council in 2013.

The waste management industry, institutions, government and commerce are invited to provide inputs on the development of the Third Generation IWMP in terms of Section 11 (4)(a) (ii) of the National Environmental Management: Waste Act 59 of 2008 as amended, and Chapter 5 of the Municipal Systems Act 32 of 2000, (Integrated Development Planning).

In terms of Section 17 of the Local Government: Municipal Systems Act, Act 32 of 2000, the public and interested parties or groups are given the opportunity to submit comments, recommendations or input on this draft plan to the municipality from 1 to 31 October 2016.

As part of the campaign to ensure that all interested sectors within the City understand and are able to participate in the drafting of the IWMP, a stakeholder workshop will be held:

Date: **Wednesday 12 October 2016**
Time: **10:00**
Venue: **Committee Room 2, 6th floor, Podium Block, Cape Town Civic Centre, 12 Hertzog Boulevard, Cape Town**

Comments, input or recommendations can be submitted by:

- E-mail: rosina.lesoeta@capetown.gov.za
- Fax: 021 400 5922
- Written submission: 19th floor, 4-bay side, Solid Waste Policy and Strategy, Cape Town Civic Centre, 12 Hertzog Boulevard, Cape Town (for attention: Rosina Lesoeta)
- Internet: www.capetown.gov.za/haveyoursay

The City's Public Participation Unit will assist people who cannot read or write, people living with disabilities and people from disadvantaged groups who are unable to submit written comments, to have their comments or input recorded and submitted to the City. Contact the following persons:

For general public participation:
Nathan Fisher on 021 400 1450 or nathan.fisher@capetown.gov.za

For disadvantaged groups:
Zandile Mahlasela on 021 400 5501 or ntombizandile.mahlasela@capetown.gov.za

Contact Rosina Lesoetsa on 021 400 1902 or rosina.lesoetsa@capetown.gov.za or Thembelani Mandindi on 021 400 4349 or thembelani.mandindi@capetown.gov.za for further information.

ACHMAT EBRAHIM
CITY MANAGER
191/2016

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ANNEXURE B

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WORKSHOP FOR INDUSTRY, INSTITUTIONS, GOVERNMENT AND COMMERCE

TO PROVIDE INPUT ON THE DEVELOPMENT OF THE CCT 3RD GENERATION IWMP

Date: 12 October 2016

Venue: Committee Room 2, 6th Floor, Podium, Cape Town Civic Centre

No.	Full Name	Company Name	Designation	Contact Number	Email Address	Signature
1	Quinton Williams	Green Cape	Waste Sector Desk	021 811 0250	quinton@greencape.co.za	
2	Saliem Haider	Stellenbosch Municipality	Manager: Solid Waste Management	(021) 808 8224/41	Saliem.haider@stellenbosch.gov.za	
3	Tawanda Sango	Green Cape	Research Analyst	021 811 0250	tawanda@green-cape.co.za	
4	Adri Spangenberg	Polystyrene Packaging Council	Director	021 010 1493	adri@polystyrenepackaging.co.za	
5	John Kieser	Plastics SA	Sustainability Manager	021 591 5512	john.kieser@plasticssa.co.za	
6	Adrian Campbell	IWMSA Western Cape Branch	Committee member	0829236975	adrian.campbell@Lantic.Net	
7	Cheri Scholtz	Petco	CEO	0829392919	Cheri.scholtz@petco.co.za	
8	Eddie Hanekom	DEA&DP	Director: Waste Management	021 - 4832728	Eddie.Hanekom@westerncape.gov.za	
9*	Alastaire Abrahams	The Glass Recycling co	Business Development Officer	021 950 5287/063 052 5251	alastaire@tgrc.co.za	
10	Raj Lochan	ROSE Foundation	CEO	021 448 7492	usedoil@iafrica.com	
11	Alfonso vanVuuren	Solid Waste Management	Manager	021 400 3391	Alfonso.vanVuuren@capetown.gov.za	
12	Rosina Lesoetsa	Solid Waste Management	Head: Policy and Strategy	021 400 1902	Rosina.Lesoetsa@capetown.gov.za	
13	Rustim Keraan	Solid Waste Management	Director	021 400 2210	Rustim.Keraan@capetown.gov.za	

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WORKSHOP FOR INDUSTRY, INSTITUTIONS, GOVERNMENT AND COMMERCE

TO PROVIDE INPUT ON THE DEVELOPMENT OF THE CCT 3RD GENERATION IWMP

Date: 12 October 2016

Venue: Committee Room 2, 6th Floor, Podium, Cape Town Civic Centre

14	Ebrahim Mohamed	Solid Waste Management	Principal Technician: Special Projects	021 400 9032	Ebrahim.Mohamed@capetown.gov.za	
15	Alison Davison	Solid Waste Management	Head: Waste Minimisation	021 400 4580	Alison.Davison@capetown.gov.za	
16	Noel Johannessen	Solid Waste Management	Professional Officer	021 400 2444	Noel.Johannessen@capetown.gov.za	
17	Mawande Mtyi	Solid Waste Management	Manager: Finance & Commercial	021 400 2154	Mawande.Mtyi@capetown.gov.za	
18	Eugene Hlongwane	Solid Waste Management	Manager: Cleansing, Cleaning	021 400 2822	Eugene.Hlongwane@capetown.gov.za	
19	Trevor Anthony Carroll	Solid Waste Management	Manager: Collection & Drop Off, Collections and Drop-offs	021 400 2477	TrevorAnthony.Carroll@capetown.gov.za	
20	Peter Novella	Solid Waste Management	Manager: Disposal	021 400 1289	Peter.Novella@capetown.gov.za	
21	George Jonkers	Solid Waste Management	Manage : Support Services	021 400 5536	George.Jonkers@capetown.gov.za	
22	Michael Shearer	Solid Waste Management	Manage : Technical Services	021 980 1333	Michael.Shearer@capetown.gov.za	
23	Deon Franks	Solid Waste Management	HR Business Partner	021 400 4363	Deon.Franks@capetown.gov.za	
24	Thembelani Mandindi	Solid Waste Management	Professional Officer	021 400 4349	Thembelani.Mandindi@capetown.gov.za	
25	Barry Coetzee	Solid Waste Management	Technical Strategic Support Manager,	021 400 2992	Barry.Coetzee@capetown.gov.za	
26	Margot Ladouce	Solid Waste Management	Head: Research and Development:	021 487 2136	Margot.Ladouce@capetown.gov.za	

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TO PROVIDE INPUT ON THE DEVELOPMENT OF THE CCT 3RD GENERATION IWMP

Date: 12 October 2016

Venue: Committee Room 2, 6th Floor, Podium, Cape Town Civic Centre

			Research & Development			
	Alfonzo Ntoke	Solid Waste - CCT		021 400 2678		
	Jo-Anne Petersen	SWM: Disposal		021 4872477		
	Ottrelie Muller	Solid Waste	MISGIS	021 4002115		

ANNEXURE C

Task Name	Duration	Start	Finish	Resource Names
a. Complete the roll out of landfill gas extraction and flaring at Coastal Park and Bellville South Landfill Sites (LS); b. Commence with designs for the Vissershok Landfill Site gas extraction project.	**881 days**	**Tue 11/1/16**	**Tue 3/17/20**	
Finalise Transactional Advisor Project flowing from MSA S78.3 Recommendations (2011), investigating Waste-to-energy (or energy-from-waste) synergies in respect of organic solid waste and sewerage sludge	**1370 days**	**Tue 11/1/16**	**Mon 1/31/22**	**Disposal PM team,Disposal**
Subject to the TA findings and Council resolutions, reprioritise and amend the SWM medium to long-term capital works program, its proposed capital or operating budgets to include provisions and changes for alternative service delivery mechanisms.	**1370 days**	**Tue 11/1/16**	**Mon 1/31/22**	**Disposal PM team, Disposal**
Upgrade the Material Recovery Facility (MRF) at the Athlone RTS into a Clean MRF.	**666 days**	**Mon 7/3/17**	**Mon 1/20/20**	**Disposal PM team, Disposal**
Establish a small-scale Integrated Waste Management facility in the Helderberg area.	**861 days?**	**Tue 9/4/18**	**Tue 12/21/21**	**Disposal PM team, Disposal**
DISPOSAL IWMF	**2211 days?**	**Fri 7/1/16**	**Fri 12/20/24**	**Disposal PM team,Disposal**
Subject to finalisation of the regional landfill appeal, commence with the construction and commissioning of the Regional landfill site.	**1059 days**	**Wed 2/1/17**	**Mon 2/22/21**	**Disposal PM team,Disposal**
Rehabilitate and manage closed landfill sites (ongoing permit and MFMA requirements).	**305 days?**	**Fri 7/1/16**	**Thu 8/31/17**	**Disposal**
Monitor the effectiveness of the HHHW drop-off and plan for the roll out at Bellville South RTS.	**340 days**	**Tue 11/1/16**	**Mon 2/19/18**	**Disposal**
Develop a formal strategy and plan for changes to hazardous waste management to align with the Waste Classification and	**200 days**	**Tue 11/1/16**	**Mon 8/7/17**	**Disposal**

Management Regulations per the National Environmental Management: Waste Act.				
Implement an integrated builders' rubble waste minimisation program, including builders' rubble beneficiation at Coastal Park LS, Vissershok LS and Bellville South LS.	**341 days**	**Tue 11/1/16**	**Tue 2/20/18**	
Continually Improve access to basic waste management services	**1446 days**	**Tue 11/1/16**	**Tue 5/17/22**	
Continually improve access to residential waste minimisation services	**1587 days?**	**Fri 7/1/16**	**Mon 8/1/22**	**Waste Min**
Continue with roll-out and further development of an integrated infrastructure asset management program for SWM fixed and movable assets, plant, equipment, infrastructure	**361 days**	**Tue 11/1/16**	**Tue 3/20/18**	**Technical Services**
Continue with public education and awareness programs regarding waste management and waste minimisation.	**1200 days**	**Wed 2/1/17**	**Tue 9/7/21**	**PACE**
Cyclic review of Council's Integrated Waste Management (IWM) Policy, IWM By-laws and the IWM Plan.	**1315 days**	**Tue 11/1/16**	**Mon 11/15/21**	
Continue and accelerate implementation of the IWM By-law: a. To register and accredit waste management service providers, b. To approve Building Waste Management Plans of generators of building waste. c. To improve enforcement of IWM By-law	**1200 days**	**Tue 11/1/16**	**Mon 6/7/21**	
Align Waste Information System with both the SAWIS & Waste Classification and Management Regulations.	**1421 days**	**Tue 11/1/16**	**Tue 4/12/22**	
Support and further stimulate the recycling economy (Continuous/supporting fucntion)	**1200 days**	**Tue 11/1/16**	**Mon 6/7/21**	**Planning**
Continued roll-out of internal (internship, learnership, in-service -training) and external (bursaries) training opportunities;	**1260 days**	**Tue 11/1/16**	**Mon 8/30/21**	**Support Services**
Continued implementation of a SETA-accredited apprenticeship programme;	**1360 days?**	**Tue 11/1/16**	**Mon 1/17/22**	**Support Services**
Explore possibilities for regionalisation of facilities and services	284 days	Tue 11/1/16	Fri 12/1/17	Policy and Strat

Explore Utilization of rail in transportation of waste	284 days	Tue 11/1/16	Fri 12/1/17	Policy and Strat
Development of tariff for recovery and recycling as per national waste management pricing strategy	695 days	Tue 11/1/16	Mon 7/1/19	SW Finance
Development of Illegal Dumping Reduction Strategy	284 days	Tue 11/1/16	Fri 12/1/17	Policy and Strat