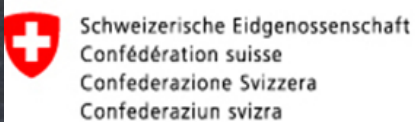


KwaDukuza Local Municipality

ASSET MANAGEMENT PLAN



SECTOR: SOLID WASTE
PERIOD: 2019 - 2028
DATE: 28 MAY 2019
VERSION NUMBER: V9
PREPARED BY: ASHLEE MCCRINDLE



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PROJECT INTRODUCTION AND APPROACH

This report is the Close-Out Report for the contract to deliver the following documentation - Portion A: asset management plans & Portion B: scoping study for an asset management system for iLembe District and KwaDukuza, Mandeni Local Municipalities as set out in the Scope of Work (SoW).

The project forms part of the Vuthela LED Programme which was officially launched on 29 November 2017 by the iLembe District Municipality, together with the Switzerland State Secretariat for Economic Affairs (SECO) and the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZN DETEA).

The Vuthela iLembe LED Programme footprint comprises the iLembe District Municipality (IDM) and its local municipalities of KwaDukuza (KDM), Mandeni (MLM), Ndwedwe and Maphumulo. The primary purpose of the programme is improvement of the economic future of the iLembe District residents through sustainable economic growth of the local economy and the creation of higher, better and more inclusive employment and income generating opportunities. The programme comprises five components, namely:

- Public Financial Management Component.
- Municipal Infrastructure Component.
- Private Sector Development Component.
- Building Inclusive Growth Component.
- Partnership and Coordination Component.

This contract falls under the Municipal Infrastructure Component (MIC). The MIC focuses on the improvement and development of municipal infrastructure and services and has three sub-components:

- Reduced infrastructure constraints (improved scope and quality of basic infrastructure services);
- Increased planning capacity and financing strategies for an integrated and systematic expansion of (urban) infrastructure, as a basis for sustainable development of regional centres; and
- Enhanced planning and management of key infrastructure sectors.

The initial project was conducted as part of the Inception Phase of the Vuthela LED Programme, which focussed on the scoping, preparation and assessment of implementation-readiness for support projects during the Implementation Phase.

PROJECT CONSULTANT AND SUB-CONSULTANTS / CONTRACTORS

The project consultant was IMQS Software (Pty) Ltd and the Sub-Contractor was Amaqhawe Asset Management Solution. The workshare percentage split was 90/10 respectively.

OBJECTIVES OF THE ASSIGNMENT AS PER THE TOR

The appointment is for two particular assignments, consisting of Portion A for the development of asset management plans and Portion B for the scoping of an asset management system. Both assignments relate to the particular infrastructure functions of the IDM, KDM and MLM.

OBJECTIVES OF THE ASSET MANAGEMENT PLAN (AMP)

The Asset Management Plan (AMP) should enable the municipality to have an overview of its infrastructure assets' worth, condition and suitability to meet current and future service requirements based on the assets' life cycle. The AMP should enable the development of a strategy to support the optimal, functional management of existing assets whilst considering the financial and technical decision-making aspects for future service requirements.

The AMP should assist in project identification and selection, thereby integrating planning and development needs to ensure efficient and effective budgeting and implementation of projects. It should aid project prioritisation when considering available budget, service levels and required service levels.

The AMP should further be aligned to the available budget and revenue of the municipality and the development objectives of the municipality.

OBJECTIVES OF THE ASSET MANAGEMENT SYSTEM

References in this document to an Asset Management System (AMS), are considered as reference to each participating municipality's AMS. It was assumed at the time of writing the scope of work for this assignment, that there will be separate, but similar systems planned, designed and implemented in each municipality. Cognisance should however be given to the potential of information sharing, across platforms and between municipalities.

The AMS should enable the municipality to have access to detailed information on infrastructure assets' worth, condition and suitability to meet current and future service requirements based on the assets' life cycle. This means the incorporation or maintenance of the asset register, for financial and technical compliance and planning.

The AMS should enable the development of an Asset Management Plan (AMP) and strategy to support the optimal, functional management of existing assets whilst considering the financial and technical decision-making items for future services.

The AMS, through the AMP, should assist with project identification and prioritisation when considering available budget, existing service levels and required service levels. The AMS should further allow for integration with the financial management and planning of the municipality.

MAIN PROJECT COMPONENTS OR DELIVERABLES

The main deliverables as extracted on the tender document page 30 are as follows:

- Inception Report.
- Ilembe District Municipality AMP, three hard copies, one electronic copy.
- Kwadukuza Local Municipality AMP, three hard copies, one electronic copy.
- Mandeni Local Municipality AMP, three hard copies, one electronic copy.
- Workshop per municipality, to discuss the financial plan and prioritisation, for inclusion in the municipal budget.
- Workshop per municipality (IDM, KDM, MLM) to present and discuss the final AMP and results of the scoping for an asset management system.
- Scoping Report, for the design and implementation of an asset management system (applies to three municipalities)
- Attendance of tri- weekly progress meetings and provision of meeting notes.
- Submission of weekly progress reports.
- Close-out report.
- Presentation to the Vuthela Programme PSC.

CONTRACTUAL DATES

IMQS Software (Pty) Ltd was officially appointed on the 08th August 2018. Project duration was for 5 months.

APPROVAL AND CHANGE HISTORY

DOCUMENT REVIEW:

DOCUMENT VERSION NO.	NAME	CHANGE HISTORY DETAILS	DATE
V2	<i>Ashlee McCrindle</i>	Updated modeling and additions from review	22 April
V3	<i>Ashlee McCrindle</i>	Added exec summary	23 April
V4	<i>Ashlee McCrindle</i>	Added annexure A	25 April
V5	<i>Knowledge Nkala, Ashlee McCrindle</i>	Added financial updates, Added Annexure C and review	26 April
V6	<i>Ashlee McCrindle</i>	Updated with review	13 May 2019
V7	<i>Ashlee McCrindle Rob Childs</i>	Updated with internal review	15 May 2019
V8 & V9	<i>Ashlee McCrindle Rob Childs</i>	Adjusted some modeling and further review	16 and 28 May 2019

SUBMITTED:



.....
Ashlee McCrindle *IMQS Sector Lead*

26/08/2019

.....
Date:



.....
Rob Childs *IMQS Project Director*

26 August 2019

.....
Date:

APPROVED:

.....
Mr. S W Mhlongo *Manager: Waste Management*

.....
Date:

ACRONYMS AND INDEX

AFS	Annual financial statement
AM	Asset management
AMP	Asset management plan
AR	Asset register
CAPEX	Capital expenditure
CRC	Current replacement cost
DRC	Depreciated replacement cost
EPWP	Expanded public works programme
ERM	Enterprise risk management
EUL	Expected useful life
FY	Financial year
IDM	iLembe District Municipality
IDP	Integrated development plan
IWMP	Integrated waste management plan
KDM	KwaDukuza Local Municipality
KPA	Key performance area
KPI	Key performance indicator
LOS	Level of service
MLM	Mandeni Local Municipality
mSCOA	Municipal standard chart of account
MTREF	Medium term revenue and expenditure framework
No.	Number
OPEX	Operational expenditure

<i>Pa</i>	Per annum (yearly)
<i>pm</i>	Per month
<i>PMU</i>	Project management unit
<i>R</i>	Rand
<i>RUL</i>	Remaining useful life
<i>SDF</i>	Spatial development framework
<i>SDBIP</i>	Service delivery budget and implementation plan
<i>SMME</i>	Small, medium and micro-sized enterprises
<i>SOP</i>	Standard operating procedure
<i>SOS</i>	Standard of service

TABLE OF CONTENTS

E.	Executive Summary	vii
1	Introduction.....	1-1
2	Levels of Service	2-1
3	Future Demand.....	3-1
4	Life-cycle Plan	4-1
5	Financial Plan.....	5-1
6	Asset Management Practices	6-1
7	Risk Management Plan	7-1
8	Performance Plan	8-1
A	Annexure: Budget breakdown of projection	A-1
B	Annexure: Glossary of terms.....	B-3
C	Annexure: Portfolio health status.....	C-8
D	Annexure: Proposed improvement work breakdown structure	D-9

E. EXECUTIVE SUMMARY

Summary of the main aspects of the plan: scope and objectives; strategic context and status; key challenges, risks and opportunities; and proposed short, medium, and long-term tactical responses.

1	PLAN OBJECTIVES	To plan effective and efficient infrastructure-based service delivery for the solid waste department in the KwaDukuza Local Municipality (KDM), utilising available resources. It considers tactics or the application of the municipality's infrastructure assets, as well as the establishment of the required management practices, over a period of 10 years.
2	OPERATIONAL CONTEXT	
2.1	Municipal mandate	KDM is required to collect and dispose of solid waste in a responsible and sustainable manner in all areas within its jurisdiction including the tribal authority areas. It is also responsible for recycling and waste reduction.
2.2	Asset scope	KDM owns one transfer station but no landfill sites, its main assets are bins, skips and collection vehicles. It currently provides refuse collection services in the northern part of the municipality and has a private contractor for the remaining southern areas (Ballito and surrounds). It disposes waste at two privately owned landfill sites in the area.
2.3	Developmental context of the municipality and key statistics	<p>The municipality has a predominantly urban population (83% urban population and 10% tribal, the balance being rural farm land), estimated at 281 052 people in 2018 (92 714 households), showing migration trends toward urban areas. The area has a high unemployment rate but has identified tourism potential in some areas.</p> <p>KDM is the economic hub of the iLembe District Municipality (IDM). The key industrial activity is commercial, followed by the manufacturing sector and tourism. Being located between two port cities (Durban and Richards Bay) provides KDM with an opportunity to benefit from trade and economic growth initiatives. KDM has a high revenue base and doesn't rely on grant funding for service provision.</p>
2.4	Stakeholders	<p>The following are key stakeholders in the department:</p> <ul style="list-style-type: none"> • The KDM waste management department and asset management department • The broader municipality • Customers (residents, businesses, government entities, community organisations, tourists and other visitors) • Private service providers
2.5	Plan maturity (and implications on its use)	KDM, a class B municipality, has a rudimentary physical asset management framework. This first asset management plan (AMP) in this department is part of an initiative to steer the municipality towards more robust practice. It is based on limited data (confidence level of 79%) and is seen as a rudimentary AMP that establishes a baseline of practice, provides initial findings, and a platform for future plans as the practice maturity improves. The main input documents include the Integrated Development Plan (IDP), the annual performance reports as well as the 2018 asset register (AR).
3	CURRENT STATUS	
3.1	Infrastructure status	Table E.1 summarises the nature, extent and status of assets in the department, which are predominantly movable assets with a replacement value (CRC) of R 9.5 million and book value of R 4 million. Whilst the overall health of the portfolio (based on the condition distribution) is considered to be 'fair', vehicles have the lowest health status of the asset groups – 'very poor' – indicating an urgent need for renewal or replacement of the vehicles. The portfolio health grade model is shown in Annexure C .

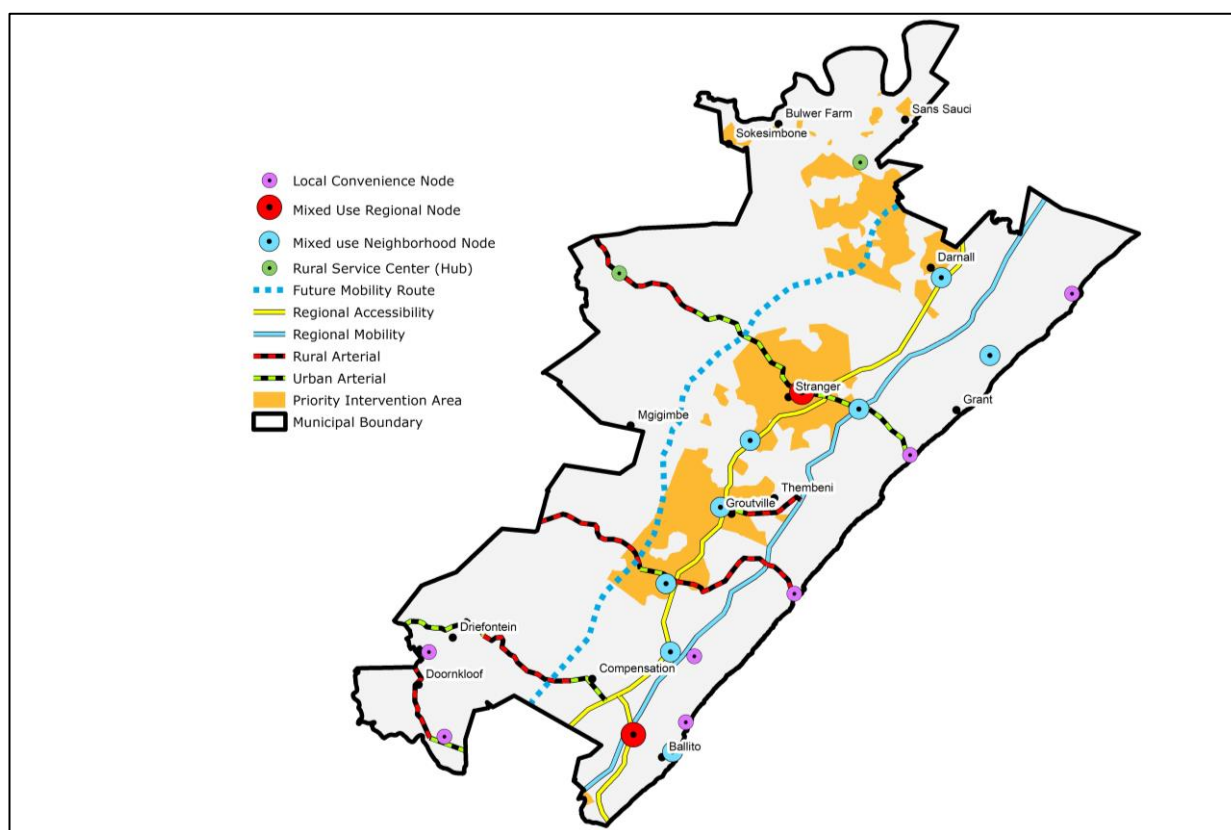
Table E.1: Asset extent summary

Modelled data								Data from AFS	
Asset Group	Extent (No.)	Replacement value (R '000)	DRC (R '000)	Portfolio Health	Residual value (R '000)	Annual consumption (R '000)	Maintenance need (R '000 pa)	AFS Cost opening (R '000)	AFS Carrying value opening (R '000)
Street bins	227	426	236	55%	-	33		344	197
Refuse skips	124	4 043	2 538	63%	-	202	81	3 195	2 070
Vehicles	3	3 739	1 293	19%	723	603	75	2 891	1 029
Transfer site	1	1 246	839	67%	-	91	25	1 095	754
TOTAL	354	9 454	4 906	48%	723	930	181	7 524	4 051

3.2	Spatial structure	<p>Main urban centres, important nodes and development routes are shown in Figure E..1. A theme of development along the coast is clear with mixed use nodes used to promote densification and allow for equity of access to facilities as highlighted in the spatial development framework (SDF). The municipality places a focus on tourism and has highlighted a need to regenerate existing industrial areas.</p>
3.3	Service delivery operations	<p>The budget allows for contracted service provision and there is currently no intention to reduce the outsourced waste collection service. Capital budgets focus on projects for new assets in the department, as well as operational activities, rather than renewal of existing assets (replacing the skips, vehicles and bins). A more strategic approach to packaging and scheduling of capital and operational activities needs to be developed and implemented.</p> <p>Current projects are for transfer facilities, recycling and dry composting- showing KDMs awareness of a need to enhance bulk waste facilities. In addition there is recognition of the need to focus on raising awareness of the need to reduce waste output. IDM has indicated an intention of providing a landfill site which would prove convenient for disposal – although no timelines or additional details are available. However, a provision for a bulk vehicle to transport the waste from the transfer facility to the landfill should be planned and budgeted for. A full plan on the maintenance and replacement of the solid waste fleet needs to be prepared.</p> <p>Currently maintenance is carried out on some assets, but the budget is small. Maintenance-associated expenditure needs to be more clearly defined for budget purposes. Inadequate human resources are a risk due to the ongoing growth in service demand. The collection vehicles are critical assets for the department and need continuous maintenance, which will increase due to their current 'poor' condition. A portion of this vehicle value is considered to be a 'technical backlog' and provision to replace them has been made in the lifecycle plan.</p>
3.4	Levels and standards of service	<p>Currently a minimum level of service provision of communal collection is pursued, in line with national policies. In urban areas the goal is kerbside collection and in peri-urban informal areas it is communal collection due to the challenge of accessing such areas. The standard of service pursued is a weekly service collection for kerbside and a daily service for communal skips (as a result of high use - and suggesting a need for more). Resources to address the backlog should be prioritised to those areas where the municipality wants to promote and focus growth, as identified in the SDF.</p>

	<p>It is estimated that providing service for the 12 581 households currently without service, will require a capital investment of some R 6 million, there is also a backlog in the urban areas to upgrade communal services to kerbside collection (12 338 households) at an estimated capital cost of R 3 million. Providing all customers with service is infeasible due to the high operational cost per customer to service the more remote areas. Although the capital cost is achievable in terms of budget the associated operational cost per year would increase by an estimated total of R 3 million to service the full backlog. Maximum benefit is likely to be achieved by prioritising the available resources to the backlogs in more densely populated areas - urban areas and development nodes (where it is estimated 90% of the backlog could be eradicated).</p> <p>Another major constraint on the standard of services is the available operational budget. There are strains on the staff contingent - a challenge that will continue as more customers are serviced.</p>
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Figure E..1: Identified development nodes, corridors and priority areas for development in KDM



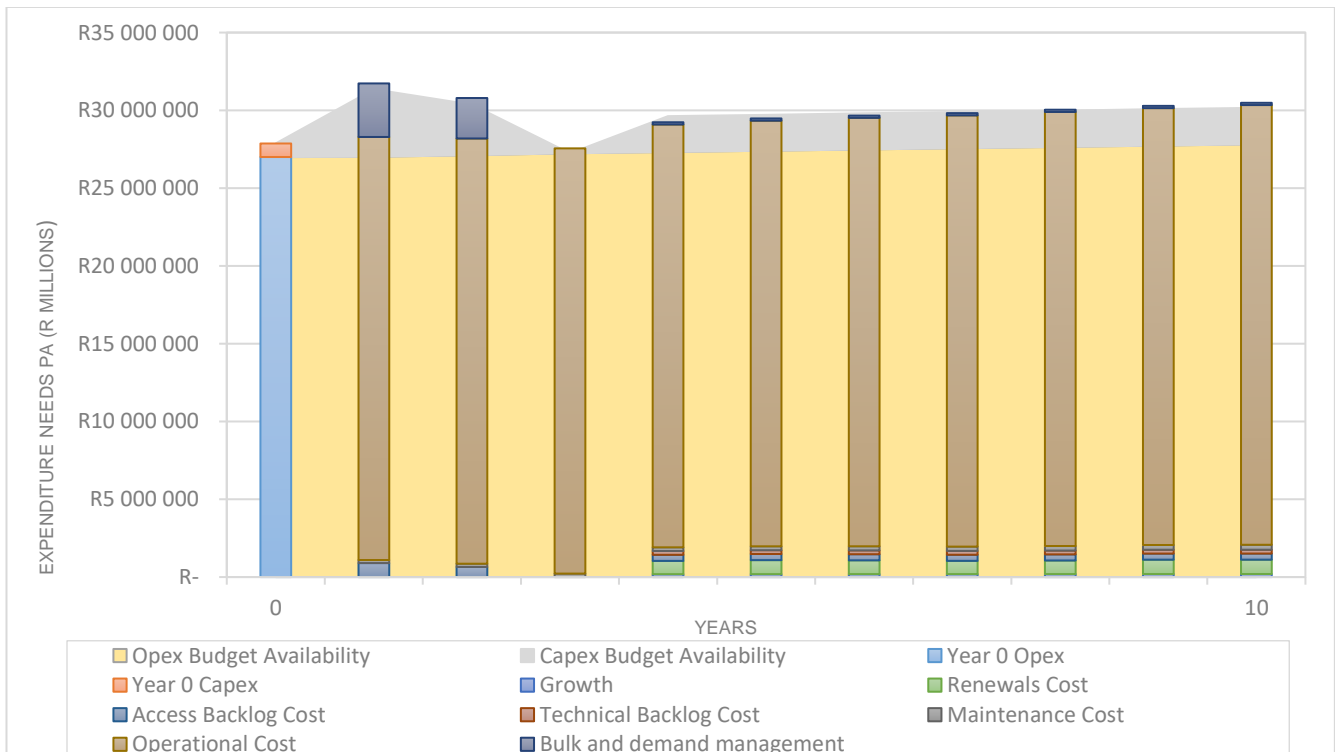
3.5	Financial status	<p>The municipality has a strong liquidity position:</p> <ul style="list-style-type: none"> • Cash and cash equivalents of KDM at 2017/18 amounted to R 404 million, representing an increase of 50% compared to the prior year. • Current ratio is at 2.29 compared to prior year ratio of 1.92. <p>The municipality funds its activities using its own internal revenue (the majority of its income) and is not dependent on grants. Surplus income is generated in the solid waste department each year, however not all the revenue is collected. The collection of refuse debt is a challenge as some of the consumers cannot afford the tariffs.</p>
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		<p>The solid waste department relies substantially on operational spending (R 27.4 million reported functional expenditure less budgeted capital spending in FY2017) as opposed to capital expenditure. Currently R 6 million is the forecast capital budget for the department planned in the next three years on new solid waste assets. A portion of which addresses some access backlog but the majority is to provide a new transfer station.</p>
3.6	Reported risk exposure	<p>Key risks for the department include shortage of human resources, possible liquidity challenges (going forward), illegal dumping, poor maintenance as well as the poor condition of some vehicle assets. Mitigation of the risks would include appointment of additional resources, more effective reporting, development and implementation of a maintenance plan and increased renewal spending.</p> <p>The municipality would benefit from an improved risk management system – to inform decisions around priorities.</p>
3.7	Reported performance	<p>The solid waste department has reported full service provision to existing households in previous years, however a portion of households who claim to provide their own disposal are assumed to not meet an acceptable standard. Additionally, the poor collection rate questions the sustainability of the service, and the target of a daily skip collection indicates a capacity constraint and the need for additional skips.</p> <p>The strategy for addressing the backlog needs to be reviewed - strategies of promoting denser settlement and / or developing a district landfill for easier service capacity, are envisioned. This would lead to increased performance in the department.</p>
3.8	Infrastructure management maturity	<p>The municipality has been assessed to have a low level of practice maturity (“awareness” in most areas) of infrastructure management and needs to pursue improvement as an ongoing commitment. Processes need to be documented and activities effectively recorded as a baseline to explore lifecycle and management optimisation. Regular (ideally annual) reviews and enhancements of this initial AMP (and those of other departments) will facilitate practice improvement.</p>
4	FUTURE DEMAND	
4.1	Demand forecast	<p>The growth for the municipality has been forecast at a rate of 0.78% per annum based on trends according to census data. No large impacting factors were identified to adjust these, and KDM is still assumed to hold the highest growth rate in the district. The 93 437 households (3 persons per household) in 2018 are estimated to increase to 100 204 households in 2028, at an average of 749 per annum.</p> <p>The waste department has started a pilot phase for a waste minimalization project. The department recently developed standard operating procedures (SOPs) for its day-to-day operations to improve efficiencies; and also compiled a ward-based education and awareness schedule.</p> <p>Additional garden refuse and recycling stations are planned in the medium term to address growth. The transfer station, currently on the budget, is seen as having adequate capacity to cater for growth.</p>
4.2	External bulk infrastructure implications	<p>iLembe District Municipality (IDM) is planning a regional landfill site which will be a long-term option for KDM, which can continue to use the two private landfills in the interim as there are currently no specific challenges faced with them. Additionally, spending on a transfer site has been scheduled in the MTREF to address capacity issues in the short term.</p>

4.3	Municipal infrastructure implications	Customer growth will have an impact on the department budget if services are to be provided to all the new customers. The total capital required to provide services to new customers, from growth, would be approximately R 3.2 million over the ten-year period. Maximum benefit would be achieved in prioritising investment in the more densely developed areas (for example addressing 70% of growth in the urban areas and 30% in rural would reduce the required capital to R 1.3 million over the period).
5	LIFE-CYCLE PLAN	
5.1	Short and medium-term plan	<p>Currently there are capital projects planned on the MTREF for new assets and operational expenditure. However, as part of the lifecycle plan it has been identified that some capital needs to be made available for renewal of assets going forward. Renewal of the portfolio (for movable and fixed assets such as vehicles, skips and transfer station assets etc.) needs to be approximately R 850 000pa, increasing in later years to accommodate a larger portfolio.</p> <p>It is also important that budget be allocated to the current assets in poor condition (R 1.7 million for replacement of vehicles in poor condition currently) and for maintenance expenditure (on average R 250 000pa over the planning period, taken as a proportion of the portfolio value per year).</p> <p>The suggested approach for addressing the access backlog is to prioritise service provision in line with the identified nodes in the SDF, and address 90% of the backlog in urban areas but in a sustainable manner and in line with available budget. Annual expenditure of R 392 400 is proposed for addressing the backlog (allowing for skip purchases and a pro-rata vehicle provision). The budget for new service provision associated with growth is only R 190 000 on average per year – prioritized in the urban areas. These figures for new service provision have a cost factor to allow pro-rata for collection vehicles, this requirement can be reduced in the longer term if a closer landfill site is made available. Providing to the full dispersed backlog is infeasible and expenditure to provide new services should be prioritized to areas that will maximise the benefit.</p> <p>In the short-term (and beyond) the department must continue with its awareness campaigns on waste reduction in communities. A potential opportunity of using the expanded public works programme (EPWP) to assist in awareness and cleanup campaigns is noted.</p>
5.2	Long term lifecycle plan	<p>The long-term focus of the solid waste lifecycle plan is to continue to address the access backlog while providing a sustainable service to existing customers. There is also a need to place a greater focus on capital renewal/replacement of existing assets to be able to provide services to customers in line with the municipal objectives.</p> <p>The overall lifecycle needs over the period are capital intensive and so the lifecycle plan has been adjusted in line with the envisioned available budget. It is assumed that additional budget can be procured for the capital needed for renewal/replacement and new assets over the planning period. The long-term plan is to increase spending on renewals in line with the growing portfolio, to steadily address the backlog each year and to plan for additional composting facilities as identified. Operational spending is forecasted to increase in proportion to the new customers being provided with service. The total adjusted spending required each year is shown in Figure E.2, represented in current day value, the comparative budget is also depicted – highlighting the need to secure additional funding.</p>
6	FINANCIAL PLAN	

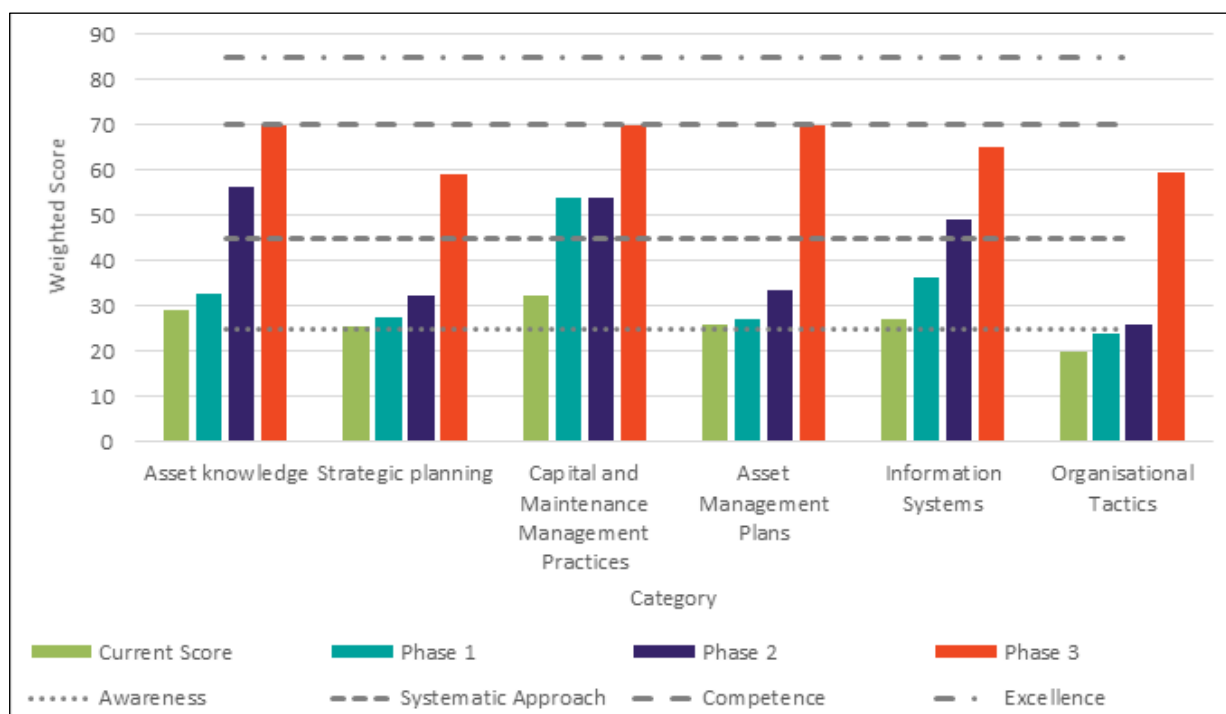
6.1	Financial health, budget availability, trends, forecast	The solid waste department generates approximately R 50 million in revenue per annum, however not all of this is collected - consumer debtors increased by 48% from 2015/16 to 2016/17 and a further 10% increase in 2017/18. This challenge also hinders the municipality's ability of increasing the tariffs on service provision to generate more revenue. The municipality is also faced with high unemployment rates.
6.2	Revenue management status	The expected revenue generated by the solid waste department for 2018/19 FY is R 54 million. In 2017/2018 FY revenue increased by 18,7% to R 57 million (FY2016/17: R 48 million). 50% of debtors owing have outstanding debt longer than 120 days indicating a challenge of affordability by consumers.
6.3	Cost management	The Solid Waste Department has waste reduction and recycling initiatives planned as well as transfer and composting facilities. The plan includes a provision for increasing billed services in the urban areas (by 7%) to ensure some growth in the billing base.
6.4	Financial management strategy and plan	<p>KDM has ensured improvement of financial management through implementation of relevant controls and adhering to legislation. Financial reports are presented to the Finance Portfolio Committee on a monthly basis.</p> <p>The municipality has budgeted combined funds in the MTREF of R 32 million in the 2018/19 FY for the solid waste life cycle plan, R 31 million in 2019/20 and R 28 million in 2020/21. The capital requirements will increase after the first 3 years to address service provision for backlog and growth. The projects budgeted on the MTREF are predominantly for a transfer station with a small provision for additional skips and some equipment. Hence this spending does not go towards new service provision but rather increasing capacity on existing provision and helping to alleviate some operational cost. It should be noted that the department requires a plan to optimise its fleet, not just for replacement of fleet but also potentially for larger trucks to transport bulk waste from the transfer facility to the landfill site. Only a portion of the access backlog cost is planned over the period due to the strategy of focusing on identified development nodes and to avoid a large increase in operational fees.</p>

Figure E.2: Combined lifecycle adjusted spending for the portfolio



7	ASSET MANAGEMENT PRACTICES	
7.1	Asset management practice context	KDM is a category B municipality and is coming off a low asset management practices base, however it is committed to improving practices by implementing improvements, potentially with support from the Vuthela-Ilembe LED project. As part of this project, a practices assessment was carried out and an improvement plan suggested as an output. The KDM assessment found a relatively low level of asset management practice maturity, especially in the “physical asset management” category, in line with many municipalities in SA.
7.2	Current and target performance	Current practice is assessed to be predominantly at the “awareness” level, the municipality aims to move towards a level of “competence” as shown in Figure E.3 . The proposed 3-year phased approach will be dependent on funding availability.
7.3	Priority improvement needs	The proposed improvement plan prioritises an improvement of the maintenance management process followed by an enhancement of the asset register (and associated data to inform financial and physical management of assets) and finally improving the management processes associated with projects, all of which are planned to be implemented over a 3-year phased period. The cost of such an improvement project would be split over all departments in the municipality. Figure E.3 shows the projected improvement after the implementation of each phase.

Figure E.3: Overview of practice assessment results and proposed improvement phases



8	CONCLUSIONS AND RECOMMENDATIONS	
8.1	Objectives, challenges, and proposed response strategies	The municipality aims to continue to provide a sustainable solid waste service to existing and new customers. However, there are constraints on the availability of human resources and vehicles which impacts on the standard of service it is providing, and the ability to extend the service to address backlogs and accommodate growth. Provision

		<p>has been made in the forecasts to address these costs though on a prioritised basis in line with envisaged affordability.</p> <p>The approach proposed is to prioritise backlog eradication in identified nodal areas of the municipality to respond to, and further encourage, development in those areas. Backlog reduction per year is tempered to allow a more sustainable service and a shift of focus to include renewals in the department that will support achieving the target service standards. Renewal capital spending is budgeted for all assets (replacing bins, replacing the vehicles and replacing old skips). The focus on awareness campaigns and waste reduction should continue. In the longer term, additional garden refuse, recycling and composting stations should be provided.</p>
8.2	Proposed programmes and budgets	<p>The main expenditure in the department is operational expenditure. Currently service performance needs to improve – through the provision of adequate human resources. The department has been underspending on renewals and maintenance and not properly ring-fencing such expenditure. The emphasis on adequate renewal (for replacement of bins, skips and vehicles) should continue throughout the planning period with a small budget to meet growth and a moderate budget for addressing the access backlog eradication.</p>
8.3	Recommendations	<p>It is recommended that Council:</p> <ul style="list-style-type: none"> a) Note the content of this first rudimentary AM Plan, which has been prepared through the Vuthela-Ilembe LED Programme; b) Confirm that the report findings be used to inform; <ul style="list-style-type: none"> ▪ the preparation of budgets, strategies and plans relating to the lifecycle management of the solid waste department; and ▪ proposed improvements to the management of the solid waste infrastructure, subject to securing the required funds.

1 INTRODUCTION

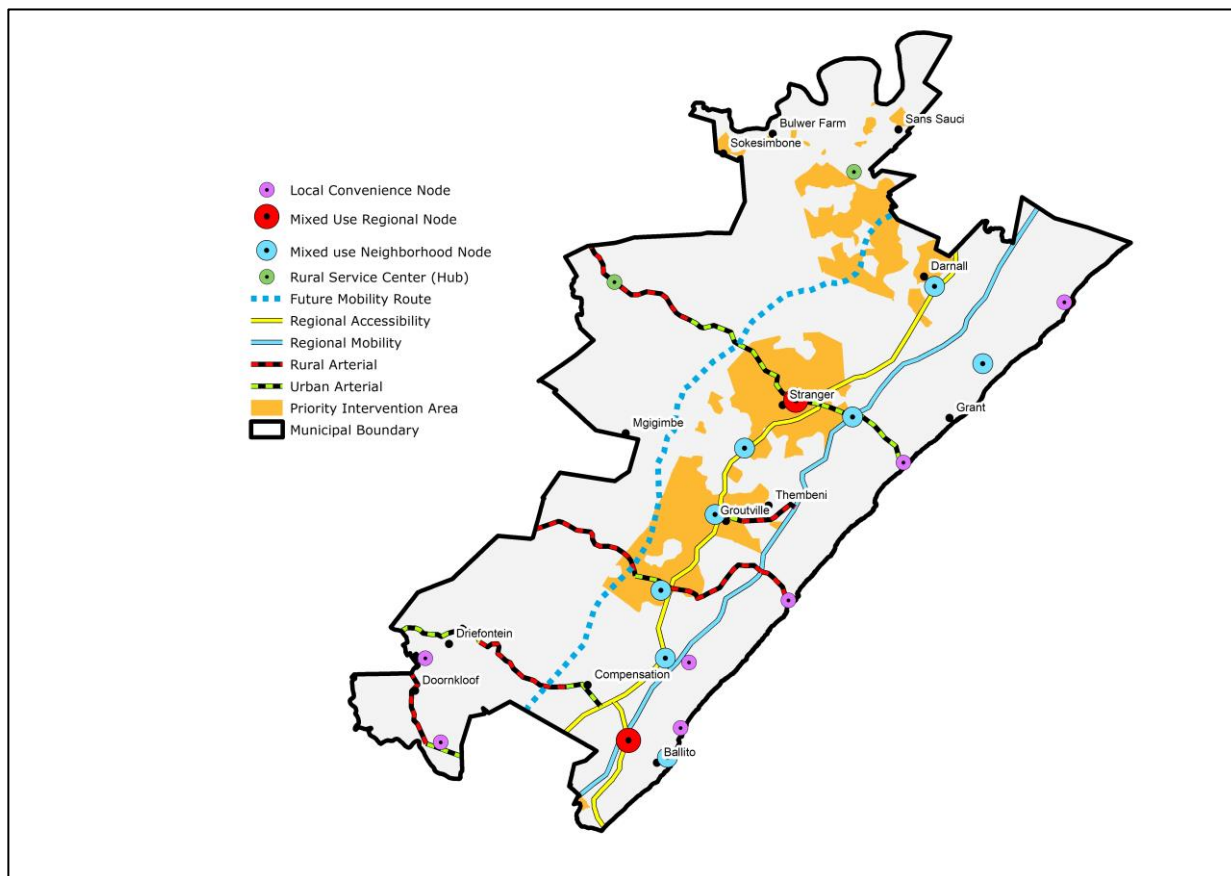
The purpose and scope of the plan, its stakeholders, an overview of relevant internal and external context, the asset and asset management system status, and approach to reporting the level of confidence in the plan's outputs.

1	Plan objectives	To plan effective and efficient infrastructure-based service delivery for the solid waste department in KwaDukuza Local Municipality, utilising available resources. It considers tactics for the application of the municipality's infrastructure assets, as well as the establishment of the required management practices, over a period of 10 years.
2	Mandate	<p>The Municipal Services Directorate is charged with the responsibility of ensuring that KDM provides for a clean and safe environment to live, work and play. The department is in the forefront of delivering sustainable services in an integrated approach. Contributing to the protection of public health, safety and the environment.</p> <p>The KwaDukuza Local Municipality (KDM) is required to ensure that solid waste is managed and removed in a responsible and sustainable manner in all areas within its jurisdiction including the tribal authority areas. Included in its mandate is refuse collection, waste disposal, recycling and waste reduction, as well as street cleaning.</p> <p>The municipality provides kerb collection to most formal areas, informal areas adjacent to these face challenges of formalisation and access and are currently not on the billing system. Rural areas within the municipality are provided with communal bins as a means of providing a basic service. Public amenities and services also need to be serviced as well as non-residential customers.</p>
3	Stakeholders	<p>Stakeholders who are impacted by, or have an impact on the solid waste department include, but are not limited to:</p> <ul style="list-style-type: none"> • The waste management department • Fleet management • Physical asset management office and broader municipality • Customers • iLembe District Municipality (IDM) • Private service providers and contractors • Independent lobby groups/ organisations (e.g. environmentalists) • The environment • Tourists and other visitors to the municipality
4	Social context	<p>Situated along the east coast of South Africa, KDM covers approximately 633km² of land area including a 50km coastline. Specific social context in the area:</p> <ul style="list-style-type: none"> • The municipality has over 80% of its customers in urban areas and 10% in tribal areas, the rural areas are dispersed and unevenly spread and provide an affordability challenge in terms of service provision. • A high rate of unemployment (tied to a lack of employment opportunities and marketable skills). • Residential settlements of Shakaskraal and Groutville have grown along the R102.

5	Political context	<ul style="list-style-type: none"> • Traditional authority land is found along the boundary with Maphumulo Local Municipality in a small area of the North west of KDM. This land is governed by tradition and tenure which is administered by Traditional Leaders and is characterized by a strong subsistence base. • After the 2016 Local Government Elections, KwaDukuza Municipality's Wards were increased from 27 To 29 Wards and councillors from 53 To 57. • Political vision: In terms of legislation the IDP is the principal strategic planning instrument which must guide and inform all planning, budgeting, management and decision-making in a municipality.
6	Economic context	<p>KDM is the economic hub of the iLembe District Municipality. Some of the key points in relation to economic context include:</p> <ul style="list-style-type: none"> • The towns of KwaDukuza (Stanger town) and Ballito are the primary economic areas, other urban areas include Shakaskraal and Blythedale; • The key industrial activity is commercial agriculture (sugar cane farming) which contributes 23% to its GDP, followed by the manufacturing sector and tourism with primary factors attracting tourists to the area include beaches, culture and wildlife; • With industrial development concentrated in the KwaDukuza node including the Gledhow and Darnall Sugar Milling operations, the municipality also accommodates areas of afforestation and related paper mills at Mandeni and KwaDukuza; • Being located between two port cities (Durban and Richards Bay) provides KDM with an opportunity to benefit from trade and economic growth initiatives; and • More job opportunities and economic development programmes are needed, although KDM currently has an economic growth rate higher than the national average.
7	Technical context	<p>The Solid Waste Department does not have any current software or smart route systems in place.</p>
8	Financial context	<p>KDM's financial position is stable with the revenue ratio remaining within the 85% range. The municipality is not dependent on grant funding. The solid waste department is funded from internal operations budget. The total outstanding debt from refuse removal is currently R 14 million, 50% of these debts have been owed for a period greater than 120 days, indicating a debt collection problem.</p>
9	Legal context	<p>Several statutory documents govern refuse removal in municipalities, including:</p> <ul style="list-style-type: none"> • The South African Constitution – requires that all citizens have access to basic services; • the Government Municipal Systems Act -details the municipal responsibilities in relation to provision of basic services; and • the National Environmental Management: Waste Act, 2008 – States a statutory obligation to provide service to an acceptable standard, designate a waste officer and develop integrated waste management plans.
10	Institutional context	<p>The Solid Waste Department in KDM does not currently have an Integrated Waste Management Plan, it is currently in the process of being produced. The department also has to abide by specific waste bye-laws as well as rely on the governance of the waste management officer. Furthermore, the department needs to align projects and targets to identified needs in the IDP. Although, currently no documented procedures exist, a municipal-wide asset management procedures document is being developed.</p>

11	Procurement strategy	<ul style="list-style-type: none"> • Poor procurement planning by some user departments in KDM has had an effect on the MFMA compliance. As such additional procurement checklists and reporting procedures have been implemented. • There are preferential procurement strategies in place to promote economic development.
12	Sector strategic objectives	The main objective of the department is to provide basic service to all, as per the SDBIP target of providing service to households. The department also wants to promote a responsible and educated approach to waste reduction and recycling.
13	AM objectives - AMS	Ensure that a complete, accurate and up-to-date asset management system is maintained, currently the department has implemented a waste information system. KDM waste management department has been improving its functionality through the introduction of managerial tools in order to achieve its goals and objectives. Strategies and systems were implemented for increased productivity in delivering services.
14	AM objectives - Infrastructure	Ensure assets controlled and owned by the municipality are properly accounted for, maintained and managed to continue to provide service to the customers as per the municipal objective.
15	Key developmental themes	<p>Several developmental themes are highlighted in the SDF and IDP, the specific developmental nodes, development routes and priority areas for development are shown in Figure 1.1.</p> <ul style="list-style-type: none"> • Industrial regeneration to support industry and manufacturing. • Focus on tourism opportunities along the coastline, note the concentration of identified nodes on the coast and transport routes parallel to the coast. • Planning basic services to support such development – solid waste removal and adequate waste bins will be needed to ensure clean and attractive tourism areas. • Promoting conservation and sustainable/responsible development, implementing conservation management. • Encouraging densification along transport routes and in urban areas. • Priority intervention areas near Groutville and Stranger to ensure formal and organised development in line with municipal vision. • Investor incentives for commercial and industrial development as well as key development plans to promote tourism.

Figure 1.1: Identified development nodes, corridors and priority areas for development in KDM



<p>16</p>	<p>Spatial structure, ongoing development initiatives</p>	<p>There is a large amount of scattered rural development in the municipality, as the population increases it continues to add pressure to existing services. Rapid urbanisation is seen in the area as people move towards the urban centres. This is due to accessibility (including to public transport) and the availability of social facilities and basic services. The following developmental initiatives are highlighted:</p> <ul style="list-style-type: none"> • Provide positive environment for Industrial Development. • Renewal and Regeneration of KwaDukuza Main town and Shakaskraal. • Development of Priority clusters: <ul style="list-style-type: none"> ○ KwaDukuza node, ○ Grootville, ○ Woodmead/Shayamoya and Southern node/ Driefontein <p>The SDF highlights a move towards nodal development that increase density of settlement and promotes compactness.</p> <p>Main urban centres, village centres and tourism centres are shown in Figure 1.2. The figure also shows municipal planning for development as set out in the SDF. From the figure the large areas of urban development can be seen which threaten the natural high agriculture potential land in KDM. Part of the spatial plan is to define urban development edges and protect the natural resources. KDM has the highest proportion of urban area out of all the local municipalities in the district which is shown in Figure 1.3.</p>
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Figure 1.2: Predominant land use areas in the municipality

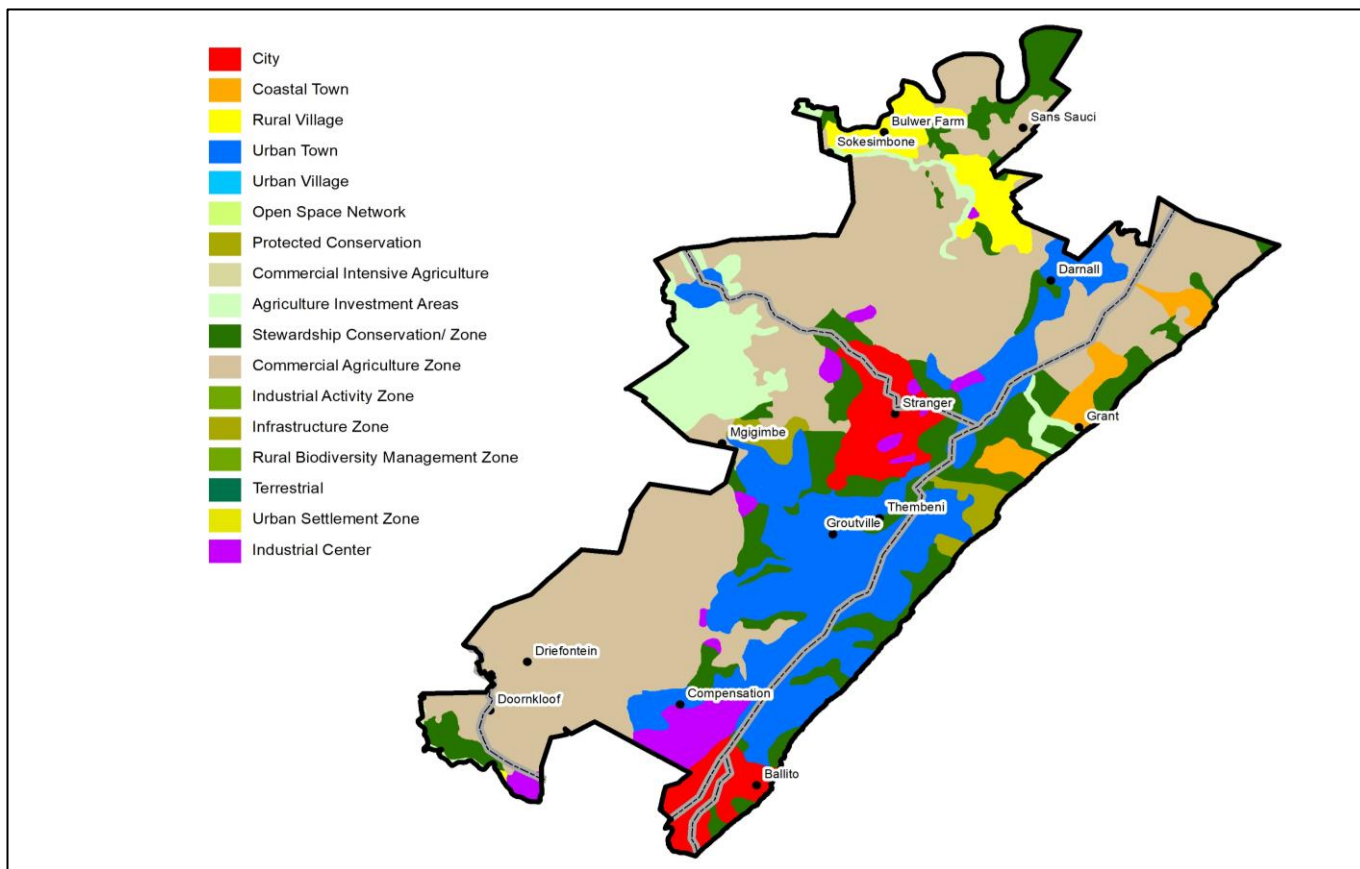
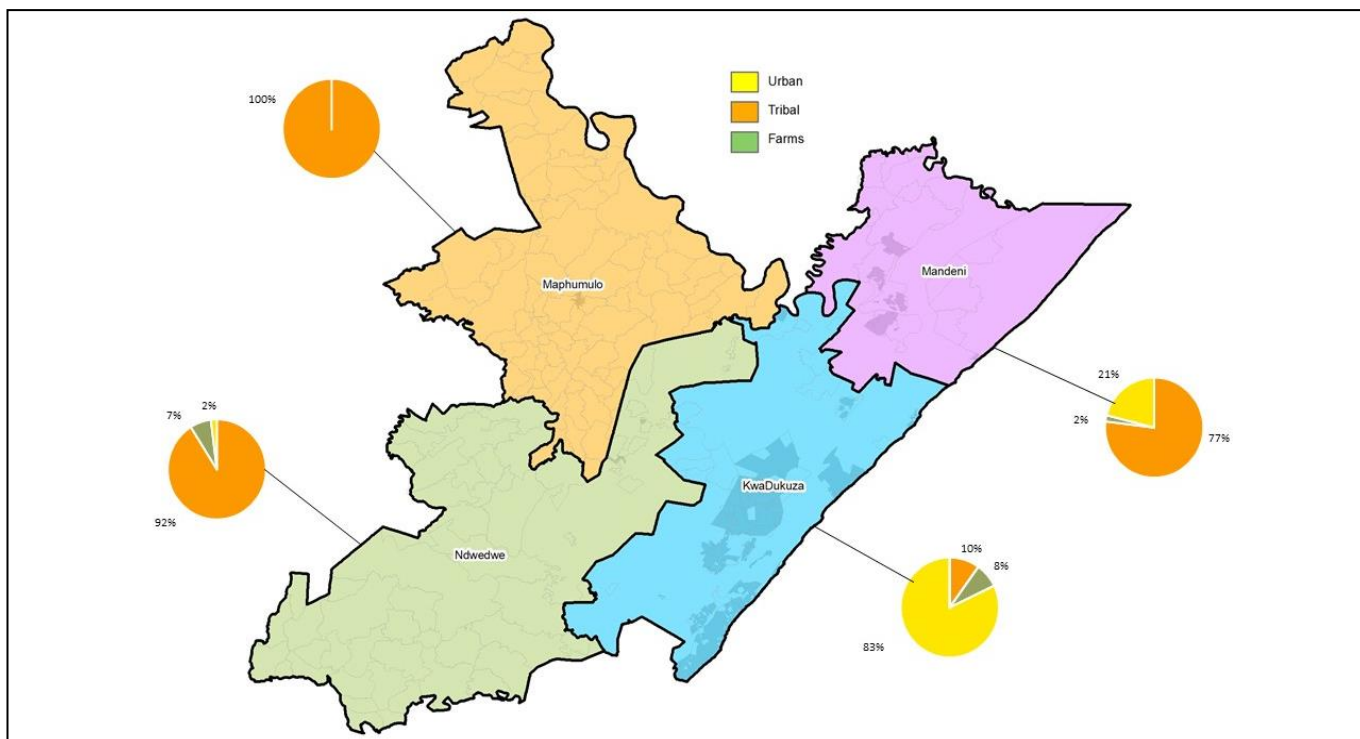
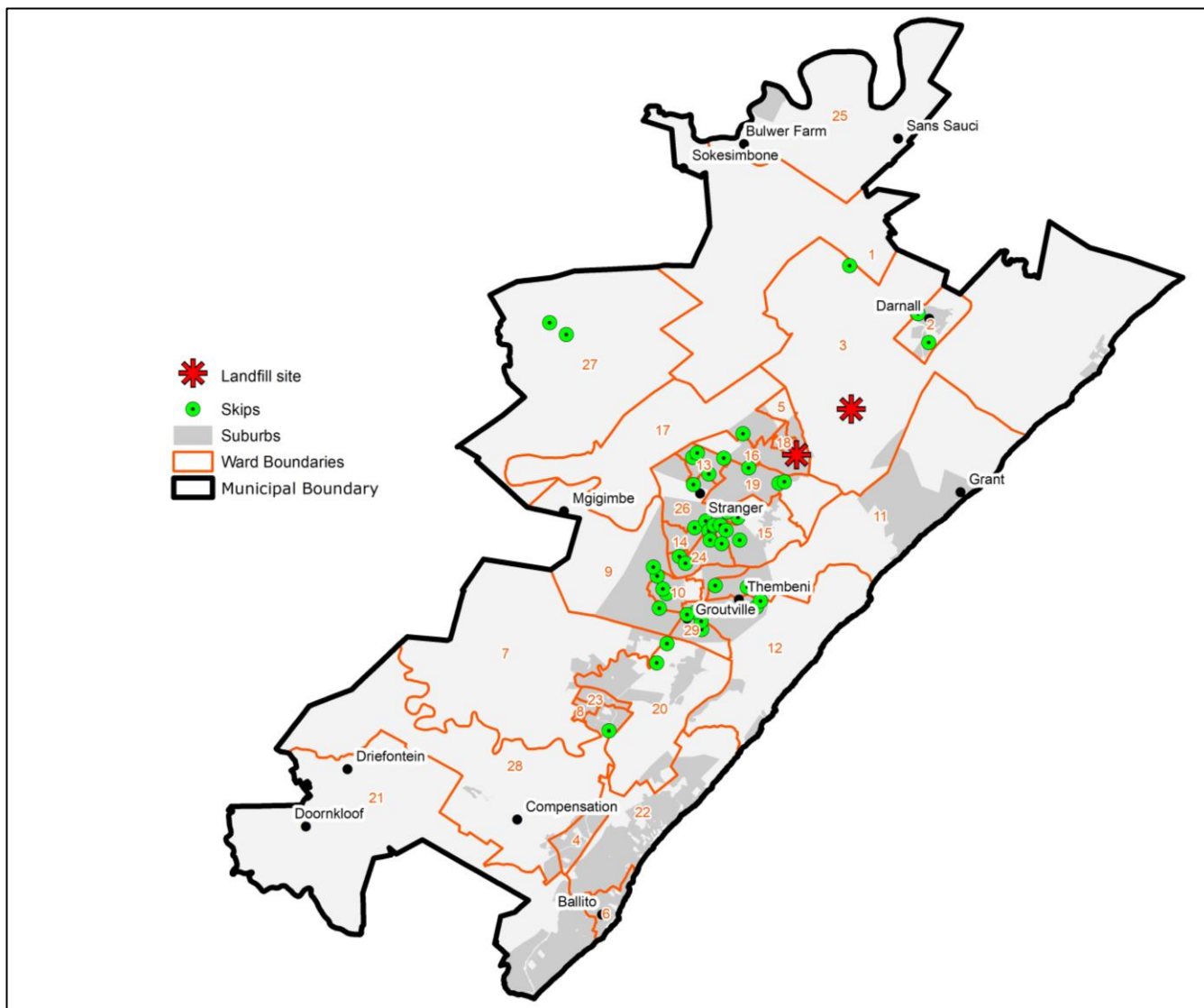


Figure 1.3: Urban to rural proportions across the iLembe District Municipality



17	Key sector AM roles (and suppliers)	<p>The Director of Municipal Services manages the planning of waste activities and the provision of public waste services. Currently the positions of Director of Operations as well as Manager of Waste Management are vacant. Key points are highlighted for the department:</p> <ul style="list-style-type: none"> • KDM makes use of two private landfill sites in the district and is decommissioning and rehabilitating the Shakaville disposal site. • Currently the municipality provides kerbside collection in most urban areas as well as providing over 100 communal collection skips around the municipal area (in semi-formal areas specifically where access for trucks is a challenge). • The Department targets daily collection of skips – indicating a capacity constraint. • The municipality contracts out, with adequate supervision, the waste collection and street sweeping services in the southern area (Ballito and surrounds) and the small town of Shakaskraal. • Population growth is high and the sector’s human resources are constrained despite having 26 additional one person contractors assisting in various wards, leading to a refuse bag retrieval rate of only 40% in some areas. • The two private landfill sites and the location of the communal skips are illustrated in Figure 1.4, note the location of the skips to be only on a limited basis in the non-urban areas. • There is a private transfer station in the southern area that sends resulting mulch to a composting facility. • KDM is responsible for illegal dumping in the north while the private contractor does the same in the south. • KDM has rehabilitated a transfer station for use and is in the process of implementing waste minimisation programmes.
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Figure 1.4: Location of solid waste facilities



18	Overview of infrastructure	<p>The Department owns mostly skips, bins and vehicles for service provision as well as one transfer station. Currently three waste collection trucks are owned and 351 waste containers (skips and bins).</p> <p>The collection vehicles have the lowest portfolio health (reflective of the portfolio condition) with more than 80% of their value depreciated (Table 1.1). This indicates that the municipality will need to invest money in vehicles in the short term – especially because they are such short life assets (EUL = 5). In contrast both the skips and bins have ‘very good’ and ‘good’ portfolio health grades respectively.</p> <p>The total cost price of solid waste assets is indicated as R 7.5 million in the financial asset register, however the calculated replacement value in 2018 is R 9.5 million (which accounts for the time value of money). The depreciated replacement cost is at R 4.9 million (carrying value at R 4 million), showing the majority of the portfolio has not yet substantially depreciated. Note that the solid waste asset portfolio is usually reported as having a value of R 3.5m (when focusing on just the bins and skips as is in the AFS).</p>
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Table 1.1: Asset extent summary

								from AFS	
Asset Group	Extent (No.)	Replacement value (R '000)	DRC (R '000)	Portfolio Health	Residual value (R '000)	Annual consumption (R '000)	Maintenance need (R '000 pa)	AFS Cost opening (R '000)	AFS Carrying value opening (R '000)
Street rubbish bins	227	426	236	55%	-	33		344	197
Refuse skips	124	4 043	2 538	63%	-	202	81	3 195	2 070
Vehicles	3	3 739	1 293	19%	723	603	75	2 891	1 029
Transfer site	1	1 246	839	67%	-	91	25	1 095	754
TOTAL	354	9 454	4 906	48%	723	930	181	7 524	4 051

19	Overview of the level of performance	<p>The department managed to provide some additional skips to alleviate backlog in recent years. The current projects focus on recycling, transfer stations and composting station showing an interest in growing and investing in the department. The current budget makes provision for continued use of the service provider with no mention of reducing the amount of service outsourced.</p> <p>Some key department risks include:</p> <ul style="list-style-type: none"> • Department resourcing, vacant positions. • Illegal dumping across the municipality, a need for waste education campaigns was identified as a mitigation. • High cost of addressing backlog due to dispersed rural population. <p>There is opportunity to increase awareness programmes from the solid waste department officials to communities.</p>
20	AM maturity	<p>KDM is a category B municipality and is coming of a low asset management practises base, however KDM has demonstrated its commitment to improving its practices by participating in the implementation of the Vuthela-Ilembe LED project. There is a relatively low level of asset management practice maturity, especially in the field of physical asset management within KDM. This AMP is a high-level initial document intended to start steering the municipality towards implementing quality asset management procedures in general and asset management planning in particular</p>
21	Availability and quality of key data and information, lifecycle models	<p>The asset register was used as a base for this plan, but comprises predominantly accounting fields. The condition f Condition status was taken from the asset register. Some contextual information was obtained from the IDP and annual report.</p>
22	Key data / modelling assumptions	<ul style="list-style-type: none"> • The purchase price for items was used to determine the current replacement cost (CRC) by adding an assumed average inflation of 4% pa. • A straight-line depreciation was applied to obtain the DRC from the CRC • RUL was taken from the register and the same RUL used to determine the DRC.

23	Chapter summary	<p>KDM has an obligation to provide waste removal and management services within its jurisdiction, it provides daily collection services for skips and weekly services for kerb collection. Currently the municipality makes use of a service provider for the southern portion of the collection services it provides.</p> <p>Key stakeholders in the department include the municipality, private service providers, community members and the environment. Currently there are key positions of the waste department still vacant.</p> <p>The portfolio value is approximately R 9.5 million with an overall health grade of 'Fair' (48%) and is comprised of vehicles, waste containers and a transfer station. The portfolio carries residual value on its vehicle assets.</p> <p>Key constraints, risks and opportunities include:</p> <ul style="list-style-type: none"> • Dispersed, rural households difficult to service, • communities struggling with employment, • opportunity due to current trend of urbanization, • opportunity on focusing on reduction and awareness initiatives, • municipality promoting tourism – will need associated removal services in key areas, • Current liquidity status, and • shortage of human and skill resources within the department and municipality as a whole.
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2 LEVELS OF SERVICE

An overview and assessment of the prevailing levels and standards of service; current backlogs, historic and existing initiatives; summary of needs, challenges, associated strategic risks, opportunities and priorities; and proposed strategic and tactical responses.

1	Existing levels and standards	Currently around 73% of the residential KDM customers have access to waste removal services with a further 22% claiming they make use of their own disposal. Those in formal urban areas have a higher level of service (kerbside collection) than those in informal or rural areas, who are serviced through communal collection points.
2	Historic trends and ongoing initiatives	<p>The KDM solid waste department had targeted a 100% access to a basic level of solid waste removal and also 100% free basic access for those earning below the set threshold (R 3 500 p/m). The department reported these targets being 100% met in 2017, which was an improvement from the stated 3% backlog in 2016.</p> <p>However, this relates to formal residents and there is a proportion of informal residents who will not have adequate access. Furthermore the 22.3% of surveyed households reporting on using 'own refuse dump' needs to be investigated for the appropriateness of such disposal methods and within this chapter a proportion of this number is assumed to be a part of the backlog, as the disposal is not currently monitored.</p>
3	Strategic directives	The key focus of KDM is to reduce waste generation and promote a sustainable and efficient waste management service. The department aims to ensure access for all and free basic access for the indigent population.
4	LOS / SOS criteria	The practice of providing a higher level of service in urban areas was an adoption of existing practice – adding services into the more rural and informal areas was targeted at a lower LOS to try to provide the service to more people and for a more feasible approach due to the long distances between residence in some areas. Furthermore, due to accessibility issues in informal areas.
5	Targets	<p>The current municipal target for solid waste collection is the provision of communal collection (LOS 1), this is due to the practicality of collection in the areas where the backlog exists. It is also the nationally acceptable minimum LOS. Where feasible new development and backlogs in urban areas will be targeted at a LOS 2 (kerbside collection).</p> <p>The target for solid waste disposal is LOS 1 as only non-hazardous waste is disposed and LOS 1 is applicable for cleansing in urban areas with a LOS 0 for cleansing in rural areas. The main municipal targets are highlighted in Table 2.1.</p>

Table 2.1: Level of service target for KDM

SOLID WASTE DISPOSAL			
Level of service	Solid waste collection	Solid waste disposal	Cleansing public areas
LOS 0	None	None	None
LOS 1	Communal waste collection point *	Disposal of non-hazardous waste at landfill site *	Cleaning public areas and refuse bins *
LOS 2	Weekly kerbside waste removal *	Disposal of hazardous waste at landfill site*	
LOS 3	Weekly waste removal from site *		

* With appropriate conveyance, disposal and landfill facilities provided.

7	Service delivery backlogs	<p>Currently KDM provides refuse collection to 73% of its customers (either through collection or contracted service provision), with the remaining 27% having no access or making use of their own waste disposal – which can have risks. The Department has reported full service provision to estimated households in previous years, however a portion of households who claim to provide their own disposal are assumed in this plan to possibly not do so to an acceptable standard</p> <p>Table 2.2 shows the level of service distribution for the various customer types. Approximately 57 000 households (61%) are provided with kerbside collection of refuse, in the formal urban areas the service includes street cleaning. The municipal target is that of communal refuse collection (LOS 1), although this target is higher for urban areas, providing service to those who have a LOS 0 (14%) is prioritised. Table 2.2 highlights the number of households with an access backlog, this is noting that a proportion of the customers who claim to have their own method of disposal are assumed to not do so to an environmentally adequate standard.</p> <p>The municipality provides a weekly collection, which sometimes becomes a collection every two weeks. In some areas retrieval rate of bags is noted at 40% - which is an area to improve standard of service. A low rate of retrieval could be an indicator of constrained human resources, unreliable equipment or inefficiency of operations.</p>
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Table 2.2: Types of customers distributed into current LOS

Type customer	Total HH per customer type	Level 0	Level 1	Level 2	Level 3
		No of households	No of households	No of households	No of households
Urban	76 489	9 021	12 338	55 129	
Tribal/Traditional	8 901	3 560	5 340		
Farm	7 324		5 445	1 879	
Totals	92 714	12 581	23 124	57 008	-
%		14%	25%	61%	

6	Lifecycle cost implications	Providing refuse collection for all the households in the municipality has large cost implications, not just the R 9 million capital that would be required but also the addition
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	<p>of R 3 million operational cost per annum. Combined this would be R 1.2 million per annum spending just on the backlog, as can be seen in Table 2.3.</p> <p>Currently the department has a number of capital projects planned in the short term that addresses some of this access backlog. However, providing services for all of the customers, especially where some are informal will prove infeasible because although the capital need is a once off the additional operational cost could prove unaffordable. The additional operational cost is R 3 million, but it is an ongoing cost. Additionally, providing skips as a communal collection point does not increase the revenue base as providing a higher level of service would. Expanding the service puts additional strain on the department's human resources and affects the standard of service.</p>
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Table 2.3: Cost implication of addressing the backlog

Cost of upgrading to target level (R '000)				
	Resolving no service backlog capital	Resolving no service backlog ops (R '000 pa)	Resolving urban LOS backlog capital	Resolving urban LOS backlog ops (R '000 pa)
Urban	3 686	1 594	3 031	1 149
Tribal/Traditional	2 320	298		
Farm	-	-		
Total:	6 007	1 892	3 031	1 149
Total capital backlog eradication:	9 038	Spending per year required:	1 208*	
Total operational backlog eradication pa:	3 041			

*noting that the operational additional cost per year will be cumulative

8	LOS / SOS backlog reduction tactics	<p>The department has identified a number of gaps in relation to the service provision and has identified a need for specific approaches:</p> <ul style="list-style-type: none"> • waste avoidance, minimization and diversion, • extending access to residential waste collection services, • resource recovery infrastructure, • a need for waste drop off facilities, • additional human and other resources, • waste education and awareness programmes, and • waste information management systems.
9	Chapter confidence	<p>The majority of population and service provision data is based on the last census; thus, the certainty is reduced slightly. There is a need to spatially quantify the customer base not just for accurate modelling but accurate billing purposes as well.</p> <p>Key assumptions include:</p> <ul style="list-style-type: none"> • Assumed 60% of the traditional areas are also served although through own disposal methods, • average km driven by collection truck – as well as service associated costs for cost elements,

		<ul style="list-style-type: none"> • assumed some residential farms make use of private service provision, • assumed that not all customers who claimed to have their own waste disposal are doing so to an acceptable standard and so will still require service, • the average skip cost is assumption based, and • 20% additional cost for providing skips in more remote areas.
10	Chapter summary	<p>Currently approximately 14% of customers do not receive any level of service in KDM. This is a backlog (12 581 households with no access at a cost of R 6 million to address – plus additional upgrade of service needed in the urban areas) assumed to be made up of informal areas in urban or peri-urban areas as well as some customers who claim to have their own disposal but may not doing so to an acceptable standard. There is not only a large capital cost associated with this service provision but an additional operational cost (this associated cost is increased in rural areas). Completely eradicating the backlog with the desired standard of service is likely to be cost prohibitive, though priority should be given to addressing the backlog in the urban areas.</p>

3 FUTURE DEMAND

An overview of customer growth trends; existing and proposed demand management techniques; associated infrastructure implications; summary of needs, challenges, risks and opportunities, and proposed strategic and tactical responses.

1	Historic growth trends	<p>Growth in the municipality between the census 2011 and the community survey in 2016 increased by almost 20%. This was a smaller increase than that of the previous census (almost by half), 37.8% occurred between 2001 and the 2011 census (from 167 805 to 231 187 people). The current population is forecast at 281 053 for 2018.</p> <p>KwaDukuza has the highest growth rate in the district, while two other local municipalities had negative growth (Ndwedwe and Maphumulo). Approximately 90 000 additional people are estimated during peak seasons because of holiday makers – this is a large increase which occurs predominantly in the built-up coastal regions.</p>
2	Demand drivers	<p>The largest demand driver is tourism and holiday visitors in Ballito during the peak season of December. Currently the opportunities in the urban areas are driving the trend toward urbanization along with the increased access to services. The municipality has a high proportion of urban areas. Manufacturing in the southern areas is increasing with more notable growth in the tourism sector both of which will need specific catering towards waste management. Along the urban periphery there is a less formal pattern of settlement with high densities and growth rates.</p>
3	Growth strategy	<p>The growth strategy spatially, as outlined in the SDF, is focused on a spatial lattice along the public transport routes with specific development nodes (see Figure 1.1). In addition, there is a coastal cluster concept to promote development along the coast but contained by the freeway as an urban growth boundary. This strategy further supports a move away from trying to provide everyone without access to services and instead promotes a densification approach to allow for sustainable service provision. This view also looks to integrate service provision to maximise the use of limited resources.</p> <p>A focus on development in specific nodes benefits the provision of refuse removal as it makes implementing a higher (kerb side) level of service to customers more feasible. There is also a view for equity and ease of access which can be accomplished without the challenge of remote areas.</p>
4	Sector demand forecast	<p>Currently the customer demand is forecast to increase at a slow but steady rate per year. If not met this will start to increase the access backlog. Notably though the growth trend is a movement to developed areas or along transport routes.</p> <p>As areas become denser, there will be a greater demand on the service (dense living areas make it more challenging for individuals to dispose of their own waste). The current department budget provides for capital projects for new assets as well as transfer and garden refuse facilities. This meets some of the access backlog but should be planned in such a way as to maximise provision with the view of being able to provide for a portion of the growth in the municipality as well. Proper bulk trucks will need to be planned to move waste from the transfer station to the landfill.</p>

	Over the 10-year planning period the number of households in the municipality is expected to increase by 7 491, as shown in Table 3.1 . Waste reduction and waste recycling awareness and education campaigns are considered to be increased to try influence the waste generated per person in the municipality.
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Table 3.1: KwaDukuza population growth forecast

Current Population (2018)	Growth Rate (p/a)	Population at end of Planning period (2028)	Population Increase	Household Increase
281 052	0.78 %	303 760	22 708	7 491

5	Infrastructure impact	<p>An increased customer base is going to require increased service and a reliable standard of service from the Solid Waste Department. The current use of private landfill sites can be continued as there is a view from the IDM to construct a district landfill That will provide a more sustainable option in the long term. However, the increase in population will need to be supported by additional garden refuse and/or recycling sites. The rehabilitated transfer station will support the forecasted population growth especially in conjunction with waste reduction tactics.</p> <p>In the short term the addition of skips for communal waste is needed to meet some of the access backlog as well as additional vehicles and bins for the identified gap in the urban areas and for addressing growth per year. Providing services for the full population growth over the planning period is in the range of R 3.2 million, with the majority of the growth in urban areas – this will then have an impact on the required operational costs.</p>
6	Demand management tactics	<p>The waste department has started a pilot phase for a waste minimalization project. The project aims at improving recycling in and around the city with separation bins installed in the CBD. The department is also developing a waste transfer station to allow for more effective delivery of service, storage and transfer of waste as well as recycling initiatives. The department recently developed SOPs for its day to day operations to improve efficiencies and compiled a ward-based education and awareness schedule.</p> <p>Part of the solid waste department initiative was to hire through the EPWP for cleanup and waste collection, although, additional opportunities should be explored. As part of a wider campaign EPWP workers could be involved in the awareness campaigns as well as paid to clean and collect refuse. Small scale recycling could also be incentivized and EPWP workers sourced in remote areas to pick up refuse while talking to communities about the importance of environmentally sound waste management.</p> <p>For the lifecycle planning the growth in the urban areas will be prioritized to further promote the vision of nodal development in the municipality.</p>
7	Chapter confidence	The growth forecast is based on a number of assumptions on future economic, social and behavioral trends, the chapter is given a confidence of 75% where some estimation has been applied. Despite this it still gives an overview of the direction the growth is headed in and what factors need to be considered when planning for such growth. As such the alternative demand management approaches and impacts should be considered.
8	Chapter summary	Growth is never predictable but sound assumptions have been used to assume that the growth will remain at a low percentage increase per year going forward (a total of 7 491 additional households predicted over the 10-year period). KDM has a spatial vision of priority nodes and promoting the growth within those areas to ease the demand on service delivery. Realistically the full growth need per year will not be met. Instead services are

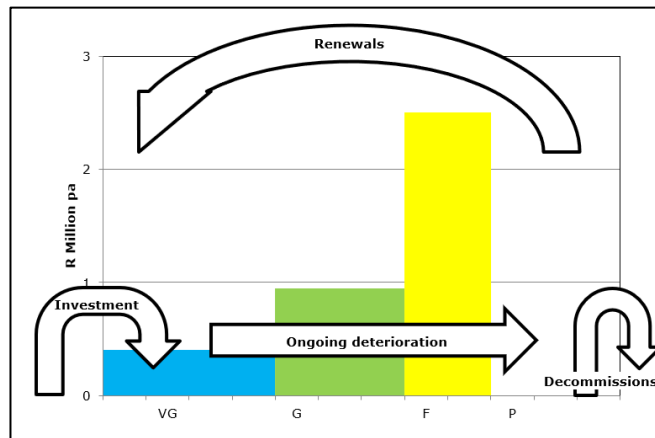
		<p>promoted in specific areas to encourage growth in line with the municipal spatial vision. The suggested approach is to meet growth demand in the identified priority development areas and nodes.</p> <p>Key notes:</p> <ul style="list-style-type: none">• There is an opportunity to promote proper waste management awareness in the community and the department should continue with the waste minimalization project.• There is an opportunity to involve the EPWP programme.• The available private landfills are expected to be adequate provided the district continues with the development of its planned district landfill site.
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4 LIFE-CYCLE PLAN

An overview of the infrastructure life-cycle needs, affordability, constraints, delivery tactics, risks and opportunities, and proposed short, medium and long-term responses (projects, programmes and budgets).

1	Life-cycle risk profile	<p>Currently the overall portfolio health status is fair (and indicates that around half of the value of the assets has not yet depreciated). In the absence of proper investment, the portfolio health grade will move steadily towards a state of 'very poor'. This concept is represented in Figure 4.1, and reflects the current portfolio status. The figure also shows how the addition of new assets will improve the health status, but only briefly as these assets will then start the deterioration cycle and only through capital renewal (replacement or refurbishment of skips, sites and vehicles) can the portfolio health status be maintained. The different bands are representative of asset value in varying condition from 'very good', 'good', 'fair' through to 'poor' and 'very poor'.</p>
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Figure 4.1: Current portfolio health status



2	Capital programmes	<p>In the 2017/18 financial year there was R 435 359 capital budget allocated to the department, with an additional R 433 403 to machinery and equipment directly contributing to the department (weigh bridge). In the first two budget years there is an additional R 3 million per year allocated to the waste transfer station and dry composting station projects with additional budget per year for bins and skips (also considered machinery and equipment in the MTREF). The applicable projects are shown in Table 4.1. The first two budgeted years have capital that will contribute to the access backlog through provision of new skips and bins, however there is currently no renewal spending scheduled for existing assets. This will need to be changed going forward as the assets need to be maintained in order to provide an adequate service.</p> <p>The projects scheduled for the budget years are for a number of different facility types such as a drop off centre, waste transfer site and a dry waste composting station. Although these projects do not directly reduce an access backlog they do address a need for bulk facilities and waste management. This budget is considered as addressing capacity and bulk services – and currently one transfer station is considered adequate for the number</p>
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	<p>of households. However, going forward additional garden refuse or composting sites will be required.</p> <p>The district municipality has started locating feasible sites for a district landfill site, however, this project has no set timelines yet. The site would be beneficial to the provision of solid waste services and would negate the need for a municipal site.</p>
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Table 4.1: KDM solid waste budgeted capital programmes (value in R)

Program/Project description	Asset Class	Total Project Estimate	Current Year 2017/18	Budget Year 2018/19	Budget Year +1 2019/20	Budget Year +2 2020/21
Street Litter Bins	Machinery and Equipment	100 000		50 000	50 000	
Skips	Machinery and Equipment	450 000		250 000	200 000	
Drop Off Centre	Solid Waste Infrastructure	340 359	340 359			
1 x Weight bridge	Machinery and Equipment	1 275 403	433 403	842 000		
Waste Transfer Station	Solid Waste Infrastructure	5 000 000		3 000 000	2 000 000	
Recycling Bins	Machinery and Equipment	295 000	95 000	200 000	–	
Dry Waste Composting Station	Solid Waste Infrastructure	1 000 000		–	1 000 000	
	Total	8 460 762	868 762	4 342 000	3 250 000	

2.1 Growth capital requirements	<p>The capital requirement aspect of service provision is higher for a communal collection point than for kerbside collection – this is due to the cost of providing skips (Table 4.2). The associated increase in operational cost though is far higher for kerbside and site removal services. The modeled operational unit costs, Table 4.3, include provision for fuel, labor associated with collection service as well as licensing for vehicles. The operational unit costs assume an average distance driven by the collection vehicles per day.</p> <p>Table 4.4 shows the costs forecast per year to provide services to meet the growth in population. The majority of this growth is urban and amounts to R 3.2 million over the planning period. On average the spending to meet the increased demand from growth is around R 323 741 per year. Meeting the growth target would be within reach but growth should still be encouraged in a structured way to enforce densification – thus an approach of giving priority to addressing urban growth.</p> <p>The difference in the projected needs for growth provision and the current access backlog are highlighted in Figure 4.2. This further emphasises the need for an alternative approach.</p>
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		With provision of skips or bins for new customers the service capacity will be constrained by operational aspects such as human and vehicle resources. The required capital planned to address the growth and backlog accounts for a vehicle cost, and additional fleet will need to be procured.
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Table 4.2: Capital cost for service provision per household (not including facility infrastructure provision)

	Skip capital	Skip per household	Kerbside capital	Capital per household
Skips	9 128.73	456.44		
Vehicles		86.71		408.64
	Total:	543.15		408.64

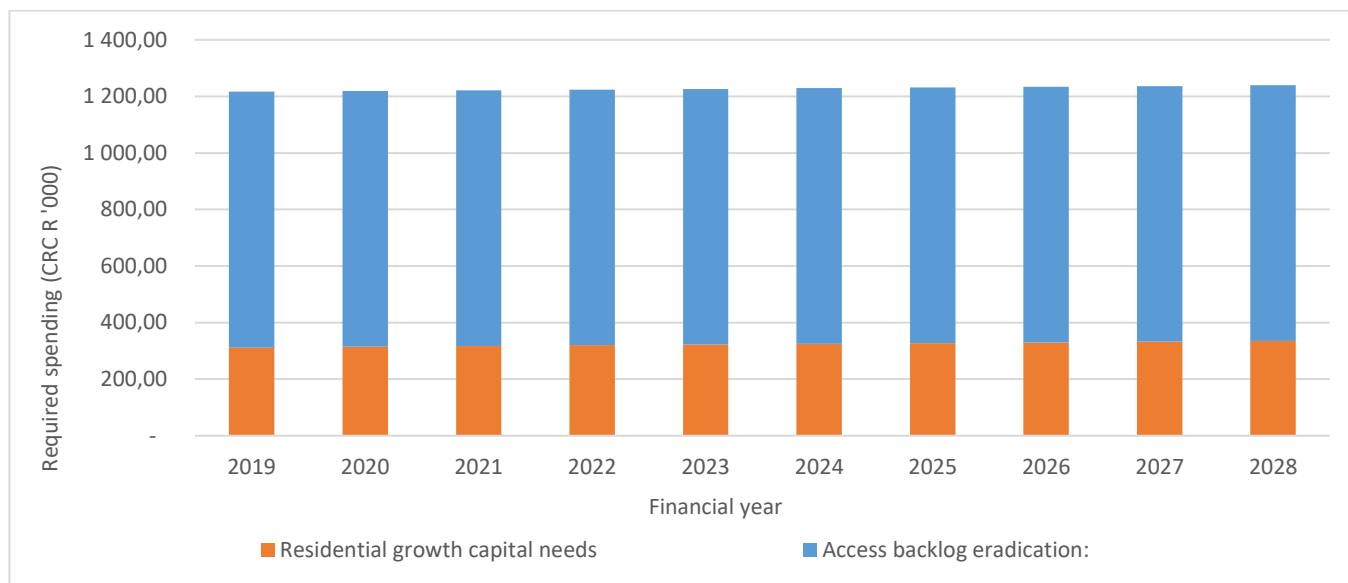
Table 4.3: Operational cost associated with provision of service (per annum cost)

LOS provision		2018 operational cost per customer unit
1	Communal waste collection point	83.60
2	Weekly kerbside waste removal	176.71
3	Weekly waste removal from site	1 359.28

Table 4.4: Capital needs to provide target LOS to additional customers from growth (R '000)

Customer type:	2019	2020	2021	2022-2025	2026-2028	Total over period
Urban	243.80	245.70	247.62	1 009.94	778.33	2 525.39
Tribal/ Traditional	37.71	38.00	38.30	156.20	120.38	390.59
Farm	31.03	31.27	31.52	128.54	99.06	321.42
Total Residential:	312.54	314.98	317.43	1 294.69	997.77	3 237.41

Figure 4.2: Required capital expenditure for access backlog and growth



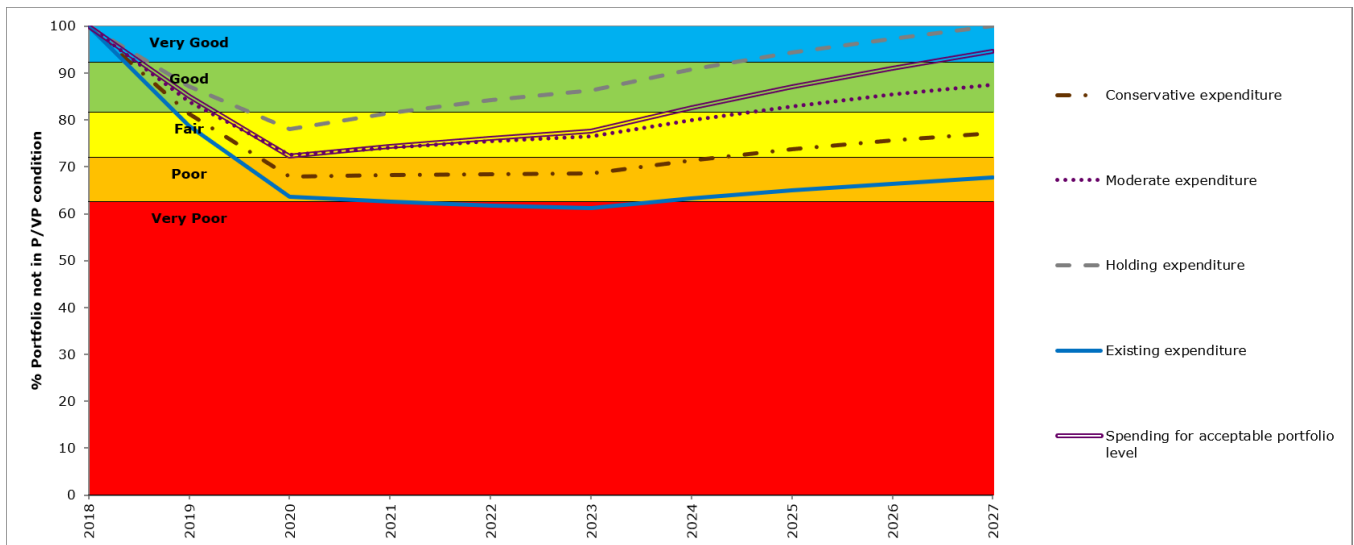
<p>2.2 Renewal capital requirements</p>	<p>While discussing the current state of the portfolio it was noted that the majority of the assets were in good health with the exception of the waste vehicles. These had a notably low portfolio health of only 19% - this indicates they have used up the majority of their expected life – and the assets need capital input in the form of replacement or renewal. This is impacted by having a residual value and an expected life span of less than 10 years. This is also considered a ‘technical backlog’ and is currently R 1.72 million (the depreciated portion of the vehicle asset group), 18.2% of the portfolio asset value.</p> <p>Currently the majority of assets in the solid waste portfolio have EULs less than 20years. Different renewal scenarios were projected to illustrate the effect of different levels of renewal spending per year on the portfolio to find a renewal scenario that does not over invest but maintains the portfolio.</p> <p>Table 4.5 shows the spending considered in the different scenarios for new capital investment and capital renewal. Figure 4.3 then illustrates the state of the portfolio after 10 years with these yearly investment scenarios. The following points are noted:</p> <ul style="list-style-type: none"> • If the department continues to spend nothing on capital renewal the portfolio will be in a ‘very poor’ overall condition by 2021, increasing in health only due to new assets. • Trying to keep the existing ‘very good’ health status will require high capital investment (R 956 000 pa). • Spending R 585 000 will result in a portfolio of ‘good’ health status at the end of the period – an acceptable portfolio level. • A minimum of R 284 000 capital renewal is required yearly to keep the portfolio in what is considered an acceptable ‘fair’ condition – but in the longer period this would need to be increased due to the new capital growing the portfolio each year. Thus, if more is spent per year to eradicate the backlog
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		<p>then more renewals are also required per year going forward.</p> <ul style="list-style-type: none"> • The current modelled new asset spending is based on the current MTREF projects. • The portfolio expenditure scenario for capital renewal considered to be acceptable in the longer term is approximately R 850 000 per year.
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Table 4.5: Different capital renewal investment scenarios (R CRC value)

Scenario type	Constant Expenditure Scenarios R per annum				
	Existing expenditure	Holding expenditure	Moderate expenditure	Conservative expenditure	Acceptable portfolio spending
New/Upgrading	2 000 000	2 000 000	2 000 000	2 000 000	1 000 000
Renewal	0	955 877	584 757	283 836	850 000
Decommissioned	94 537	94 537	94 537	94 537	94 537
Total portfolio spending	2 000 000	2 955 877	2 584 757	2 283 836	1 850 000

Figure 4.3: Portfolio health as a result of different renewal investment scenarios



3	Maintenance management	<p>The municipality currently has a very small budget for maintenance (less than 10 000 for all 3 MTREF budget years), although it is more than double what was stated for the current FY (2017/18). This indicates that some of the internal maintenance carried out on the assets should be properly ring-fenced and reported-on to motivate for specific budget going forward.</p> <p>The annual maintenance required is assumed to be (2%) of the current replacement cost of the portfolio. As such the requirement increases in relation to the investment in new assets. The projected maintenance, Table 4.6, increases from R 208 547 per year in 2019 to R 460 521 in 2028 – reflecting the increase in the assets supporting the service in the future.</p>
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Table 4.6: Required annual maintenance expenditure if projected capital investment occurs (R '000)

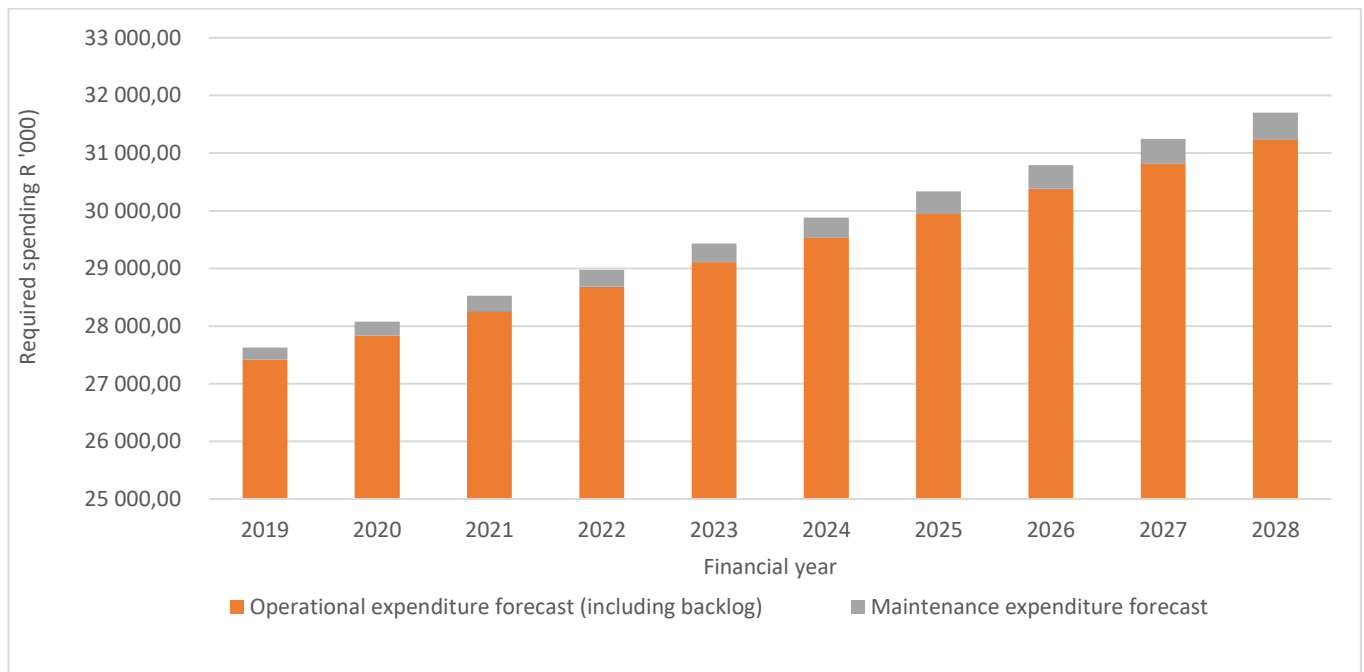
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Maintenance total pa	209	237	265	293	321	349	377	405	433	461
Portfolio CRC	10 681	11 909	13 137	14 364	15 592	16 819	18 047	19 274	20 502	21 730

4	Operations management	<p>Providing services to customers that form part of the access backlog or new customers from growth comes with an associated operational expense and it will be an ongoing expenditure need. Table 4.7 shows the expected operational needs per year. The operational needs increase, with the associated costs of providing the service to additional customers, from R 27.4 million in 2019 to R 31.2 million in 2028 (this is less if only the effect of new customers is considered – R 28.2 million in 2028). The totals illustrate the impact of providing all customers with a service as the operational spending in total over the period is R 16.7 million less if the backlog is not accounted for. A higher service level has a higher associated operational cost. The operational costs are dominant in the department and are even more so due to the external service provider providing collection services as well as making use of private landfill sites.</p> <p>Figure 4.4 shows the combined OPEX expenditure needs for the planning period. The figure shows that the maintenance needs increase significantly (120%) during the planning period and that the operational cost are expected to increase by 36% - maintenance remains only a small portion of the operational cost.</p>
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Table 4.7: Operational spending required per year to service new customers from access backlog and growth (R '000)

Customer type:	2019	2020	2021	2025	2028	Total R
Urban	27 105	27 212	27 319	27 755	28 092	275 936
Tribal/Traditional	6	12	18	42	60	327
Farm	5	10	14	34	49	269
Total residential:	27 116	27 233	27 351	27 831	28 202	276 532
Total with operational for backlog eradication:	27 420	27 841	28 263	29 960	31 242	293 255

Figure 4.4: Required OPEX (operation and maintenance) spending per year



5	Delivery packaging and scheduling	A strategic approach to packaging and scheduling of capital and operational activities, needs to be developed and implemented. A summary of the suggested spending in an mSCOA format is shown in Annexure A .
6	6.1 Life-cycle plan	<p>The total lifecycle plan for the solid waste department is made up of the individual aspects discussed earlier in the chapter.</p> <p>Figure 4.5 and Table 4.8 show the combined department NEEDS for the planning period – a projection based on what the directives are but without constraint. In reality there are budget constraints – and the life cycle plan will need to be adjusted to such.</p> <p>Figure 4.5 illustrates the funding gap with the available operational budget being fairly high (shown as shadows behind the bar graph) and capital budget forecast for the first two budget years for the solid waste department.</p> <p>Due to the illustrated budget being lower than what is needed, the life cycle plan has been adjusted (in the next subsection) so the department spending is reduced to account for the limited budget – but allows for the department to prioritize spending and motivate for more budget going forward.</p>

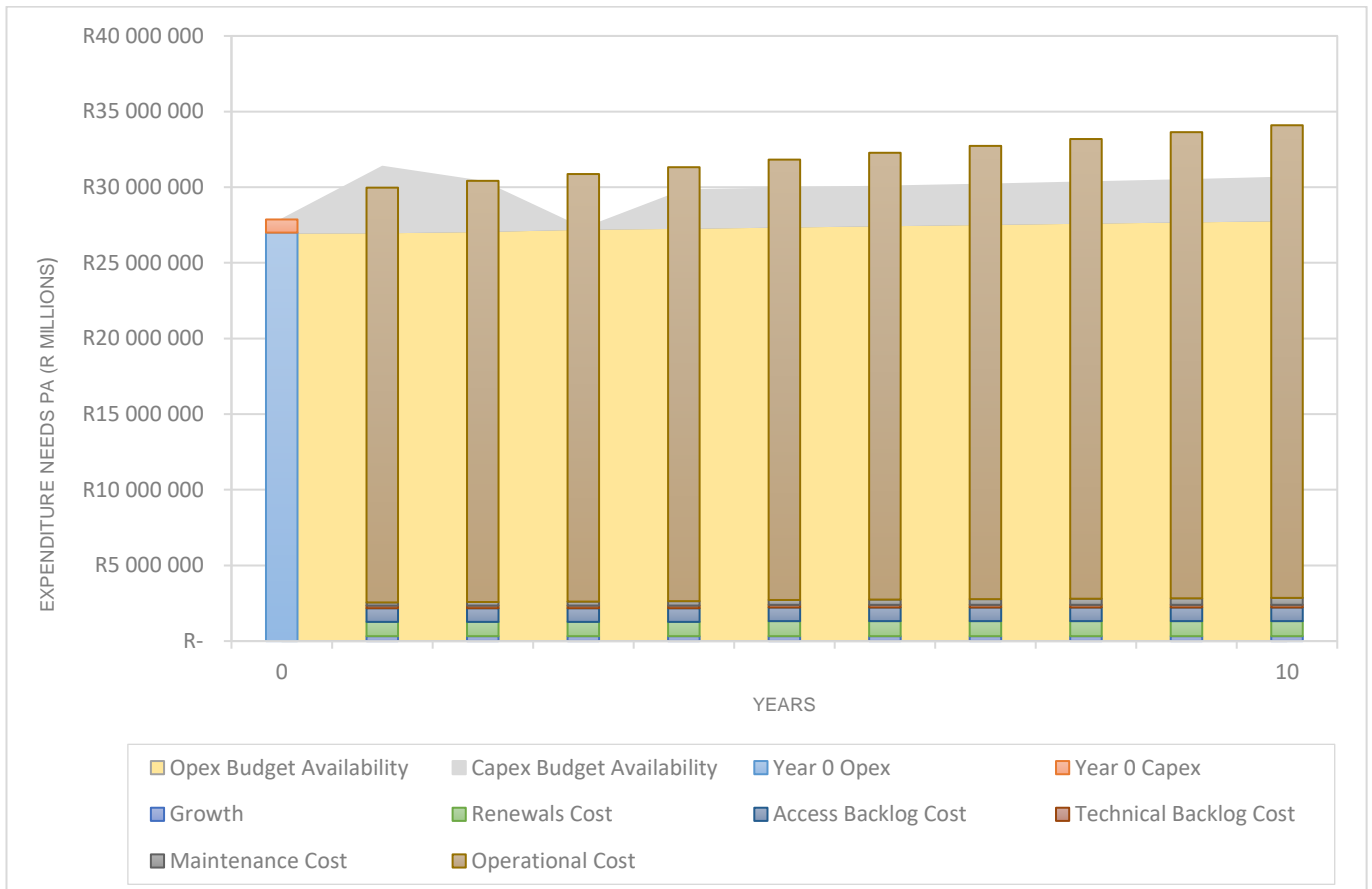
Table 4.8: Combined lifecycle needs for the solid waste department for the planning period

Budget need (R '000)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Growth	313	315	317	320	322	325	327	330	333	335
Renewals Cost	945	945	945	945	996	996	996	996	996	996
Access Backlog Cost	904	904	904	904	904	904	904	904	904	904
Technical Backlog Cost*	172	172	172	172	172	172	172	172	172	172
Maintenance Cost	209	237	265	293	321	349	377	405	433	461

Operational Cost	27 420	27 841	28 263	28 686	29 109	29 534	29 960	30 386	30 814	31 242
Total:	29 963	30 414	30 866	31 320	31 824	32 279	32 735	33 192	33 650	34 110

*spending on replacing existing vehicles

Figure 4.5: Combined lifecycle needs for the portfolio



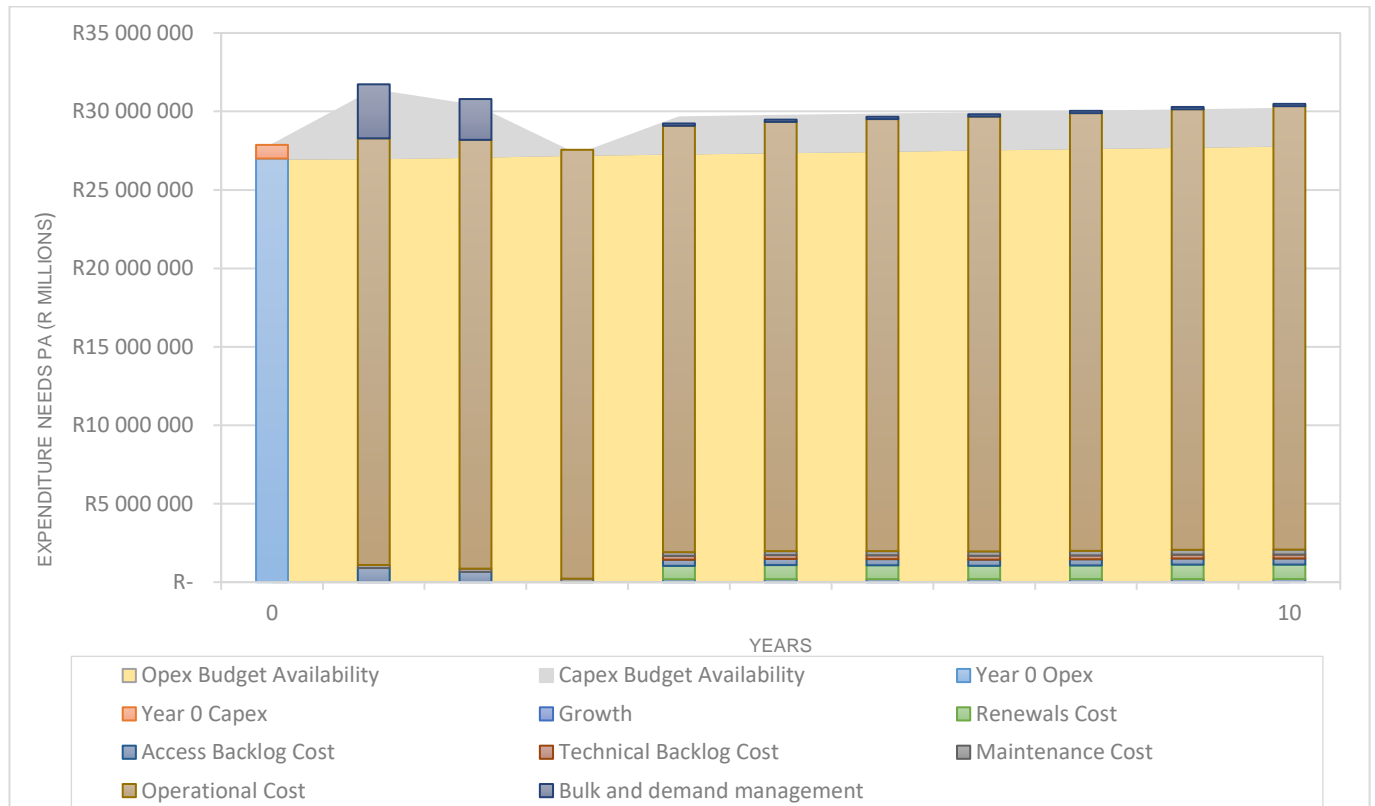
<p>6.2 Life-cycle plan - adjusted</p>	<p>Due to the realities of a restricted budget the spending is prioritised in the department. The lifecycle 'needs' have been adjusted and the resulting adjusted lifecycle plan is depicted in Table 4.9 and Figure 4.6.</p> <p>The following adjustments were made to the lifecycle needs:</p> <ul style="list-style-type: none"> • Capital expenditure in 2019-2021 is as planned/budgeted on the MTREF – includes only new assets, capacity and bulk project spending. • Only the backlog for those with no access is prioritized, over the ten year period, and in the urban area but at 60% LOS 1 and 40% LOS 2. • Operational costs will be less (compared to the full need scenario in section 6.1) due to reduced spending on providing service to growth and backlog customers. • 70% growth in urban areas to be met and 30% in tribal areas – aiding in promoting denser development at identified nodes.
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		<ul style="list-style-type: none"> Renewal spending reduced from the full needs scenario, to R 850 000 per year as modelled in the renewals model and increasing with a growing portfolio. <p>In Table 4.9 the lifecycle expenditure in the 2019-2021 period reflects what is currently planned in the MTREF while the spending from 2022-2028 is an adjustment from the full determined needs scenario (depicted above in section 6.1), prioritised in line with the envisaged available budget. The technical backlog indicated in the table accounts for vehicles in the portfolio that are currently reaching the end of their useful life (a total of R 1.7 million over the period), while the renewals cost is a provision for the capital renewal of assets (vehicles, skips and transfer station) as they reach end of life over the planning period.</p> <p>The access backlog cost is capital allocated to provide service to customers that currently do not have access and is made up of a pro-rata vehicle component per household and pro-rata skip contribution for those to be provided with communal collection, LOS 1. The proposed bulk and demand management spending is on solid waste facilities such as composting and recycling stations.</p> <p>Figure 4.6 also shows the estimated CAPEX and OPEX budget availability over the period, based on the current budget and increasing as additional customers are provided for.</p>
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Table 4.9: Combined lifecycle adjusted spending for the solid waste department for the planning period

Budget adjusted (R '000)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Growth	-	-	-	186	188	189	191	192	194	195
Renewals Cost	-	-	-	850	900	886	850	872	922	922
Access Backlog Cost	900	650	-	392	392	392	392	392	392	392
Technical Backlog Cost	-	-	-	246	246	246	246	246	246	246
Bulk and demand management	3 442	2 600	-	144	144	144	144	144	144	144
Maintenance Cost	195	208	222	236	250	264	278	292	306	320
Operational Cost	27 193	27 333	27 333	27 179	27 358	27 538	27 719	27 900	28 082	28 264
Total:	31 730	30 791	27 555	29 234	29 479	29 661	29 821	30 039	30 287	30 485

Figure 4.6: Combined lifecycle adjusted spending for the portfolio



7	Chapter confidence	<p>The confidence for the chapter varies for different aspects of the life cycle. Overall the confidence in the chapter is at 75% with some areas of estimation. Key estimates include:</p> <ul style="list-style-type: none"> • The maintenance assets were assumed to be at 2% of the portfolio value. • The operational cost was calculated based on averaged rates for fuel, labour, maintenance and other factors related to collection routes as well as the reported functional cost on the AFS. • The renewals are suggested based on current value and status of assets – but a full investigation could be done to refine this figure.
8	Chapter summary	<p>The overall portfolio health status is good; it can change quickly as the assets continually deteriorate each year. Vehicles have a very poor health status and need investment – known as a technical backlog (R 1.7 million). Additional garden refuse and recycling facilities have been planned for as bulk and demand management items. The department has less budget than the projected needs; if budget wasn't an issue the full lifecycle need could be addressed:</p> <ul style="list-style-type: none"> • Backlog: currently an estimated 12 581 households have no service and 12 338 households in the urban areas need upgrading from communal collection to kerbside. This is a capital cost to upgrade of R 6 and R 3 million respectively. • The majority of projected growth is urban and the capital investment need amounts to R 3.2 million over the planning period. On average this is R 313 000 per year.

		<ul style="list-style-type: none"> • Renewal of R 945 000 is the yearly provision ‘need’ to keep the current portfolio health based on the existing asset life, this need increases as new investment is made into the portfolio. The provision is to allow capital renewal of existing assets (vehicles, skips and transfer stations). The average life of assets in the portfolio is 12 years. • The projected maintenance increases from R 208 550 per year in 2019 to R 460 520 in 2028, this is in line with the estimated increase in assets in the portfolio that are required to provide services to new customers (from growth and those currently without access). As capital investment in new assets in the portfolio increases, the maintenance required also increases. • The operational needs increase with a reduction in backlog due to the associated costs of providing the service to additional customers from R 30 million in 2019 to R 34 million in 2028. <p>Unfortunately, budgets are constrained and so the following adjusted lifecycle spending is planned for the department (adjusted from the full identified needs of the portfolio stated above):</p> <ul style="list-style-type: none"> • Only new capital projects planned in the MTREF in the short term. • Provision is made for annual growth (from 2022), 70% in urban and 30% in traditional. • Backlog eradication with a strategy focussed on urbanisation, only 60% addressed over the period – but spending more in line with current budget. • Renewal spending planned at R 850 000 per year to ensure the portfolio health doesn’t deteriorate, this provision is for capital spending on the renewal of existing assets (vehicles, skips, bins and transfer station). • Planned adjusted operational spending increases from R 27 million in 2019 to R 28 million in 2028. • Over the period the adjusted approach reduces the spending in the department by R 21 million, from the assessed needs scenario indicated in section 6.1. <p>Spending is prioritized on renewal input and maintaining the operational budget – while only spending on backlog in specific areas. Thus, still increasing service but in such a way as to promote growth in line with the municipal vision.</p>
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5 FINANCIAL PLAN

An overview of the financial objectives, historic financial performance, revenue forecast (where applicable) and funding strategy, and associated challenges, risks and opportunities.

1	Financial objectives and targets	<p>KDM managed to meet 73% of its 2016/17 financial management and viability KPI targets but only 66% in 2017/2018 (as reported in the 2017/18 annual report).</p> <p>Some objectives, directives and targets include:</p> <ul style="list-style-type: none"> • The municipal investment policy aims to gain optimal return without incurring undue risks it also notes that all reasonable steps should be taken to ensure monies owed are collected as soon as possible after the due date. • The municipality has commissioned an urban regeneration strategy to regenerate CBD areas. • Sufficient funds need to be collected and generated to ensure a sustainable and viable municipality. • To improve expenditure on the Capital Budget. • Accurate rates billing by ensuring GVR is reconciled to the financial systems. • To reduce outstanding debtors. • To ensure financial viability of the municipality • Minimum of 90% collection rate on refuse
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Table 5.1: Department revenue and expenditure

R'000	2018	2017	2016	2015
Refuse removal income	57,437	48,402	57,371	54,849
% Growth in Revenue		19%	-16%	5%
Refuse removal contracted services	(25,769)	(29,294)	(24,439)	(18,777)
Refuse bags	(2,389)	(3,585)	(1,756)	(1,659)
Surplus	29,279	15,523	31,176	34,413
% Growth in surplus		89%	-50%	-9%

Table 5.2: Refuse capital expenditure as a % of total refuse expenditure

R'000	2018	2017	2016
Capital Expenditure	293	177	881
Total Refuse expenditure	28,158	32,879	26,195
% Capital Expenditure/Total refuse expenditure	1%	1%	3%
Acceptable norm	10%-20%	10%-20%	10%-20%

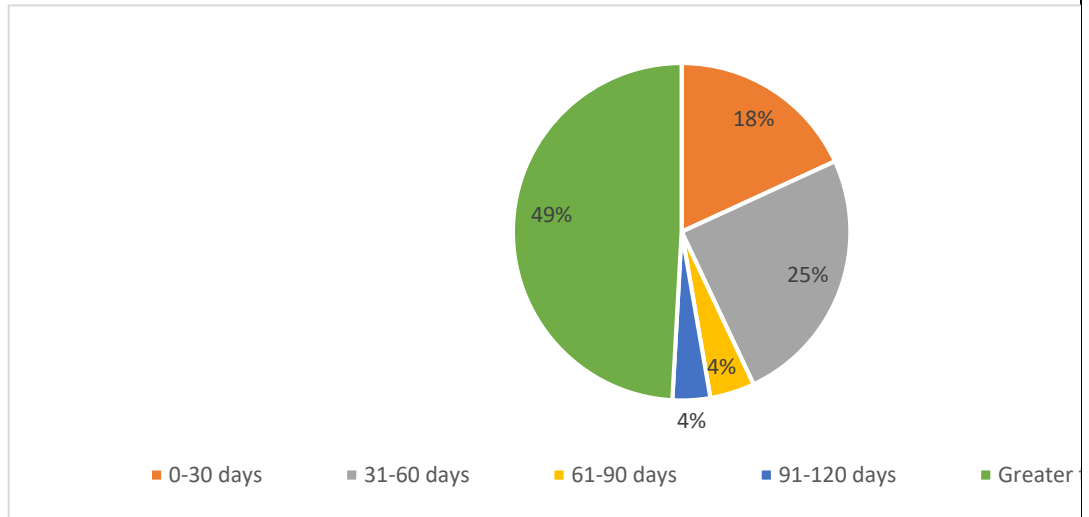
Table 5.3: Current ratio

R'000	2016	2017	2018
Current Assets	617 094	578 879	719 265
Current liabilities	282 473	302 005	313 826
Current ratio	2.18	1.92	2.29
Acceptable Norm	1.5-2.1	1.5-2.1	1.5-2.1

2	Financial performance	<ul style="list-style-type: none"> The revenue from this department consists of refuse removal income from the billing of tariffs. A minimum of 90% collection rate on this revenue is targeted by the municipality. In the current year, 2017/18, revenue increased significantly by 19% to R 57 million in comparison to the prior year of R 48 million as per Table 5.1. The department generates adequate income as the surplus significantly increase by 89% to R29 million in 2017/18 comparable to the prior year surplus of R 15 million. The expected revenue generated by the solid waste department for 2018/19 FY is R 54 million which is attainable. The refuse expenditure is mainly operational expenditure including contracted services from refused collection and bags, the capital expenditure is less than 5% as per Table 5.2. In the current year, expenditure amounted to R 28 million declining from R 32 million in the prior year. This resulted from cost saving strategies implemented internally. The total estimated solid waste removal contracted expenditure growth is forecast to grow by 7% for 2019/20 FY amounting to R 31 million. The capital spending in the department is very low as indicated in Table 5.2. On average the % of capital expenditure to total refuse expenditure amounts to 1% in each year. More capital budget should be made available in order to procure more solid waste infrastructure renewals. Actual capital spending on solid waste infrastructure for 2017/18 amounted to R 293 790 and R 435 000 was budgeted for, however 48% of the budgeted amount was not utilised. This spending is below the norm of 10%-20% and indicates underspending that could impact on service delivery. The budgeted capital expenditure has been forecasted to be increased to R 3 million in 2018/19 and 2019/20 as per the MTREF – which has not been planned to change, however the operational requirement for the Solid Waste Dept would need to be increased to cater for the addition of customers requiring service as per Table 4.9. These are new customers planned for in the combined lifecycle adjusted spending for the Solid Waste Department over the planning period. MLM achieved a current ratio of 2.29 in 2017/2018 as depicted in Table 5.3, this ratio is beyond the norm of 1.5-2.1 indicating that the Municipality is able to pay its current liabilities as and when they become due.
3	Municipal affordability	<ul style="list-style-type: none"> The Department is funded internally from service charges to consumers and the appointment of some contract workers is funded from the EPWP programme. Table 5.2 depicts that the department generated profits, however, the collectability of the revenue should be considered as expenditure in this department is financed internally. Refuse debtors significantly increased by 29% in 2017/18 to R 14 million compared to prior year debtors of R 11 million. The total KwaDukuza consumer debtors amounted to R 139 million in 2017/18 resulting from an increase of 7% compared to the prior year. The refuse debtors have been increasing substantially as depicted in Table 5.4 , and at an increasing rate each year. The total municipal debtors are increasing albeit at a decreasing rate, perhaps

indicating some steps to battle the debt problem are having an impact in some areas. The refuse debtors make up approximately 10% of the total consumer debtors.

- The aging of the refuse debtors as per **Figure 5.1**
- Figure 5.1: Refuse debtor aging



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- 71% of the current assets are made up of the cash and cash equivalents and short-term investments as per **Table 5.5**. This indicates a stronger liquidity position for KDM as these can be easily converted into cash to enable the Municipality to meet its financial obligations.
- If the unspent conditional grants are paid back to the sources, the municipality will still have excess cash on hand which could be used to finance the expenditure in the department. Excess cash amount of R 351 million was on hand for 2017/18 FY (see **Table 5.6**).
- Total capital grants allocation for the MTREF period 2017/18 FY amounted to R 658 million, this makes up approximately 43% of the total revenue generated by the municipality while 67% of the revenue was generated from exchange transactions, this revenue mix is significantly high and indicates that the municipality is not entirely dependent on grants. Therefore, there is sufficient internal funding that could be utilised for the department expenditure.

Figure 5.1: Refuse debtor aging

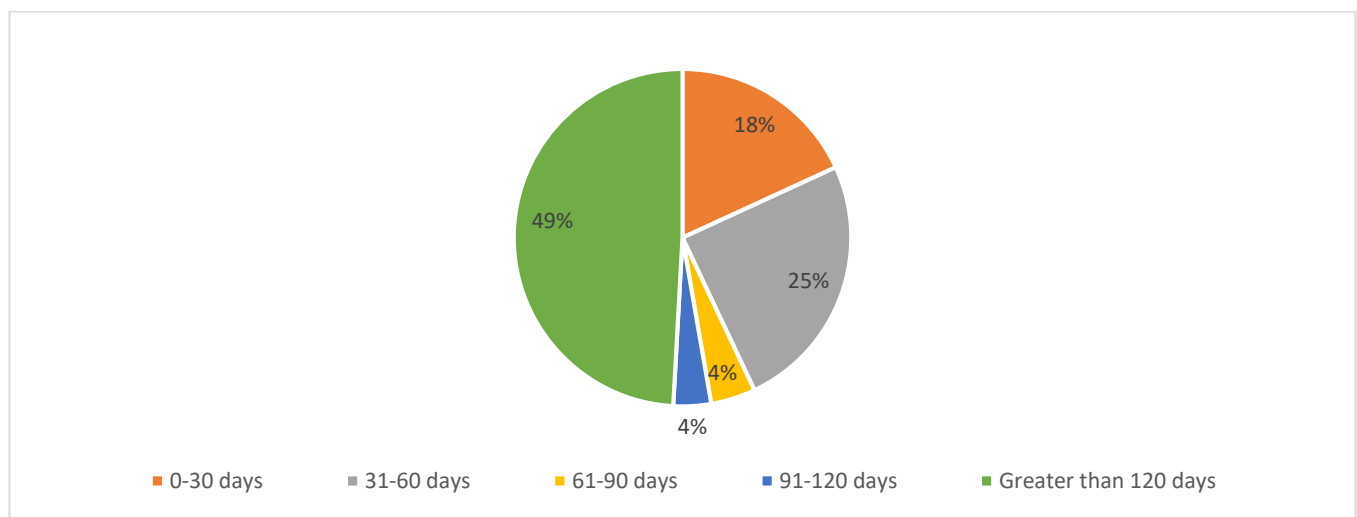


Table 5.4: Total consumer debtors and refuse debtors trends

R'000	2018	2017	2016	2015
Refuse debtors	13,790	10,715	10,161	9,871
% increase	29%	5%	3%	
Total consumer debtors	138,709	129,980	118,174	89,269
% increase	7%	10%	32%	
% refuse debtors to total debtors	10%	8%	9%	11%

Table 5.5: Excess Cash on hand

	2015/16	2016/17	2017/18
Cash and cash equivalents	452 173	270 209	403 908
Unspent conditional grants	(19 919)	(47 200)	(52 324)
Excess cash on hand after grants are paid back	432 254	223 010	351 584

4	Funding strategy	<p>The municipality needs to establish a committee to implement its revenue collection strategy in order to improve collection of debt outstanding and increase revenue from tariffs.</p> <p>For the solid waste life cycle plan, the municipality needs funds of R 32 million in the 2018/19 financial year, R 31 million in 2019/20 and decreasing to R 28 million in 2020/21, but steadily increasing thereafter. This includes some capital budget allocated to projects for machinery and equipment (which are department relevant) over the forecasted 3 years. This will require additional operational funding over the forecasted 3 years and thereafter additional capital and operational funding.</p> <p>The capital requirements will increase after the first 3 years to address service provision for backlog and growth. Only a portion of the backlog is suggested to be addressed as it is infeasible to service the entire municipal area.</p>
5	Chapter confidence	<ul style="list-style-type: none"> In general, data reliability is moderate, although a lot of effort has been spent validating the accuracy of the information, much of this information has been gained from multiple sources with different grades of confidence and has not been independently verified. The IDP, budgets and financial statements were the primary planning documents referenced in this chapter.
6	Chapter summary	<ul style="list-style-type: none"> KDM aims to provide reliable services while being viable and sustainable. The overall financial health of the municipality is good. The municipality needs to allocate more budget to capital and maintenance projects to improve service delivery.

		<ul style="list-style-type: none"> • Consumers accounts are owing for greater than 120 days indicating a pattern of consumers struggling to make payments of refuse accounts. The municipality needs to introduce a strict debt collection strategy in order to recover the debts. • To further improve the collectability, the municipality has to implement various mechanisms to enhance the revenue collection. Debt collection meetings are held (four times a quarter) where different revenue enhancement initiatives are suggested in line with the revenue enhancement strategy (previously a service provider was contracted to develop a revenue protection and enhancement strategy). • There is a risk that as the level of service provision is increased through communal skips, the billing customer base will not increase, hence the operational cost will increase without additional revenue. • The Department is funded through internally generated funds (i.e. services charges). The ratios indicated that the municipality is able to generate funds internally and is not entirely dependent on the grants, as the grants only account for 43% of the total revenue generated by the municipality. A mix of funding sources should be utilised to finance capital expenditure.
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6 ASSET MANAGEMENT PRACTICES

An overview of existing asset management practice, improvement needs, priorities and proposed response plan.

1	Asset management practice context	<p>A relatively low level of asset management practice maturity, especially in the field of physical asset management, exists amongst local municipalities (although it is steadily improving). The problem is added to by a tight budget and skills challenge; strong leadership (and leadership support) is vital to affect any AM practices improvements.</p> <p>KDM is a Category B municipality and is coming off a low asset management practices base, however it has demonstrated its commitment to improving its practices by participation in implementing the Vuthela-Ilembe LED project.</p>
2	Ongoing practice improvement activities	<p>KDM, as part of the LED programme, has undergone a practices assessment and supports the implementation of an improvement plan determined from the outcomes of the assessment. The long term aim is to target a level of competence across all the practices categories.</p>
3	Current AM performance	<p>Currently the municipality has a level of practice of ‘awareness’ in three of the six practices categories (strategic planning, AM Plans, and organisational tactics). In the remaining categories (asset knowledge; information systems; and capital and maintenance management practices) the municipality was assessed to have practices at a weighted average between “aware” and having a “systematic approach”. For full details see the practice assessment document, a summary of the current AM assessment results is shown in Figure 6.1.</p>
4	Priority improvement needs	<p>The following priority improvement areas were identified and are addressed in a proposed improvement plan phased over three years:</p> <ul style="list-style-type: none"> • Enhancing the maintenance management process – this will directly benefit community members (year 1). • Enhancing the asset register – allows for cross-departmental integration as well as more easily mapping operational activities to strategic objectives (year 2). • Enhancement of the management processes associated with projects – including a review of this preliminary AMP to include improved data (year 3). • Figure 6.1 shows the impact of the phased improvement approach on the different practice categories. <p>This phased approach is set out in the practices improvement plan and is estimated at a total of R 24.5 million to implement (including VAT, disbursements, software and service provision), to be shared across all the departments in the municipality, and the three municipalities. The work breakdown structure of the improvement plan is detailed in Annexure D along with the associated cost estimates. In order to implement such improvements KDM will need to seek funding from donors.</p>

Figure 6.1: Overview of practice assessment results and impact of phased improvement plan



5	Chapter confidence	The confidence in the practice assessment is a 75% accuracy with some areas of estimation.
6	Chapter summary	<p>KDM currently has a practices level of ‘awareness’ for most of the categories of assessment with some isolated areas of practice approaching a ‘systematic approach’.</p> <p>The proposed improvement plan prioritizes an improvement of the maintenance management process followed by an enhancement of the asset register and finally improving the management processes associated with projects; all of which are proposed to be implemented over a 3-year period.</p>

7 RISK MANAGEMENT PLAN

The sector's risk management objectives, summary of the key risks identified through-out the plan and the proposed mitigation and control measures.

1	Risk management objectives	<p>KwaDukuza has a risk register which summarizes its top 20 risks. The different department risks are predominantly operational as opposed to physical asset risks. The risk register includes:</p> <ul style="list-style-type: none"> • a description of the risk, • the root cause, • description of consequences, • inherent rating, current controls and resulting residual risk rating, • the future action plan and due date, and • the action owner.
2	Historic risk management performance	<ul style="list-style-type: none"> • Currently the municipality has an overall risk register, which compiles risks from all the departments. • The register assigns an action owner for future plans and a due date. • The register also notes current mitigation effect on the inherent risk rating. • One area for improvement is expanding on some infrastructure risks. • KDM also has a risk implementation plan to ensure integration of enterprise risk management processes across the municipality. • Specifically, the municipality needs to define its risk framework and document acceptable levels of risk to ensure the risks can be properly managed.
3	Key risks	<p>Key risks relating to the Solid Waste Department that are included on the register:</p> <ul style="list-style-type: none"> • The inability to perform preventative and routine maintenance of infrastructure, leading to loss of revenue, high amounts of overtime and staff fatigue. • Non-compliance with MFMA in terms of irregular expenditure – leading to non-recovery of some expenditure and impacting on additional funding. Due to poor procurement planning in some departments. • Liquidity risk, due to an aggressive capital budget leading to financial loss as operating budgets exceed revenue growth over past 5 years. • The municipality has an inability to manage illegal developments, due to rapid urbanisation, inadequate monitoring and inspection capacity leading to haphazard and uncontrolled development, community unrest and loss of revenue.

		<ul style="list-style-type: none"> Failure to implement credible performance monitoring and evaluation is the final applicable risk which impacts service delivery, compliance and municipal performance. Caused by a lack of synchronisation between the performance monitoring evaluation office and heads of business units as well as lack of compliance on performance reporting procedure. <p>Additional risks highlighted in other departmental documents (though not on the risk register):</p> <ul style="list-style-type: none"> Exorbitant pressure on staff who cannot cope with increasing demand. Aging fleet Less frequent collection in areas that are meant to have a weekly collection Illegal dumping
4	Key risk mitigation tactics	<p>The risk of current assets in very poor condition should be mitigated with spending on renewals as scheduled in the proposed lifecycle plan.</p> <p>The risk register notes the following risk mitigation actions:</p> <ul style="list-style-type: none"> Develop and implement a maintenance plan Monthly reporting to COGTA and Council, payments compliance checklist and SCM compliance checklist. Liquidity risk control is more structured and frequent reporting, such as a quarterly cash flow report. Building regulations, approved land use policy, legal action and inspection reports are all in place to mitigate illegal development. Performance Audit Committee, Performance Management System Policy and performance agreements. <p>The risk of an aging fleet will require renewal spending from the lifecycle capital planned renewals and additional funding or revenue should be obtained to increase the staff complement – especially if additional customers are to be serviced.</p>
5	Chapter confidence	<p>The risk chapter is informed predominantly from the current risk register (2017/18), the input is compiled from various departments and additional sector specific information was used to highlight risks that are not currently on the register. The confidence in the information in the chapter is 90% - with some minor inaccuracies.</p>
6	Chapter summary	<p>Key aspects to note:</p> <ul style="list-style-type: none"> The municipality has a risk register in place, though limited detail on infrastructure risks – it also has a risk implementation plan. Key risks for the department include lack of preventative maintenance, liquidity controls, lack of human resources and illegal dumping. A number of mitigation controls are already in place and additional ones have been identified.

8 PERFORMANCE PLAN

The sector's asset management performance objectives and forecast.

1	Performance objectives	<p>The municipality's performance is measured through key performance indicators (KPIs) relating to each key performance area (KPA). The relevant basic service delivery KPA deals with access to solid waste disposal. Overall KDM met 4% less of their targets from 2016/17 to 2017/18, both of which were lower than the preceding year. Although the % of budget spent has increased steadily in the same period and basic service delivery is one key performance area where the municipality met a higher % of its target (34% in 2017 and 55% in 2018).</p> <p>Currently the waste KPI targets are being met with 100% of estimated households having access – however this figure does not account for the informal areas and customers who dispose of their own waste in an environmentally unsound manner.</p>
2	Historic performance	<p>The municipality develops an Organizational Performance Management System (OPMS) framework and reviews a Performance Policy Procedures Manual on an annual basis. It also develops and adopts a Service Delivery and Budget Implementation Plan (SDBIP) each financial year in line with legislative requirements.</p>
3	Chapter confidence	<p>The performance plan chapter is informed predominantly through the SDBIP – and as such is considered representative. A 90% confidence is given as the chapter is a summary of performance in the department to date.</p>
4	Chapter summary	<p>The Solid Waste Department has increased the number of households with access to service in previous years, however they are measuring against an estimated number of households which most likely doesn't account for many informal households amongst others. Additionally, there is no measure for standard of service which is affected by a lack of staff and stretched operations team – sometimes leaving 40% of refuse bags uncollected.</p> <p>It is recommended that Council:</p> <ol style="list-style-type: none"> a) Note the content of this first rudimentary AM Plan, which has been prepared through the Vuthela-Ilembe LED Programme; b) Confirm that the report findings be used to inform; <ul style="list-style-type: none"> ▪ the preparation of budgets, strategies and plans relating to the lifecycle management of the solid waste department; and ▪ proposed improvements to the management of the solid waste infrastructure, subject to securing the required funds.

A ANNEXURE: BUDGET BREAKDOWN OF PROJECTION

Detail to support the plan including a breakdown of forecasted expenditure and performance.

Projects and Programmes Years 1-5																	
Project/Programmes reference				Fund Segment		Projects segment					Function segment		Cash flow (R '000)				
Programme	Project name	Project number	Ward allocation	mSCOA(2)	mSCOA(3)	CAPEX/OPEX	mSCOA(2)	New/Existing/Land (mSCOA (3))	Expenditure type (mSCOA (4))	Asset Class (mSCOA (5))	Function/ Department	Core function/Non-core Function	2019	2020	2021	2022	2023
MTREF	Street Litter Bins	001	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	50	50	-	-	-
MTREF	Skips	002	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	250	200	-	-	-
MTREF	1 x Weight bridge	003	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	842	-	-	-	-
MTREF	Waste Transfer Station	004	Ward 11	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	3 000	2 000	-	-	-
MTREF	Recycling Bins	005	Ward 18 / 22	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	200	-	-	-	-
MTREF	Dry Waste Composting Station	006	Ward 19	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	-	1 000	-	-	-
MTREF	Operational expenditure	007	All	Revenue	Sales of Goods and Rendering of Services	Operational	Infrastructure	Existing	Upgrading	Solid Waste Infrastructure	Waste Management	Core Function	27 193	27 333	27 333	27 179	27 358
Planned	Maintenance expenditure	008	All	Revenue	Sales of Goods and Rendering of Services	Operational	Maintenance	Infrastructure	Corrective Maintenance		Waste Management	Core Function	195	208	222	236	250
Planned	Capital for growth	009	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	-	-	-	186	188
Planned	Planned renewal	010	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	-	-	-	850	900
Planned	Planned access backlog	011	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	Existing	Renewal	Solid Waste Infrastructure	Waste Management	Core Function	-	-	-	392	392
Planned	Planned technical backlog	012	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	Existing	Renewal	Solid Waste Infrastructure	Waste Management	Core Function	-	-	-	246	246
Planned	Bulk and demand management	013	All	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	Existing	Renewal	Solid Waste Infrastructure	Waste Management	Core Function	-	-	-	144	144
													31 730	30 791	27 555	29 234	29 479

Projects and Programmes Years 6-15																
Project/Programmes reference		Fund Segment		Projects segment					Function segment		Cash flow (R '000)					
Program me	Regional allocation	mSCOA (2)	mSCOA (3)	CAPEX/ OPEX	mSCOA (2)	New/Existing/L and (mSCOA (3))	Expenditure type (mSCOA (4))	Asset Class (mSCOA (5))	Function/ Department	Core function/Non-core Function	Total Cost	2024	2025	2026	2027	2028
Planned growth	All regions	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	960.78	189.18	190.66	192.14	193.64	195.15
Planned renewal	All regions	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	Existing	Renewal	Solid Waste Infrastructure	Waste Management	Core Function	4 451.52	886.11	850.00	871.80	921.80	921.80
Planned access backlog	All regions	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	1 962.24	392.45	392.45	392.45	392.45	392.45
Bulk and demand management	All regions	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	722.22	144.44	144.44	144.44	144.44	144.44
Planned technical backlog	All regions	Revenue	Sales of Goods and Rendering of Services	Capital	Infrastructure	New	Solid Waste Infrastructure		Waste Management	Core Function	1 230.57	246.11	246.11	246.11	246.11	246.11
Planned maintenance	All regions	Revenue	Sales of Goods and Rendering of Services	Operational	Maintenance	Infrastructure	Corrective Maintenance		Waste Management	Core Function	1 461.31	264.33	278.30	292.26	306.23	320.19
Planned operation	All regions	Revenue	Sales of Goods and Rendering of Services	Operational	Infrastructure	Existing	Upgrading	Solid Waste Infrastructure	Waste Management	Core Function	58 368.95	27 538	27 719	27 900	28 082	28 264
												29 661	29 821	30 039	30 287	30 485

B ANNEXURE: GLOSSARY OF TERMS

Detailed definitions of specific asset management terminology used in the document

GLOSSARY OF TERMS:

Asset	A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12 months.
Asset management (LGIAMG)	The process of decision-making, planning and control over the acquisition, use, safeguarding and disposal of assets to maximise their service delivery potential and benefits, and to minimise their related risks and costs over their entire life.
Asset management objectives (IIMM)	Specific outcomes required from the implementation of the asset management system.
Asset management plan	A documented plan developed for the management of a portfolio of assets that combines multi-disciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost-effective manner to provide a specified level of service.
Asset management policy (PAS 55-1: 2004 BSI)	The overall intentions and direction of an Organisation related to the assets and the framework for the control of asset-related processes and activities.
Asset management practices (IIMM)	The asset management processes and techniques that an entity undertakes, such as demand forecasting, developing and monitoring levels of service and risk management.
Asset management strategy (IIMM)	The high-level long-term approach to asset management including asset management action plans and objectives for managing the assets.
Asset management system (ISO 55000)	A management system whose function is to establish the asset management policy and objectives, as well as processes and organisational arrangements inclusive of structure, roles and responsibilities to achieve asset management objectives.

Asset register (LGIAMG)	A record of asset information considered worthy of separate identification for both asset accounting and strategic management purposes including inventory, historical, condition and construction, technical and financial information about each. The unit of account in an asset register is a component.
Capacity (IIMM)	Maximum output that can be produced or delivered using existing network or infrastructure.
Capital expenditure (CAPEX)	Expenditure used to create new assets, increase the capacity of existing assets beyond their original design capacity or service potential, or to return the service potential of the asset or expected useful life of the asset to that which it had originally. CAPEX increases the value of an asset.
Carrying amount	The amount at which an asset is recognised after deducting any accumulated depreciation and accumulated impairment losses.
Cash flow	The stream of costs and / or benefits over time resulting from a project investment or ownership of an asset.
Competence (ISO 55000)	The ability to apply knowledge and skills to achieve intended results.
Component (IIMM)	A component is a specific part of a complex item that has independent physical or functional identity and specific attributes such as different life expectancy, maintenance and renewal requirements and regimes, risk or criticality. Which is recognised separately on an asset register.
Condition (IIMM)	The physical state of the asset.
Critical assets (IIMM)	Those assets that are likely to result in a more significant financial, environmental and social cost in terms of impact on organizational objectives and service delivery.
Current replacement cost (IIMM)	The cost the entity would incur to acquire the asset on the reporting date.
Decommissioning (IIMM)	Actions required to take an asset out of service.
Demand management	The active intervention in the market to influence demand for services and assets with forecast consequences, usually to avoid or defer CAPEX expenditure. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.
Depreciable amount (GRAP)	The cost of an asset, or other amount substituted for cost, less its residual value.
Depreciated replacement cost (IIMM)	The replacement cost of an asset less accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired economic benefits of the asset.

Depreciation (GRAP)	Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life.
Disposal (IIMM)	Actions necessary to decommission and dispose of assets that are no longer required.
Expected useful life	The extent of life of an asset over which it can be expected to meet the required performance given its operational environment (including parameters such as climate, soil conditions, topography, utilisation, and operations and maintenance regime), and over which it will be productively used.
Facility (IIMM)	A complex comprising many assets (e.g. a hospital, water treatment plant, recreation complex, etc.) which represents a single management unit for financial, operational, maintenance or other purposes.
Integrated Development Plan	A five-year plan which local government is required to compile to determine the development needs of the city. The projects within the IDP is also linked to the city's budget.
Impairment loss (GRAP)	An impairment loss of a cash-generating asset is the amount by which the carrying amount of an asset exceeds its recoverable amount.
Infrastructure assets (LGIAMG)	Stationary systems forming a network and serving whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components.
Level of service (IIMM)	Levels of service statements describe the outputs or objectives an organisation or activity intends to deliver to customers.
Lifecycle (IIMM)	The time interval that commences with the identification of the need for an asset and terminates with the decommissioning of the asset or any liabilities thereafter.
Lifecycle asset management	All asset management strategies and practices associated with an asset or group of assets that results in the lowest lifecycle cost necessary to achieve stated service requirements within acceptable risk parameters.
Lifecycle cost (IIMM)	The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, renewal and disposal costs.
Maintenance	All actions, planned and unplanned, intended to ensure that an asset performs a required function to a specific performance standard(s) over its expected useful life by keeping it in as near as practicable to its original condition, including regular recurring activities to keep the asset operating, but specifically excluding renewal. Note: Maintenance also specifically excludes restoring the condition or performance of an asset following a recognised impairment event, which would be classified as either renewal or upgrading, depending on the circumstances.
Maintenance expenditure	Recurrent expenditure as required to ensure that the asset achieves its intended useful life. Maintenance is funded through the organization's operating budget, and such expenditure is expensed in the organisation's statement of financial performance.
Maintenance plan (LGIAMG)	Describes the planned and unplanned maintenance actions for an asset, facility or portfolio of assets, with intended delivery methods and schedules, budget requirements and responsible parties.

Modern equivalent asset (IIMM)	The most cost-efficient asset currently available that will provide equivalent functionality to the asset that will be replaced (or are currently being valued using the DRC methodology).
Monitoring (ISO 55000)	Determining the status of a system, a process or an activity.
Operating expenditure (OPEX)	Expenditure necessary to provide services such as water purchases and water distribution including costs related to staff costs, administration costs, consumables, maintenance and repairs and feasibility studies.
Operation	The active process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials. Operation costs are part of the lifecycle costs of an asset.
Performance (ISO 55 000)	Measurable result of either quantitative or qualitative nature that can relate to the management of activities, processes, products or services, systems or organisations.
Performance measure (IIMM)	A qualitative or quantitative measure used to measure actual performance against a standard or other target. Performance measures are used to indicate how the organisation is doing in relation to delivering levels of service.
Performance monitoring (LGIAMG)	Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards
Rehabilitation	Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally, involves repairing the asset using available techniques and standards to deliver its original level of service (e.g. relining bulk raw water pipelines) without resorting to significant upgrading or replacement.
Renewal	Expenditure on an existing asset which returns the service potential of the asset or expected useful life of the asset to that which it had originally. Note 1: Renewal can include works to replace existing assets or facilities with assets or facilities of equivalent capacity or performance capability. Note 2: Expenditure on renewals is funded through the organisation's capital budget, and such expenditure is recognised in the organisation's statement of financial position.
Repair	Action to restore an item to its previous condition after failure or damage.
Replacement	The complete replacement of an asset that has reached the end of its life, to provide a similar, or agreed alternative, level of service.
Remaining useful life (IIMM)	The time remaining until an asset ceases to provide the required service level or economic usefulness.
Residual value (GRAP)	It is the estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset was already of the age and in the condition expected at the end of its useful life.
Revenue	An increase in economic benefits during an accounting period through an enhancement of an asset or through a decrease in a liability.
Risk (IIMM)	The effect of uncertainty on objectives. Risk events are events which may compromise the delivery of the entity's strategic objectives.
Risk controls (IIMM)	Measures to manage or mitigate identified risks.

<i>Risk exposure (IIMM)</i>	The level of risk to which an entity is exposed to. Risk exposure is a function of the probability of an occurrence times the impact of that occurrence.
<i>Risk management (IIMM)</i>	The application of a formal process that identifies the exposure of an entity to service performance risk and determines appropriate responses.
<i>Strategic plan</i>	Strategic planning involves making decisions about the long-term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organisation and identify major targets, actions and resource allocations relating to the long-term survival, value and growth of the organisation.
<i>Upgrading</i>	Enhances the service potential of the asset or the economic benefits that can be obtained from use of the asset and may also increase the life of the asset beyond that initially expected.

Some definitions obtained from CIDMS online knowledge centre.

C ANNEXURE: PORTFOLIO HEALTH STATUS

<i>Infrastructure Health Grade</i>	<i>Portfolio Health description</i>	<i>(DRC-RV)/(CRC-RV)</i>
1	<i>Very Good</i>	<i>61% or more</i>
2	<i>Good</i>	<i>54% to 61%</i>
3	<i>Fair</i>	<i>47% to 54%</i>
4	<i>Poor</i>	<i>40 to 47%</i>
5	<i>Very Poor</i>	<i>40% or less</i>

D ANNEXURE: PROPOSED IMPROVEMENT WORK BREAKDOWN STRUCTURE

NO	ACTIVITY	TASKS	OUTCOMES	TOTAL PER ACTIVITY MLM	TOTAL PER ACTIVITY KDM	TOTAL PER ACTIVITY IDM	TOTAL SHARED COST PER ACTIVITY	TOTAL PER ACTIVITY
				(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)
1	Maintenance management efficiency and effectiveness improvement	Procure and implement a Computerised Maintenance Management System (CMMS)	Improved O&M data and reporting capabilities that allow for decision making	2 828 325	4 713 875	3 771 100		11 313 300
		Prepare a maintenance management improvement strategy	Improvement to the management procedures for O&M actives	516 128	516 128	516 128		1 548 384
		Review and clearly define asset management roles and establish corporate AM oversight structure	A defined list of asset management roles in line with a corporate AM oversight structure	311 912	311 912	311 912		935 736
2	Enhance, standardise and structure the asset register for strategic (physical) and tactical life cycle management improvement	Align and enhance asset register data to support all asset life decisions	Asset register data collected and recorded at the appropriate level	4 551 680	4 551 680	4 551 680		13 655 040
		Upgrade and integrate electronic, central and spatially enabled asset register system	Improved MSCOA compliant asset register data and reporting capabilities that allow for decision making	3 121 793	5 435 397	4 627 208		13 184 399
		Enhance the maintenance management system to ensure seamless integration with the enhanced asset register system	Seamless integration between the CMMS and asset register systems					
		Link to expert/ specialist systems (e.g. PMS data)	Seamless integration between specialist, CMMS and asset register systems	1 774 249	2 957 082	2 630 031		7 361 362
3	Enhance, standardise project management practices	Upgrade and integrate a spatially enabled electronic system for Project Management	Improved project management data and reporting capabilities that allow for decision making. Seamless integration with Asset Register and CMMS systems.	2 330 537	3 884 229	3 107 383		9 322 149
		Enhance the maintenance management and asset register system to ensure seamless integration with the enhanced project management system	Seamless integration between the project control system, maintenance and asset register systems.					
		Ensure all contractors provide the required, standardised information on project completion	A standard that contractors need to adhere to on project close out.				831 850	831 850

NO	ACTIVITY	TASKS	OUTCOMES	TOTAL PER ACTIVITY MLM	TOTAL PER ACTIVITY KDM	TOTAL PER ACTIVITY IDM	TOTAL SHARED COST PER ACTIVITY	TOTAL PER ACTIVITY
				(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)	(Fees including disbursement, software, vat, total)
4	Review and update Asset Management Plans (AMPs) and a Strategic Asset Management Plan (SAMP) for all immovable assets	Review and update water Asset Management Plans (AMPs)	Review the AMPs that were initially developed in 2019.			929 640		929 640
		Review and update roads Asset Management Plans (AMPs)	Review the AMPs that were initially developed in 2019.	716 280	716 280			1 432 560
		Review and update electricity Asset Management Plans (AMPs)	Review the AMPs that were initially developed in 2019.	830 580	830 580			1 661 160
		Review and update solid waste Asset Management Plans (AMPs)	Review the AMPs that were initially developed in 2019.	553 720	553 720			1 107 440
5	Risk Management Strategy	Develop a Risk Management Strategy focused on infrastructure	Established a Risk Management Strategy focused on infrastructure				469 392	469 392
Total				17 535 205	24 470 883	20 445 082	1 301 242	63 752 411