

MANGAUNG METROPOLITAN MUNICIPALITY



Built Environment Performance Plan 2016 / 2017



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Glossary

ADN	Airport Development Node
AFS	Annual Financial Statements
AG	Auditor General
AMP	Asset Management Plan
BEPP	Built Environment Performance Plan
BNG	Breaking New Ground
BRT	Bus Rapid Transport
CBD	Central Business District
CBF	Cities Budget Forum
CRR	Capital Redemption Reserves
CSP	Cities Support Programme
DBSA	Development Bank of Southern Africa
DORA	Division of Revenue
EDS	Economic Development Strategy
EIMP	Environmental Implementation and Management Plan
EMT	Executive Management Team
EPWP	Extended Public Works Programme
FSHC	Free State Social Housing Company
GRAP	Generally Recognised Accounting Practice
HDA	Housing Development Association
HSDG	Human Settlements Development Grant
IA	Internal Auditor
ICDG	Integrated City Development Grant
IDP	Integrated Development Plan
IHSP	Integrated Human Settlements Plan
INEP	Integrated National Electrification Grant
IRPTN	Integrated Rapid Public Transport Network
ISUS	Informal Settlements Upgrading Strategy
ITF	Intermodal Transport Facility
ITP	Integrated Transport Plan
LED	Local Economic Development
LUMS	Land Use Management Scheme
MAYCO	Mayoral Committee
MFMA	Municipal Financial Management Act
MIG	Municipal Infrastructure Grant
MLM	Mangaung Local Municipality
MMM	Mangaung Metropolitan Municipality
MPPMR	Municipal Planning and Performance Management Regulations
MSA	Municipal Systems Act
MSDF	Metropolitan Spatial Development Framework
MTREF	Medium Term Revenue and Expenditure Framework
NDPG	Neighborhood Development Partnership Grant
NDP	Neighborhood Development Programme Unit
PTIG	Public Transport Infrastructure Grant
SDBIP's	Service Delivery and Budget Implementation Plans

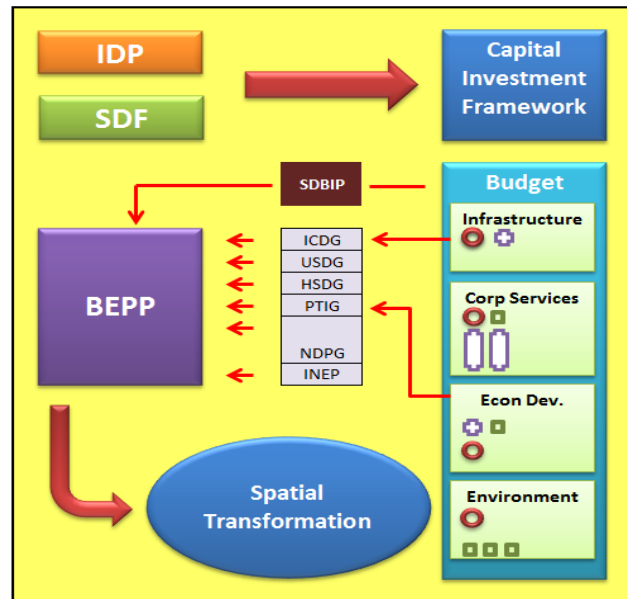


SIP	Strategic Integrated Projects
SMME	Small, Medium and Micro Enterprise
SPLUMA	Spatial Planning and Land Use Management Act 2013
UNS	Urban Network Strategy
USDG	Urban Settlements Development Grant
WC/WDM	Water Conservation/Water Demand Management
WWTW	Waste Water Treatment Works

PREAMBLE

The Mangaung Metropolitan Municipality’s Built **Environment Performance Plan** (BEPP) is a strategic plan that aims to improving the performance of metro built environment over the long term. It also serves as an instrument to enhancing inter-governmental relations and is not only an eligible requirement for the ICDG, but also covers all infrastructure grants including the Urban Settlements Development Grant (USDG), Human Settlements Development Grant (HSDG), Public Transport Infrastructure Grant (PTIG), Neighbourhood Development Partnership Grant (NDPG) and Integrated National Electrification Grant (INEP).

More specifically, the **BEPP** relates to the long term growth and development strategies, as well as financial and investment frameworks of the Municipality. Consequently, the BEPP is informed by several existing statutory policy plans of the Municipality, including the Integrated Development Plan (IDP), the Metropolitan Spatial Development Framework (MSDF), the medium term revenue and expenditure framework (MTREF), the Service Delivery and Budget Implementation Plans (SDBIP), reporting requirements in terms of the Municipal Finance Management Act No 56 of 2003 (MFMA), as well as several other performance management and sector plan requirements.



The MMM is committed towards the spatial transformation of the entire municipal area and strives toward accelerated and inclusive economic growth. In accordance with the Guidance Note of the BEPP, August 2015, this document provides a strategic overview of the built environment, outlines the focus areas, strategies, programmes and targets of the municipality, as well as providing for institutional and financial arrangements to achieve the required outcomes and outputs.

This BEPP illustrates how the metro will be deploying the MTEF capital budget and other regulatory resources to transform the urban space.

SECTION A. INTRODUCTION AND BACKGROUND

A.1 Guiding documentation

The following documents were used as references in compiling the BEPP;

A.1.1 Documents from National Treasury

- Cities Support Programme Guidance Note: Built Environment Performance Plans (BEPPs) Guidance Note for 2016/17-2018/19.
- MFMA Circular No 70: Municipal Budget Circular for the 2014/15 MTREF, December 2013.
- MFMA Circular No 71: Financial Ratios and Norms, January 2014.
- MFMA Circular No 72: Municipal Budget Circular for the 2014/15 MTREF, March 2014.
- MFMA Circular No.79: Municipal Budget Circular for the 2016/17 MTREF 07 March 2016
- MFMA Circular No.79: Municipal Budget Circular for the 2016/17 MTREF 07 March 2016
- Guidelines for the implementation of the Integrated City Development Grant in 2013/14, May 2013.
- Guideline for Framing Built Environment Performance Indicators for Metropolitan Municipalities, October 2013.
- Neighbourhood Development Programme Unit Guidance Note: Municipal Guidance on the identification of the Urban Network Elements
- Neighbourhood Development Programme Unit: Key Terminology, July 2013.
- Neighbourhood Development Partnership Programme: Guidance on Municipal Output, May 2013.
- Urban Hub Design Toolkit: Design Methodology for the Urban Network Strategy, March 2013.
- Neighbourhood Development Partnership Grant Programme: Identification of the Urban Hub, Document 1: Methodology Development, Version 7, April 2013.

A.1.2 Municipal policy frameworks and supporting documents

- Mangaung Integrated Development Plan, 2016 – 2017.
- Metropolitan Spatial Development Framework, 2016 – 2017.
- Mangaung Medium Term Revenue and Expenditure Framework, 2016/17 – 2019/20.
- Mangaung Annual Budget 2015 / 2016.
- Draft Service Delivery and Budget Implementation Plan (SDBIP) 2015 / 2016.
- Economic data and Sector study for Mangaung Metropolitan Municipality, 2012.

A.1.3 Other documents

- Spatial Land Use Management Act No. 16 of 2013
- Division of Revenue Bill, Government Gazette No. No. 39707 of 18 February 2016
- Mangaung Land Use Management Bylaw 2015



A.2 Adoption of the BEPP

“It is therefore recommended that:

- a) Council consider the 2016/17 BEPP;
- b) the Built Environment Performance Plan (BEPP) for the 2016/2017 to 2018/2019 financial period attached to the report as Annexure A be approved and adopted.

SECTION B. STRATEGIC REVIEW OF THE BUILT ENVIRONMENT

B.1 Current performance of the built environment

The Mangaung Municipal Area covers 6 157 km² and comprises three prominent urban centres, namely Bloemfontein, Botshabelo and Thaba Nchu. These centres are surrounded by an extensive rural area.

Due to its central location within the Free State and the country, Mangaung is extremely well linked with other provinces via National road networks including the **N1** (which links Gauteng with the Southern and Western Cape), the **N6** (which links Bloemfontein to the Eastern Cape), and the **N8** (which links Lesotho in the east with the Northern Cape in the west via Bloemfontein). Mangaung is also well linked via rail and air transport networks, although the rail transport system is not fully functional in terms of servicing all the areas.

Bloemfontein is the capital of the Free State Province and also the Judicial Capital of South Africa. It represents the economic hub of the local economy and also serves as the administrative headquarters of the Province.

Botshabelo is located 55km to the east of Bloemfontein and was established in the early 1980s to provide much needed labour in Bloemfontein without the inconvenience of having labour at the employers' doorstep.

Thaba Nchu is situated 12km further to the east of Botshabelo and used to be part of the Bophuthatswana "Bantustan". As a result it exhibits a large area of rural settlements on former trusts lands.

From the above it is evident that that a huge spatial divide exists between the three urban centres mentioned above.

B.1.1 Spatial patterns

The existing spatial pattern of Mangaung is depicted in the table and graph below;

Table B1.1: Size and Number of land units in Mangaung

Land Use Type		Land Units				Size	
		Residential	%	Other Land Uses	%	Area(Km ²)	%
Formal Stands	Bloemfontein	91 084	54.21%	6 567	58.23%	106	1.72%
	Botshabelo	49 951	29.73%	1 426	12.64%	39	0.63%
	Thaba Nchu	22 073	13.14%	731	6.48%	25	0.41%
Small Holdings		2 767	1.65%	405	3.59%	133	2.16%
Farms & Other		2 161	1.29%	2 149	19.05%	5855	95.08%
Total		168 036	100.00%	11 278	100.00%	6157	100.00%

Source: Surveyor General, February 2014

The following conclusions are drawn from the above table;

- Bloemfontein houses just more than half of the entire population, whilst Botshabelo houses 30% and Thaba Nchu just below 15%;
- Urban areas make out less than 3% of the total municipal area, although 97% of all residential properties are to be found in urban areas.

The Spatial pattern of Mangaung is depicted in **Plan 1** attached hereto.

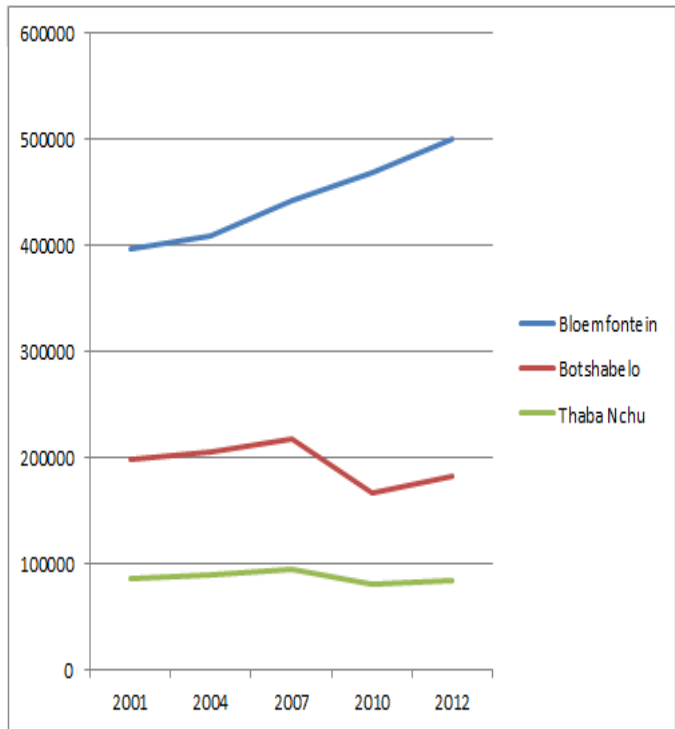
B.1.2 Demographics

The population figure for Mangaung has increased from 679 274 in 2001 to 767 264 in 2012, indicating a population growth of 1.11% (i.e. 88 000 people) over the eleven year period.

Table B1.2: Population Figures and percentage growth between 2001 – 2012

Year	Bloemfontein	Botshabelo	Thaba Nchu	TOTAL
2001	396020	197082	86172	679274
%	58.3	29	12.7	100%
2004	409044	205645	89372	704061
%	58.1	29.2	12.7	100%
2007	442083	217300	94052	753435
%	58.7	28.8	12.5	100%
2010	469156	166705	79949	715810
%	65.5	23.3	11.2	100%
2012	501017	182914	83333	767264
%	65.3	23.8	10.9	100%

% Growth	Bloemfontein	Botshabelo	Thaba Nchu	Average
2001 - 2004	1.08%	1.43%	1.22%	1.20%
2004 - 2007	1.07%	1.41%	1.21%	1.19%
2007 - 2010	2.00%	-8.46%	-5.27%	-1.69%
2010 - 2012	3.34%	4.75%	2.09%	3.53%
Average				
2001 - 2012	2.16%	-0.68%	-0.30%	1.11%



Source: Economic data and sector study for Mangaung, 2012

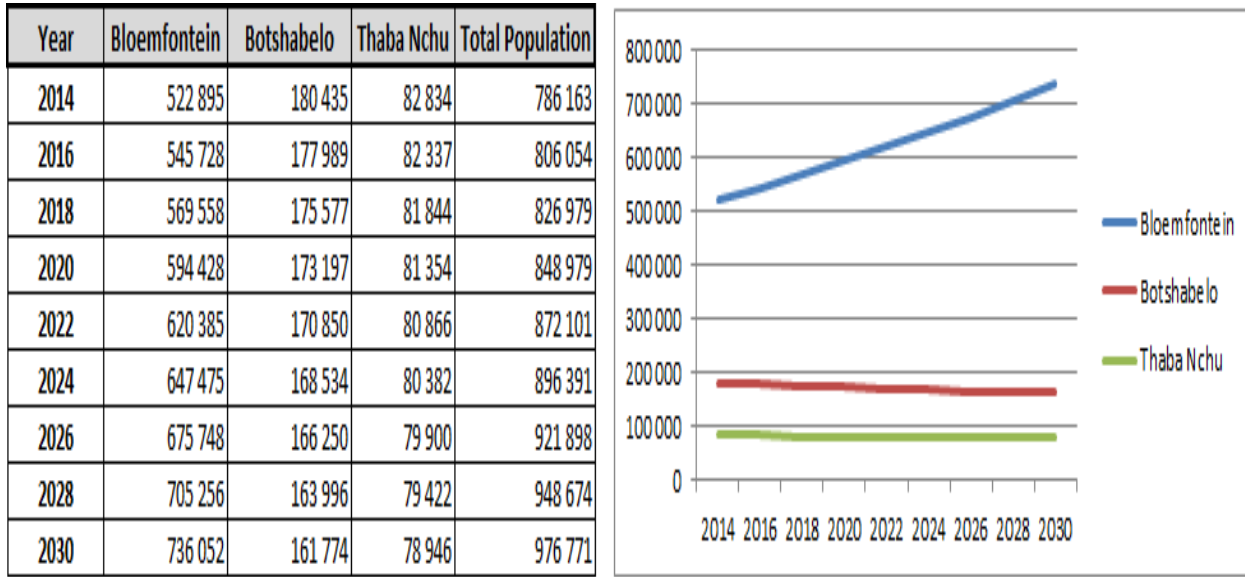
The following can be concluded from the above table and Graph;

- The population for Bloemfontein has grown significantly between 2007 – 2012, whilst the population for both Botshabelo and Thaba Nchu have shown a drastic decline.
- About 45 000 people have relocated from Botshabelo and Thaba Nchu to Bloemfontein between 2007 to 2012 (9 000 people per annum);
- Botshabelo is slowly regaining momentum in terms of population growth.
- Thaba Nchu appears to be more stable in terms of people emigrating to other areas;
- Bloemfontein now houses almost two thirds of the entire Mangaung Population.

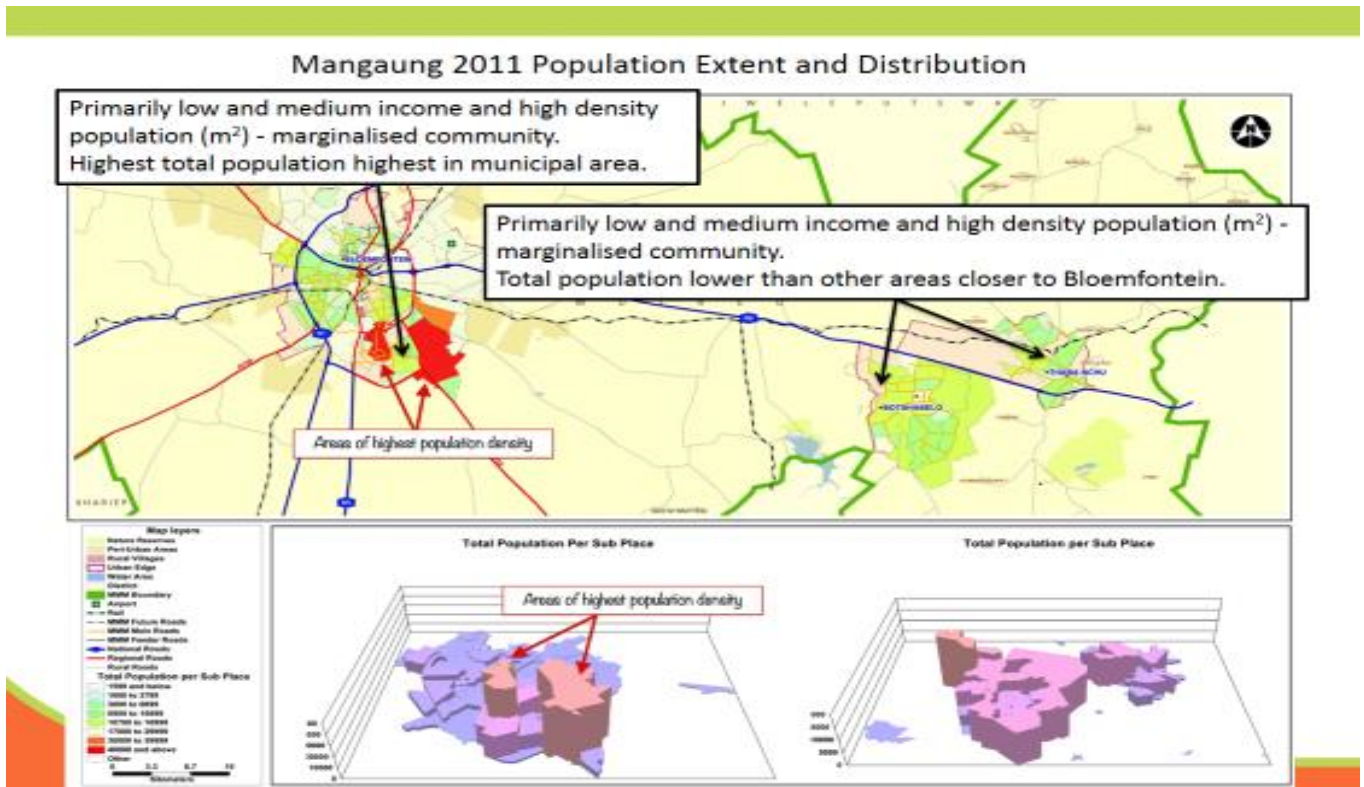
Botshabelo has the highest population density at 1396.84 persons per km², whilst that of Bloemfontein is 90.23 persons per km² and that of Thaba Nchu is 64.78 persons per km².

The following table indicates the expected population growth for Mangaung until 2030;

Table B1.3: Expected population growth for Mangaung until 2030



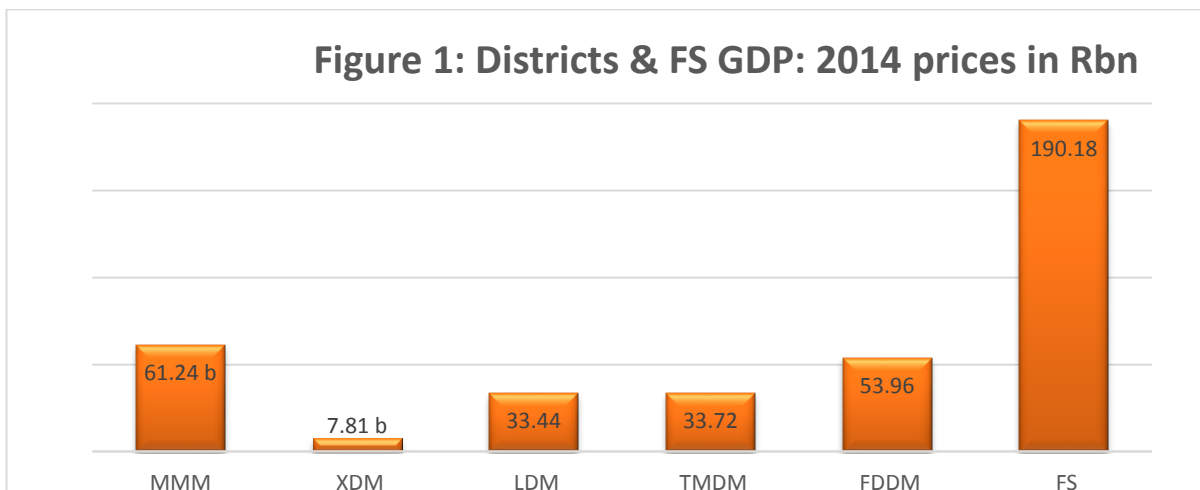
The average growth rates for the past 11 years have been used in respect of each individual area to calculate the projected population growth. It is expected that the population for Bloemfontein will continue to grow at an average rate of 2.1%, whilst that of Botshabelo and Thaba Nchu is expected to remain stable.



B.2 Economic Infrastructure Review

B.2.1 Economic Overview

Mangaung has a well-developed economy and is the largest contributor to the GDP of the province 32.20%. In 2014 the Free State Province had a total GDP of R190 billion in current prices. Figure 1 below shows the contribution of each district municipality to total Free State GDP. The most contribution came from the Mangaung Metropolitan Municipality (MMM), followed by the Fezile Dabi District Municipality (FDDM) which is the industrial hub of the Free State economy. Thabo Mofutsanyane District Municipality's (TMDM) was the third largest; Lejweleputswa District Municipality (LDM) the fourth and Xhariep District Municipality (XDM) was the fifth in contribution.



Source: Global Insight Regional eXplorer version 920

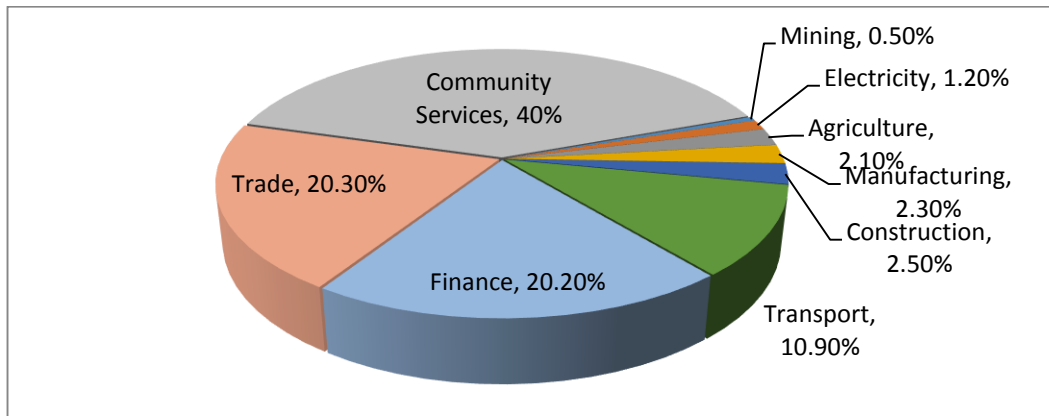
TABLE 1: GROSS DOMESTIC PRODUCT (GDP) - METROPOLITAN MUNICIPALITIES OF FREE STATE PROVINCE, 2004 TO 2014, SHARE AND GROWTH

	2014 (Current prices)	Share of province	2004 (Constant prices)	2014 (Constant prices)	Average Annual growth
Mangaung	61.24	32.20%	37.08	51.38	3.32%
Xhariep	7.81	4.10%	5.00	6.64	2.88%
Lejweleputswa	33.44	17.59%	33.99	28.21	-1.85%
Thabo Mofutsanyane	33.72	17.73%	21.83	28.03	2.53%
Fezile Dabi	53.96	28.37%	30.14	45.22	4.14%
Free State	190.18		128.03	159.47	

Source: IHS Global Insight Regional eXplorer version 920

Fezile Dabi had the highest average annual economic growth, averaging 4.14% between 2004 and 2014, when compared to the rest of the regions within the Free State Province. The Mangaung metropolitan municipality had the second highest average annual growth rate of 3.32%. Lejweleputswa District Municipality had the lowest average annual growth rate of -1.85% between 2004 and 2014.

Figure B2.1: Sector contribution to GDP



Source: Mangaung Economic Data & Sector Study, 2012

Trade and Transport have shown slight decreases over the past few years, whilst Finance and Community services have shown steady increases. **Annexure G** provides an overview of the proportional share of the economic sectors per sub-area in MMM from 2001 to 2012. The following notable conclusions are drawn from this annexure;

- The dominance of Trade and Community services in Botshabelo and Thaba Nchu should be noted. In Thaba Nchu, these two sectors contributed 70.5% of the economy in 2012. The relative figure for Botshabelo is 64.7% (and in Bloemfontein it is only 53.4%).
- The strong contribution of Finance to the economy of Bloemfontein should also be noted, though the sector has seen some contraction in Bloemfontein recently. Finance has recently also seen strong growth in Botshabelo and Thaba Nchu.

The overall economy of MMM has grown at a steady pace of 4, 65% per annum between 2001 and 2012. Although Bloemfontein remains the economic hub of the region, both Botshabelo and Thaba Nchu have shown strong growth between 2010 and 2012 (11, 78% and 8,13% respectively), whilst the Bloemfontein economy contracted (-1,45%).

Employment creation in Mangaung had been significant between 2001 and 2012 with 14 531 jobs added to the economy over the past 11 years. Although Bloemfontein has shown a modest increase



in employment opportunities, the other two urban centres have shown a steady decrease. The sector that created the most employment over this period is Community Services with a net gain of 18 640 employment opportunities, compensating for significant losses in other sectors. This situation is becoming potentially dangerous as too many people are dependent on a single employer (the state).

The economic active population of Mangaung represents 36.25% of the total population with 24.66% residing in Bloemfontein, 8.71% in Botshabelo and 3.88% in Thaba Nchu. Due to the high influx rate of people seeking better living conditions the area has a high unemployment rate (27.7%), and is characterised by high levels of poverty.

The average annual household income in Mangaung was R141 294 during 2012. Once again, the dominance of Bloemfontein is evident with a household income of R165 700 per annum, whilst those of Botshabelo and Thaba Nchu were R91 906 and R102 967 respectively.

The per capita annual income (2012) in MMM (R43 448) was more than the per capita income in the Free State (40 633) and also higher than the national average (R41 925). As was the case with household income, Bloemfontein has a significantly higher per capita income compared to Botshabelo and Thaba Nchu. (R53 037 versus R25 685 and R31 813)

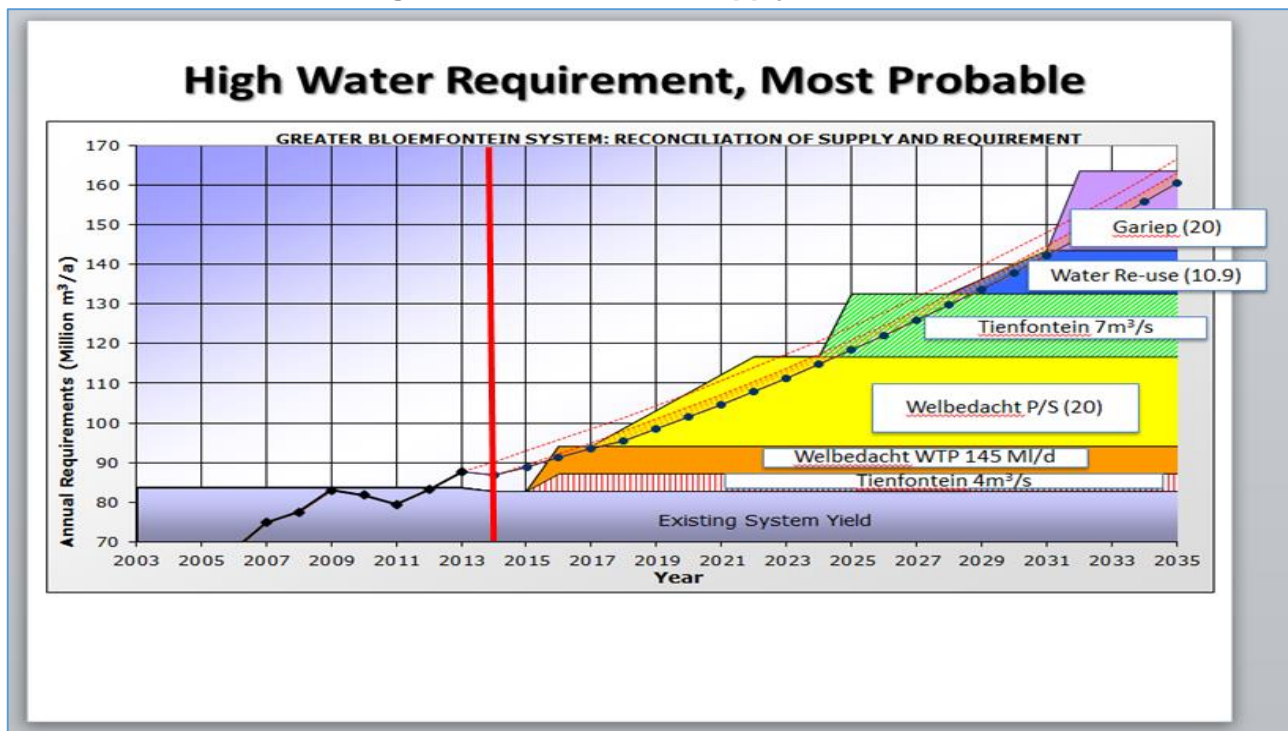
B.3 Basic Infrastructure Review

B.3.1 Existing Capacities

a) Bulk Water

Mangaung is currently experiencing increasing shortages in terms of bulk water supply, as indicated in the diagram below. It is evident that a shortage of supply will continue until 2015 when the Tierfontein Pump station and the Welbedacht WTW are upgraded.

Figure B3.1: Bulk water supply



All reservoirs in Bloemfontein, Botshabelo and Thaba Nchu have sufficient capacity to cater for daily demands, except the three reservoirs indicated in the table below.

Table B3.1: Reservoirs in Mangaung with insufficient capacity

Area	Reservoir / Tower	Area affected	Backlog AADD Mℓ/d required	Backlog Storage required (Mℓ/d)
Bloemfontein	Longridge 1,2,3	Zones 4,6,10	6.02	12.05
Botshabelo	No. 5	Block F	2	3.528
Thaba Nchu	OK	OK	1.7	3.42

The existing capacity of reservoirs is indicated in **Annexure D (Tables D1 & D2)**, whilst the location of Reservoirs is indicated on **Plans 2A and 2B**, attached hereto.

Measures to realise water security via a Gariep Bulk Water Augmentation and water re-use Project

Mangaung Metro Municipality (MMM) had a population of about 750 000 people in 2011. Current BEPP figures places the population closer to 767 264. To be updated with the next Census. The Asset Register Project of MMM availed updates with respect to metering points and Rates Payers which moves population numbers closer to the BEPP values. About 95% of the population is supplied from bulk surface water systems operated by MMM (and Bloemwater as service provider). Based on current water use, water use efficiency improvements, population growth and level of service improvements MMM is projected to have insufficient water as predicted in the 2012 Reconciliation based on a sustainable Yield projection. Water restrictions have recently been implemented as per DWS Regulatory Performance Requirements – even though None Revenue Water (NRW) has been reduced, stepped tariff measures and water re-use have been initiated in the Metro.

MMM has registered a project (M125) with National Treasury and has applied for a WULA (water use license application). The purpose of the project is to execute a bankable feasibility study which is explained here below. A pre-feasibility study was completed and is used as the framework to execute the bankable feasibility study.

MMM challenges:

- Water Conservation and Water Demand Management (WCDM) is an imperative to maximize existing water resources. The Water Service Development Plan (WSDP), IDP, BEPP and MTREF alignment is a high priority.
- Reducing NRW further than the 12% reduction already realised with measures implemented these past x2 MTREF periods. NRW was reduced from 43% percent to the current calculated value of 31% - during 2014 2015 the NRW again peaked at 40% plus. The DWS National Water Information System (NWIS) still indicate 43% NRW even though the MMM BEPP, IDP and MTREF indicate a situation improvement. The current bulk supply system is subject to large NRW effects because of multiple open transfers where water hops via multiple open surface sub-system components such as dams, rivers or channels. E.g. Caledon / Welbedacht route. The shortest transfer route is the most efficient. E.g. direct from abstraction to the place of usage. Due to absence of information regarding Bloemwater

operation regimes it is difficult to determine which losses are usage losses versus open system transfer losses.

- The Regulatory restriction target of reducing demand with 15% is being approached to review infrastructure technology options to reduce loss through evaporation, dam-, channel- and riverine seepage, illegal connection opportunities, water use efficiency and storage and working smarter:
- ✓ The MMM water supply system came about with the merger of several municipalities into a metro. In their own right the initial supply systems per municipal area before the merger did the job. The systems became fragmented in an effort to solve amongst others the silting problems in the Welbedacht dam. Part of the supply is now via the Welbedacht WTW via a 112km aged reinforced concrete pipeline and the rest via the Knelpoort dam from where water is pumped over the escarpment to flow in an open natural channel towards the Rustfontein dam and farther into the Modder river, towards Mockes dam and eventually into Maselspoort Weir from where it is again pumped to Bloemfontein. This results in huge losses in terms of water and energy.
- ✓ The Welbedacht Dam as a result of siltation has reached the end of its life and cannot be repaired cost effectively in a sustainable manner. The 112 km reinforced pipeline build in 1973 has effectively reached the end of its life cycle. The only remaining life of the pipeline is in the fact that it can be re-sleeved – but with reduced capacity.
- ✓ With this state of affairs the main supply to Bloemfontein is compromised with very low guarantees of water security in terms capacity and sustainability.
- ✓ The Knelpoort dam to Rustfontein dam will be able to provide water in the longer term and will be continued to be used to Thaba Nchu and Botshabelo.
- ✓ Gariep will have to replace the Welbedacht scheme (Infrastructure) for the supply to Bloemfontein.
- Align WSA and WSP Operating Rules with a revised/updated NWRS (National Water Resource Strategy) Reconciliation. The Reconciliation makes provision for the Gariep augmentation scheme. This plan contains the early initiation of the Gariep option as per the current NWRS Reconciliation in order to ensure the project will be completed on time to secure water, to minimize escalation cost and to prevent fruitless expenditure. The plan of Bloemwater to expand the Rustfontein WTW for no use requires intervention. This is an example of funds with the potential to be invested in longer term water security.
- Improving Revenue streams. As part of the Asset improvement program which has realised many benefits to planning and budgeting some areas of MMM WSP operations must still be charted as revenue streams and the Bloemwater WSP operations is a frustration and major Risk due to none disclosure.

- Doing a due diligence on the total water infrastructure- and sanitation infrastructure asset in order to review operational costs, repair and maintenance requirements and costs. In this regard:
 - ✓ An initiative is being planned to obtain the co-operation of Bloemwater for full disclosure so that the Greater Bloemfontein Supply Area water services' Capex, Opex and Operating Rules may be harmonized.
 - ✓ This is becoming more critical with the intended incorporation of Naledi into MMM. A preliminary water services Benchmark has been done regarding Naledi using the same DWS Water Services model and MMM will face many challenges to merge these Naledi Supply Systems into an Integrated Supply System.
- Initiate activity based costing with respect to the total-supply systems' operations to ensure the realization of efficacy – e.g. ensuring the right things are done correctly; H/R, R&M, Capex; Refurbishment, etc.
- Further development / investment of the current Caledon & Welbedacht transfer scheme is linked to fundamental siltation challenges and supply risks due to seasonal flows in the river and reduced Supply due to the inevitable siltation and is therefore a low priority:
 - ✓ Extraordinary large Capex investment will be required to curb this Supply sub-system challenge – remove silt from dam and larger de-silting pond where turbulent water is allowed to desilt.
 - ✓ But even so during the next rainy season with high MAR [mean annual run-off] the supply sub-system will tend to silt-up again [the topology of placement and nature of terrain soil just lends itself to this phenomenon].
 - ✓ Even if set right the Caledon / Welbedacht to Bloemfontein Supply sub-system pipeline life cycle constraint [aged old technology] requires pressure reduction operating strategies to keep it as a back-up strategic component that remains functional. Therefore in any case it is unable to transfer the necessary augmentation to MMM that is required without refurbishment.
 - ✓ Thus augmentation from Gariep which is transferred/routed via this MMM sub-system will be subject to the challenges mentioned as well as will incur the cost of expensive sectional refurbishment and even replacement of large sections of the Caledon / Welbedacht to Bloemfontein pipeline just to keep it functional at current pumping pressure levels without adding the additional burden of augmented supply.
 - ✓ The chosen Option amongst the Gariep strategies must be chosen that will not lead to Caledon / Welbedacht Sub-System going to waste or stand idle as a wasted infrastructure investment. The small town supply via the Caledon / Welbedacht pipeline will be able to cope easier by reducing supply all the way to Bloemfontein area. Bloemfontein will replace this base water supply via one of the Gariep Augmentation Options that does not follow the Caledon / Welbedacht route.

- The utilization and accelerated implementation of local water reuse is a necessity as a means to maximize local resources and limit the importation of additional water sources. The optimization of local resources and use of one of the Gariiep dam options is supported by the Free State Provincial Water Master Plan, DWS reconciliation study as well as NWRS through WCDM and water reuse. The bankable feasibility will assist to determine which of the options of supply via Gariiep dam augmentation needs to be implemented.

b. Existing Caledon Supply System

The **Figure 1** below shows the current Caledon Supply system, consisting of raw water from the Caledon River.

DWS 2012 Recon Study Report reflects the current system yield as follows:

Groothoek Dam	8,2	MI/day
Rustfontein-Mockes Dam subsystem	21,9	MI/day
Caledon transfer system	243,8	MI/day
Adjustment to system	-43,0	MI/day
Combined yield	230,9	MI/day
Impact of Metalong Dam	-2,7	MI/day
Environmental Water Requirements	-5,0	MI/day
Smaller Towns	-8,2	MI/day
Available to MMM	215,0	MI/day

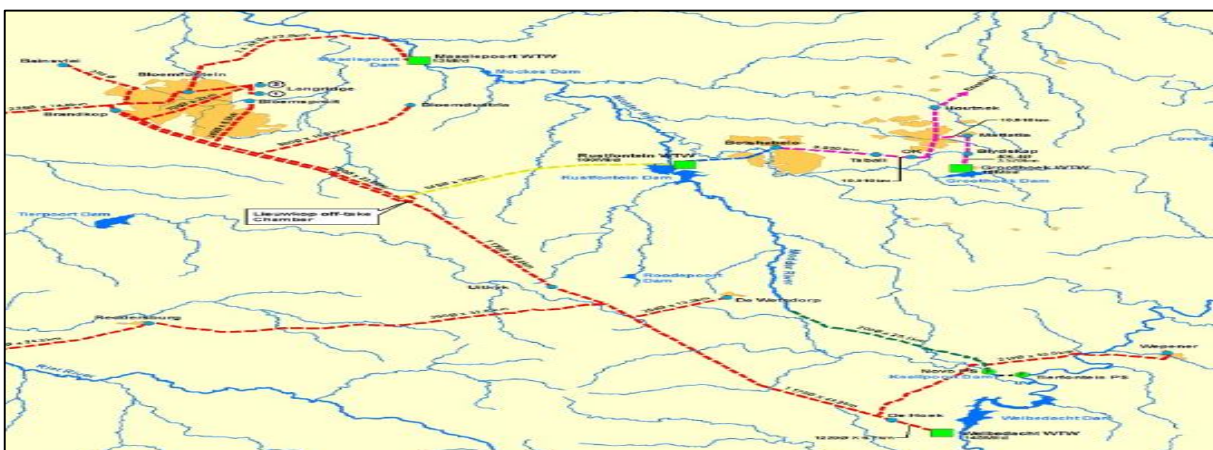


Figure 1: Current Caledon System

Bloemwater supplies 241MI/day (average) to Bloemfontein, Botshabelo and Thaba Nchu during 2013-14 (exceeding available yield by 13%) and water shortages are encountered during summer

months in recent years. Water restrictions have also been implemented within MMM. Water Security is a major problem.

In addition to the existing yield problem the following main challenges are experienced:

- Loss of 95% of the capacity in Welbedacht dam as a result of siltation – annual recurring challenge / phenomenon (Caledon- and Modder rivers are rain depended leading to unsecure water supply and Modder River prone to siltation (reservoir loss and high costly maintenance w.r.t. equipment).
- Siltation entering water treatment works pump system during high demand summer months
- Inefficiency related to re-pumping of raw water (energy consumption and water loss through open dam and riverine systems).
- The pipeline from Welbedacht WTW to Bloemfontein that near the end of its expected functional life span – see comments previous section regarding higher life expectancy due to reduced workload by no longer required to pump water to Bloemfontein. But remaining as used infrastructure as backup to Bloemfontein and continued supply to smaller towns and rural areas as presently. It is an already paid for infrastructure 100% in the maintenance, refurbishment and repair phase which is a growing cost burden.

c. New Options

3.1 Water Re-use Potential

It was shown during the study that as much as 90 Ml/d can be intercepted from the Bloemspruit and North Eastern WWTWs and transferred to Mockes dam to be re-used at Maselspoort WTW. Water from Thaba Nchu and Botshabelo WWTWs are currently re-used at Maselspoort WTW. The engineering design to upgrade Maselspoort to a 140 Ml/d in-direct water re-use facility is at an advanced stage and will be financed from MMM's USDG allocation. The impact of water re-use is entrenched in the development of a regional water balance. This innovation by MMM supports the Reconciliation strategy in two ways:

- It is water already paid and the property of MMM and is an Asset being re-used.
- Secondly it is none related inter basin transfer thus no local water resource impact is experienced by keeping necessary EWR [ecological water reserves] from flowing back into the local resources. It is external imported water being re-used and not local resourced water being prevented from flowing back into the local water resources.

In order to really make this work an integrated “total outflow strategy that is dove-tailed with WCWDM” [Water conservation and water demand management] must be realised:

- Transparency of the total supply system is required.
- Updated and revised DWS Reconciliation Strategy.

Any Capex investment into the existing Greater Bloemfontein Supply System [e.g. Caledon/Welbedacht sub-system & pipeline] to augment supply prior to completion of the Bankable Feasibility Study needs to be considered with caution:

- Short term window viewed investment would border on fruitless expenditure [eventually in hind sight] and should target essential operational maintenance requirements in the short term and avoid over capitalization
- Available Capex in the MTREF system [Naledi, DWS, and Bloemwater] should be carefully considered until completion of the Study, or redirected to contribute to a longer term solution as per outcome of the bankable feasibility.
- Investment into existing sub-systems should be focused to maintain functionality:
 - ✓ Extend life of Caledon/Welbedacht to Bloemfontein pipeline by reducing utilization by diverting capacity to Thaba Nchu, Naledi and Botshabelo.
 - ✓ Maintain functionality to not only supply the current areas [except Bloemfontein] but rather act as backup if required.

3.2 Bulk Augmentation from the Gariep Dam

In addition to the re-use in Bloemfontein, three (3) options have been identified for the augmentation of bulk water supply to the Greater MMM Area. The three pipeline routes from the Gariep dam include routes directly to Bloemfontein, towards the upper reaches of the Novo-Transfer scheme, or towards the Knellpoort Dam (an off-storage dam):

- Existing sub-systems such as Caledon/Welbedacht will continue supplying Naledi [once formally transferred to the jurisdiction of MMM], Thaba Nchu and Botshabelo water supply and upon implementation of a Gariep Augmentation supply not stand idle.
- The Bankable Feasibility Study will provide clear strategies.
- There is an urgency to produce this feasibility study to prevent inappropriate expenditure and to have a focused approach regarding infrastructure investment in the Greater Bloemfontein Supply System.

The Gariep Dam option considered pumping clean water directly to Bloemfontein, will also:

- Supply bulk water to the towns of Trompsburg, Edenburg and Springfontein.
- As well as mentioned previously leverage extension of the functional life cycle of the Caledon / Welbedacht supply system cost effectively, and immediately due to reduced work rate [no longer supplies water to Bloemfontein as this water is now sourced via the Gariep Augmentation System.

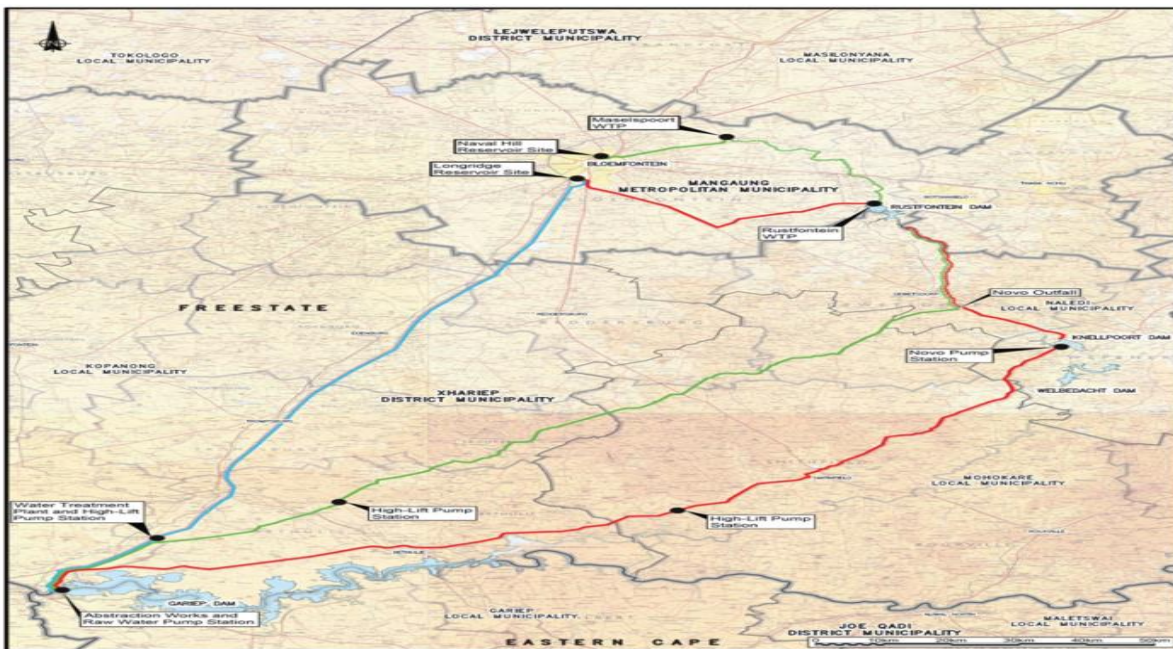


Figure 2: Pipeline route options

A summary of the three bulk augmentation options could be summarized as follows (Table 1):

Scheme Description	Capital Cost
Gariep directly to Bloemfontein	R 4 300 million
Gariep to Novo Outfall to Maselspoort to Bloemfontein	R 6 120 million
Gariep to Knellpoort to Rustfontein to Bloemfontein	R 7 530 million

Table 1: Capital cost for three alternative supply systems

As indicated in the pre-feasibility study executed at own cost by MMM the direct route from Gariep Dam to MMM have been indicated at this early stage, as the most effective approach:

- Reduced Capex investment cost and shortest timeline to execute
- Significantly extend life of critical current sub-systems of the total system

- Investment into long term viable lower maintenance and repair type technology and infrastructure
- Offer opportunity to off-set operational costs by using green technologies [solar- or hydro power generation for pumping]
- Enable MMM to make a quantum leap in the short term by growing and expanding within a framework of being a stable and affordable City.

d. Optimisation and Phasing

Gariep System optimisation is currently being undertaken as part of the feasibility study commissioned by MMM. Apart from the optimisation of the Gariep Augmentation Supply System which represents about half the CAPEX, the operating cost should also be optimized as well as the planned water re-use (mentioned previously). This can be done by operating the system during off-peak periods and provide storage at high points to gravitate during off peak periods. By using the balancing reservoir as an off peak/balancing storage, significant energy cost savings can be realised. This aspect will be reported in the final report.

The project will be phased with the addition of a booster pump station, phasing of the treatment process and balancing reservoirs at a later stage. The estimated construction costs for the various infrastructure components are summarized in **Table 2** below. Costs are May 2015 based and include for 10% contingencies.

Component	Phase 1	Ph1 + Ph2
Refurbishment of Dam Outlet and Suction Main	R75 000 000	R 75 000 000
Raw Water Pump Station	R70 000 000	R 92 000 000
Raw Water Pipeline	R204 000 000	R 204 000 000
Water Treatment Plant and Balancing Reservoir	R340 000 000	R 750 000 000
High Lift Pump Station	R180 000 000	R 238 000 000
High Lift Pipeline	R662 000 000	R 662 000 000
Balancing Reservoir (12hr @ peak)	R50 000 000	R 90 000 000
Booster Pump Station	-	R 171 000 000
Booster Pipeline	R1 944 000 000	R 1 944 000 000
Terminal Storage Reservoir	R45 000 000	R 45 000 000
Bulk Power Supplies	R30 000 000	R42 000 000
TOTAL (VAT excluded)	R3 630 000 000	R 4 312 000 000
Ph1 construction 3 years; Ph2 to be initiated as demand determines.		

Table 2 - Summary of Estimated Construction Costs



e. Financing

Financing of the project will be accomplished by diverting the current payment stream for bulk water supplied by Bloemwater to the new Gariep Water Supply Scheme as indicated in the table below.

If we assume that the project would be completed by FinYr 20 (2020) (see green shaded row above) the MMM Loan Requirements (rows in red text above) will be R1,849 plus R2,059 billion for phase 1 and 2 of the project. This is with the assumption that R1,511 billion (see green figure just below) will be obtained from grants (RBIG or other fund). Municipal Bonds are another Option.

Similarly so research is being conducted for the sourcing of an Investment Partner as a PPP relationship who will absorb and share the capital investment risk and receive a negotiated ROI over a 10 year to 20 year period.

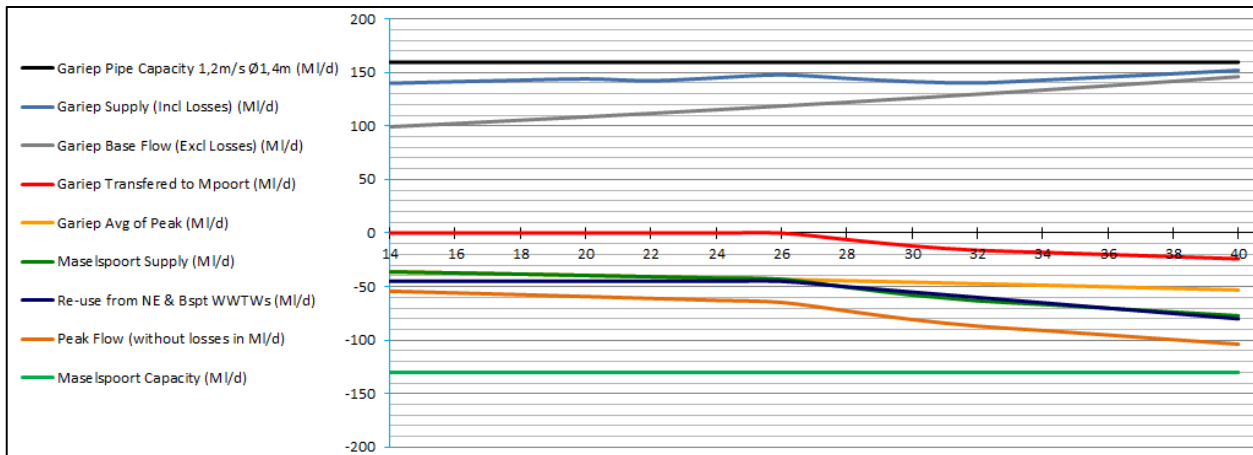
The BFS (bankable feasibility study) will guide these decisions.

		Operational Year	Future Yr		2		4		6		8		10		12		14		16		18		20		22	
			0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40			
Fin Yr			14	16	18	20	22	24	26	28	30	32	34	36	38	40										
Demand			176	179	181	184	183	187	191	195	199	203	210	216	222	229										
Peak			246	250	254	257	256	262	267	273	279	285	293	302	311	321										
Status Quo	Webedacht	Tariff BW (incl Cap)(R/kl)	5,21	5,96	6,83	7,82	8,95	10,25	11,73	13,43	15,38	17,61	20,16	23,08	26,43	30,26										
		Tariff BW (Replace BW pipeline)(R/kl)						8,84	8,84	8,84	8,84	8,84	8,84	8,84	8,84	8,84	8,84									
		Demand BW (Ml/day)	137	139	141	143	143	146	149	152	155	159	163	168	173	179										
		Cost BW (Rx1000)	261 059	303 301	352 110	408 474	466 387	1 015 655	1 118 104	1 236 509	1 373 538	1 531 556	1 729 678	1 962 083	2 232 927	2 549 960										
Status Quo	M/ipoort	Tariff (Incl RawWater) (R/kl)	5,94	6,80	7,79	8,91	10,21	11,68	13,38	15,32	17,54	20,08	22,99	26,3	30,1	34,5										
		Demand M/ipoort (Ml/day)	39	39	40	40	40	41	42	43	44	45	46	47	49	50										
		Cost M/ipoort (Rx1000)	83 949	97 533	113 228	131 353	149 977	175 367	205 075	239 833	280 499	327 915	386 689	456 245	538 081	634 608										
		Total annual Cost (Status Quo)(Rx1000)	345 007	400 834	465 339	539 827	616 364	1 191 022	1 323 179	1 476 342	1 654 037	1 859 471	2 116 366	2 418 327	2 771 008	3 184 568										
Planned	Gariep	Tariff Gariep (excl Cap)(R/kl)	3,50	4,01	4,59	5,25	6,01	6,89	7,88	9,02	10,33	11,83	13,54	15,51	17,75	20,33										
		Tariff Reduction due to Solar Power (R/kl)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00										
		Demand Gariep (Ml/day)	140	141	143	144	142	145	148	145	141	140	143	146	149	152										
		Cost Gariep (excl Cap)(kR)	178 722	206 813	239 125	276 074	312 346	364 390	425 246	475 994	533 274	605 364	706 429	825 204	964 216	1 127 672										
	M/ipoort	Tariff MP (Water from Re-use)(R/kl)	2,10	2,40	2,75	3,15	3,61	4,13	4,73	5,41	6,20	7,10	8,13	9,30	10,65	12,20										
		Demand M/ipoort (Ml/day)	36	37	38	40	41	42	43	51	58	63	67	70	74	77										
		Cost M/ipoort (Excl Cap) (kR)	27 671	32 645	38 481	45 437	53 601	63 178	74 404	89 811	130 792	163 733	197 543	238 053	286 155	343 198										
		Total Annual Cost (Planned - Excl Cap)(kR)	206 393	239 458	277 606	321 512	365 948	427 568	499 650	575 805	664 066	769 098	903 972	1 063 257	1 250 371	1 470 870										
		Balance (Total Status Quo - Total Planned)(Excl Cap)(kR)	138 614	161 376	187 733	218 315	250 416	763 454	823 529	900 538	989 971	1 090 373	1 212 394	1 355 070	1 520 637	1 713 698										
		Annual NPV (Excl Cap kR)	138 614	143 215	133 172	124 109	114 406	273 338	238 861	211 808	188 922	168 752	152 090	137 773	125 322	114 494										
MMM Loan Requirement	Comparitive Total NPV (20yr) (Excl Cap kR)	1 887 288	1 886 446	1 868 553	1 849 875																					
	Extension Loan (subject to Social Contrb) (kR)	1 215 925	1 465 024	1 751 034	2 059 280																					
	Expected Construction Cost Phase 1 (Cap kR)	4 303 213	4 647 470	5 019 268	5 420 809	Avg Escd	186 266 kR/yr or	15 522 kR/mh																		
	Shortfall (Social Contribution required)(kR)	1 200 000	1 296 000	1 399 680	1 511 654	AvgEscd	51 942 kR/yr or	4 329 kR/mh																		
	Annual Repayment of NPV (20yr) (kR)comm2014	389 688	389 688	389 688	389 688	389 688	389 688	389 688	389 688	389 688	389 688	389 688	389 688	389 688	389 688											
	Tariff (Planned Incl Own Cap & Contrb)(R)	6,07	5,98	5,90	5,82	5,83	5,71	5,59	5,48	5,36	5,25	5,10														
	Annual Repayment of NPV (20yr) (kR)comm2016		420 863	420 863	420 863	420 863	420 863	420 863	420 863	420 863	420 863	420 863	420 863	420 863	420 863											
	Tariff (Planned Incl Own Cap & Contrb)(R)		6,46	6,37	6,28	6,30	6,17	6,04	5,91	5,79	5,67	5,50	5,34													
	Annual Repayment of NPV (20yr) (Rx1000)comm2018			454 532	454 532	454 532	454 532	454 532	454 532	454 532	454 532	454 532	454 532	454 532	454 532											
	Tariff (Planned Incl Own Cap & Contrb)(R)			6,88	6,79	6,80	6,66	6,52	6,39	6,25	6,12	5,94	5,77	5,60												
Annual Repayment of NPV (20yr) (Rx1000)comm2020				490 895	490 895	490 895	490 895	490 895	490 895	490 895	490 895	490 895	490 895	490 895												
Tariff (Planned Incl Own Cap & Contrb)(R)				7,33	7,35	7,20	7,05	6,90	6,75	6,61	6,42	6,23	6,05	5,87												

p = 40% Peak Demand Factor (from above Diagram) Interest Rate on 20yr loan kR 1 440 000 to replace BW pipeline (120KM @ R12 000/m)
 c = 40% Peak Avg Factor (see Formulas tab) 20 year loan duration 0% tariff reduction with solar power
 i = 1,5% Demand Growth Rate (as expected) 7% water tariff escalation 8% construction escalation

f. Water Balance

The predicted water balance, from current MMM statistics, are based on the peak demand that will be supplied from current Maselspoort WTW (including re-use) in summer months, with a sustainable supply from Gariep Dam. This will entail that infrastructure is not oversized for short duration peak demands during the summer periods.



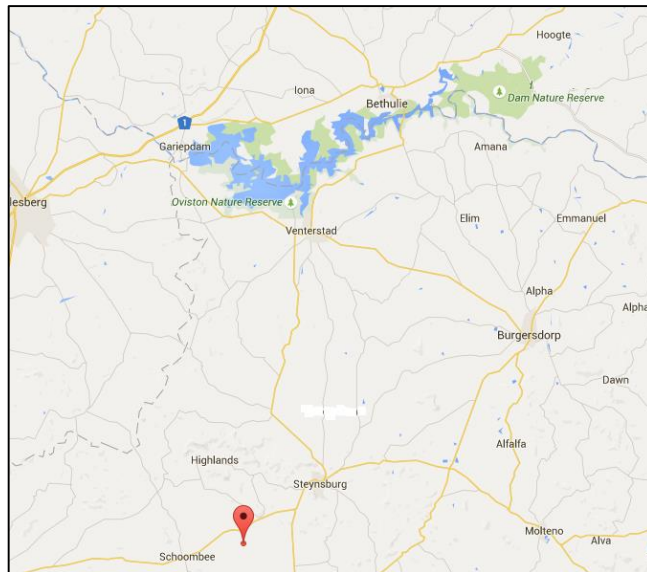
Graph 1 – Water Balance projection (Maselspoort re-use and bulk supply from Gariep Dam)

The red line in **Graph 1** above shows the ideal optimized constant capacity of the Gariep pipeline of the Gariep Supply System (including the WTWs). In order to provide for peak demand MMM will provide it from re-use shown by the light green line below the zero flow line. This flow is a function of the new upgraded Maselspoort pump station capacity and will be fluctuated flow due to typical peak demand. The average of this peak demand is shown by the dark green line and will be provide from the re-use of the NE WWTW’s constant outflow. This constant demand (without peak) is subject to normal growth in demand as indicated by the dark blue line. In order to remain within the pipeline capacity (below the red line) the re-use supply will be increased as indicated by the black line (negative value).

g. Renewable Energy

Two pump stations will be required to pump water to MMM and surrounding towns. An estimated 6,93MW (at 145ML/day) will be required for the pumps.

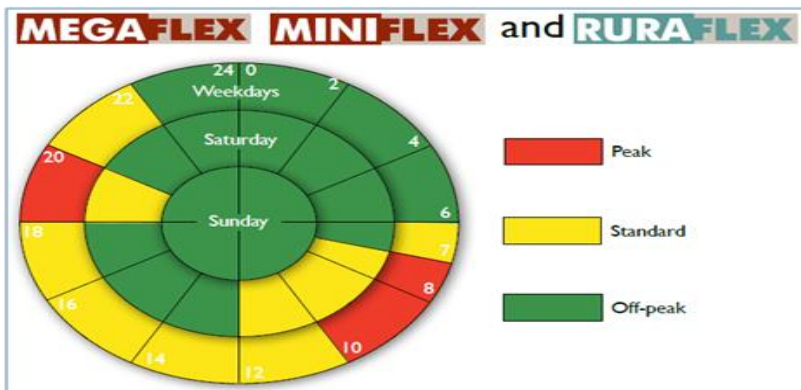
h. Hydro Power



The Orange-Fish Tunnel is a 82,5km tunnel that carries water from Oviston at the Gariep Dam to the Fish River valley with the outlet at Teebus about 23km south west of Steynsburg (see map to the right). It diverts water from the Orange River to the Great Fish River and the semi-arid areas of Eastern Cape Province.

It is the fifth longest tunnel in the world with a diameter of 5,35m and a fall of 77m. The outlet structures provides for the installation of one or more hydro power turbines with the potential to generate as much as 8 MW on a continuous basis. The support of DWS and Eskom should be obtained to installed the turbines and generators and connect it at the nearby Eskom grid for utilization at the new Gariep Water System pump stations. This exceeds the 6,93MW (at 145ML/day) required for the pumps.

i. Solar Power



A study by University of Stellenbosch revealed that the most feasible renewable energy technology for the required location and size of the plant is to install solar Photovoltaic (PV) technology to generate electricity for the pump stations. The diagram to the right shows the Eskom tariff structure. By generating sufficient solar power between 9:00 and 16:00 (7 hours) to pump the required water needed in 13 hours from the start to the end of the peak tariff period will require a reservoir to store that additional 6 hours of water (13 hours requirement – 7 hours pump time). In that period the reservoir will provide gravity fed supply into the system. An alternative option is hydro power generation which is currently part of the feasibility study and work in progress.

Pipe diameters and pumps will be optimised to ensure additional raw water storage at the treatment plant to avoid pumping during Eskom high demand periods and peak tariffs.

Current hydro power generated at the dam, could ensure sustainable supply for the raw water and booster pump station.

j. Status Quo of Studies and Project Plan

The Metro has completed the following studies to date (**Table 4**):

Table 4: Studies status quo

Name of Report	Status
Gariep feasibility study pipeline optimisation, Bigen Africa	Complete
Detailed technical feasibility	In development
Draft Environmental feasibility report for the proposed Gariep dam bulk water supply scheme(critical snagging), GLAD Africa,	Complete

Name of Report	Status
Affordability report, CRESCO	In development
Macro-Economic Impact Assessment report, Urban-Econ	Completed
Internal bulk distribution report, Bigen Africa	In development
DWS MmuSSA report	In development
Small town report, Phetogo Consulting	Complete
PV report renewable energy, University of Stellenbosch	Complete

Table 5 below indicates the cost estimate associated with the different phased as per project plan to establish a feasibility study.

Item	Description	Amount
1	Feasibility (concept design)-Stage 1 & 2, as per Guidelines	R 7 474 000
2	Procurement Options	R 500 000
3	Specialist Investigation and Land Use	R 6 000 000
4	Project Structuring Options	R 1 000 000
5	Financial Modelling	R 2 500 000
6	Funding Options	R 5 750 000
7	Legal Options	R 3 000 000
8	Statutory Approval Aspects	R 1 800 000
9	Secretariat	R 1 676 000
10	Contingencies (15%)	R 3 300 000
	Total	R 33 000 000
	From IIPSA	R 26 000 000
	From MMM	R 7 000 000
	Total	R 33 000 000

Table 5 – Preliminary Cost Estimate

Note: The preliminary cost above does not provide for the documentation development required for Bankable feasibility study level of detail. This will be finalised once the most suitable implementation mechanism has been identified.

(i) Sanitation

Most of the Waste Water Treatment Works (WWTW) in Mangaung are operating to full capacity, whilst several other are completely under capacity. The combined capacity of all WWTW is 118.4 Ml/day, whilst the current demand is 164.12 Ml/day. The demand therefore exceeds the existing capacity with 45.72Ml/day.

The WWTW's that currently operate under capacity are summarised in the table below.

Table B3.2: Mangaung WWTW operating under capacity

WWTW	Community Served	Design Hydraulic Capacity (MI/day)	Current Hydraulic Demand (MI/day)	Spare Capacity Hydraulic (MI/day)	Design Capacity Organic (kg/day)
Bloemspruit	Bloemfontein	42.3	62.4	-20.1	25930
	Mangaung	13.7	21.7	-8.0	8398
Sterkwater	Mangaung	20	24.7	-4.7	12 260.0
Botshabelo	Botshabelo	20	33.2	-13.2	12260
Selosesha	Thaba Nchu	6.5	11.1	-4.6	3594.5
Total:		118.4	164.126	-45.726	72189

A detailed breakdown of the capacity for all WWTW in Mangaung is reflected in **Annexure D (Table D3)**, whilst the positions of the WWTW's are indicated on **Plans 2A and 2B**, attached hereto.

(j) Roads

MMM's bulk roads services consist of approximately 197 km of main roads. Visual assessments are done every two years on MMM's road networks and the results are captured into the Pavement Management System, which is used to prioritise the roads to be resealed/rehabilitated. Each year some of the main roads are rehabilitated, but more funding is needed to eradicate the backlog. In cases of new developments and densification of existing urban areas, the capacity of the main roads is investigated and upgrading of the existing main roads is proposed if needed.

(k) Stormwater

MMM's bulk stormwater consists of approximately 56 km of major stormwater canals. The capacity of the major systems varies from a 10-25 year storm frequency depending on the area to be served. In general there are no major capacity constrains in the major systems, however some portions of the major systems need serious rehabilitation regarding vegetation and structural collapses. MMM is making use of a Stormwater Management System (SMS) to determine the flows and capacities of the stormwater conduits. There are contractors appointed on a 3 year contract to do rehabilitation work on the major stormwater systems, but more funding will be needed to cater for the total rehabilitation need.

(l) Electricity

Centlec, a Municipal utility, is responsible for providing electricity in Mangaung. When a development within the urban area occurs it is necessary to do electrical design in such a manner that will make provision for electrical supply capacity for a number of years to come. The ongoing growth due to the new developments over the years results in electrical load growth as well. Centlec is faced with the following challenges concerning the lack of investment in respect of electrical infrastructure;

- Loss of firm capacity;
- Overloading of electrical infrastructure;
- Weakened voltage levels;
- Un-economic levels of system distribution losses;
- Reduced life expectancy of distribution equipment;
- Loss of energy sales due to poor performance of networks; and
- Loss of customer confidence due to unreliable electricity supply.

Centlec has budgeted R192 million in the MTREF to upgrade and build six Distribution Centres to increase the capacity of electricity to deal with the backlog and also future developments.

(m) Solid Waste

Most Municipal areas have access to waste services, whilst rural areas, farms, small holdings and some informal areas do not have access to the service due to, amongst other, accessibility and distance. Weekly backlogs are experienced due to low availability of fleet and equipment and the SMMEs that are appointed on an as and when needed basis do not have the necessary capacity at times to deliver to the required service standards. The revision of the 2011 Integrated Waste Management Plan (IWMP) has been completed.

Currently solid waste disposal at landfill site is the most common form of solid waste management in the city but this will change in future as the city is a participant in the “Waste Management Flagship Programme” of the National Department of Environmental Affairs. This project aims at the development of a strategy and project preparation for diversion of solid waste away from landfill sites and GHG emission mitigation. These scenarios will include and not limited to Waste to Energy projects.

There are currently three landfill sites which are owned managed by the metro, namely:

- Southern Landfill Site- North of Bloemfontein
- Northern Landfill Site- South of Bloemfontein
- Botshabelo Landfill Site- East of Botshabelo

It is estimated that about 325 241 tonnes/ annum is disposed at the landfill sites in Mangaung out of approximately 404 608 tonnes of waste generated per annum. The Southern LS is the largest landfill at approximately 117 ha, with the longest standing disposal permit dating back 1995. The site accepts all domestic and commercial solid waste from the surrounding areas with the exception of flammable liquids, corrosives, tar and big stones and medical stones. The total footprint is approximately 43ha, with a remaining volume of between 5-6 million m³ (Mott Macdonald, 2014). Recent studies by J&G/ RWA (2015) indicate that 165 000 t/a of waste is deposited at this site.

The Northern LS is the second largest landfill in the Mangaung MM with an approximate site extent of 40ha. Recent studies estimate that about 153,000t/a of waste is deposited at the site

The Botshabelo LS is the smallest of the Metro’s three landfills is a total site footprint of approx. 24ha. About 8,000t/a of waste is deposited at this site All waste entering the landfill should be recorded electronically, but due to the weighbridges getting broken often all waste volumes are sometimes estimated and converted into quantities.

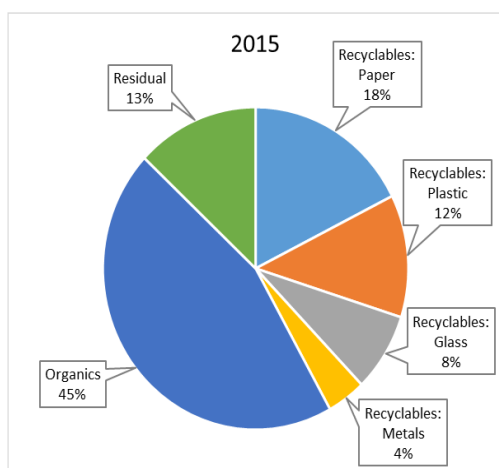


Figure 1 (left). Estimated MSW fractional composition for 2015, in Mangaung MM.

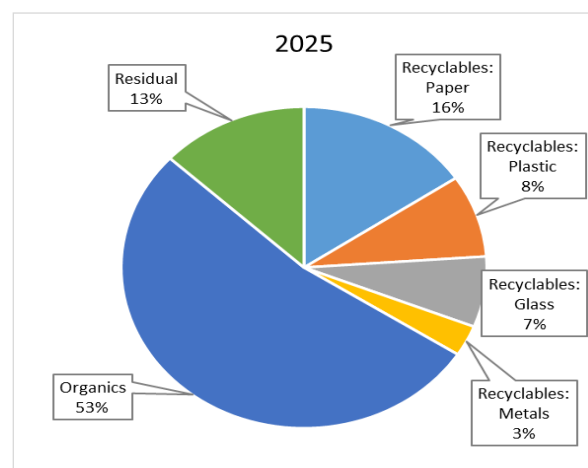


Figure 2 (right). Estimated MSW fractional composition for 2025, in Mangaung MM.

The currently utilised landfills are permitted but are not being operated in accordance with the permit requirements and are therefore non-compliant. Landfilling operations are being improved to ensure operational compliance.

The capacities of existing Landfill sites are summarised in the table below and also indicated on **Plans 2A and 2B**, attached hereto.

Table B3.3: Capacity of existing Landfill Sites in Mangaung

Area	Description	Capacity	Comments
Bloemfontein	Northern Landfill	The Northern landfill site is nearing its useful life, and coupled with that a housing development has encroached into the 600m buffer zone of this site. <i>Remaining airspace – approx. 885362 m³</i>	The city would be compelled to close it even before it has reached its lifespan due to its close proximity to the residential area.
	Southern Landfill	<i>Remaining airspace – approx. 5 504 3 m³</i>	The site has a potential for the development of a waste to energy project and also creation of green jobs through sorting and separation of waste
Botshabelo	Botshabelo Landfill	<i>Remaining airspace – Approx. 1 330 518</i>	There is a potential for the expansion of the lifespan of this site due to less waste that will be received when the Thaba Nchu transfer station is in operation.
Thaba Nchu	Thaba Nchu Landfill	(this site is not saturated. Operations on this site ceased in 2002 because it was illegal to further operate it. DWAF refused to permit it due to some concerns and as a result it has to be closed according the legal requirements) Saturated	The Thaba Nchu landfill site is undergoing a formal closure in terms of the legal requirements. This will return the area to its natural state. This will also improve negative impacts to the water quality in the area and preventing further environmental impacts.

The currently utilised landfills are permitted but are not being operated in accordance with the permit requirements and are therefore non-compliant. Landfilling operations are being improved to ensure operational compliance.

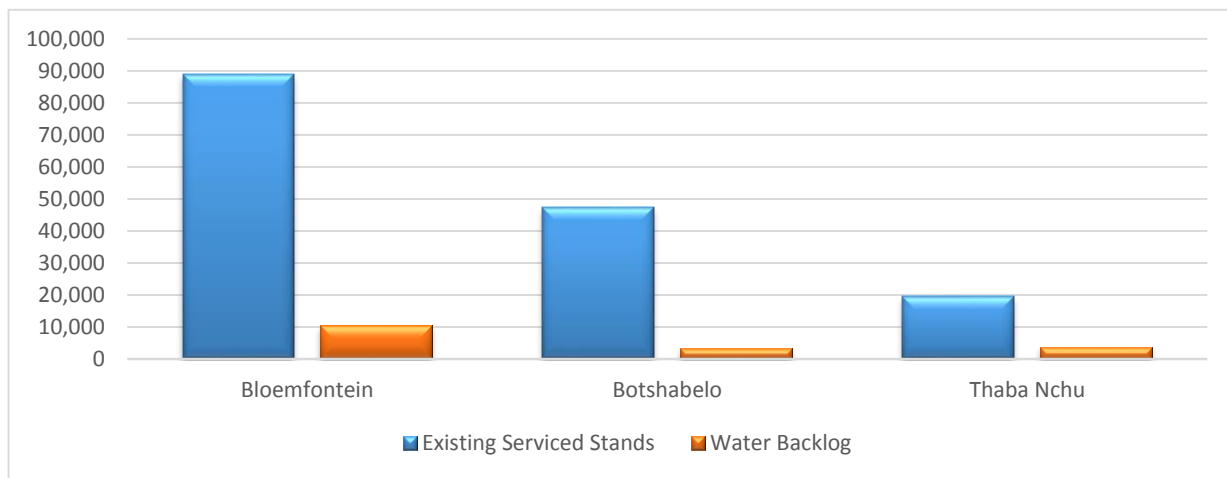
B.3.2 Current level of services, demands and backlogs

The current level of internal services infrastructure is indicated in detail per service type in **Annexure D**, whilst the backlogs are summarised below.

a) Water

The current water demand is calculated at 600 litre / unit / day. The water backlog in Mangaung can be quantified at **17 555 stands (10%)** with 10 505 located in Bloemfontein, 3 267 in Botshabelo and 3 783 in Thaba Nchu. The cost for providing households with metered water connections is estimated at **R140 million**. (Also refer to **Table D5 (Annexure D)**).

Figure B3.2: Water Backlog in Mangaung



The municipality has set itself a target of connecting 3 300 formal erven each year. Considering the fact that the number of formal erven increases with approximately 1 000 new stands per annum, it will take approximately 8 years until 2022 to eradicate the water connection backlog.

b) Sanitation

The current sanitation demand is calculated at 500 litre / unit / day. The sanitation backlog (households without any access to sanitation) in Mangaung can be quantified at **56 067 stands**

with 5 769 located in Bloemfontein, 34 572 in Botshabelo and 23 437 in Thaba Nchu. The cost for upgrading is estimated at **R2.2 billion**.

Sanitation	Bloemfontein	Botshabelo	Thaba Nchu	Total
Waterborne (stands)	87,437	16,284	6,874	110,595
VIPs (stands)	2,315	17,902	14,577	34,794
Pit Latrines (stands)	3,085	15,437	1,137	19,659
Buckets (stands)	369	1,212	4	1,585
Septic Tanks	0	21	8	29
Not Developed (stands)	5,559	2,761	790	9,110
Parks (stands)	461	323	47	831
Total Stands	99,226	53,940	23,437	176,603
Waterborne Backlog (stands)	5,769	34,572	15,726	56,067

Figure B3.3: Sanitation Backlog in Mangaung

The municipality has set itself a target of connecting **11 300** formal erven each year, subject to the availability of sufficient funds to upgrade the bulk networks alongside the set target. Considering the fact that the number of formal erven increases with approximately 1 000 new stands per annum, it will take approximately 6 years until 2020 to eradicate the sanitation backlog.

Calendar Year	Budget Requirement	Available Budget	Budget Shortfall
Year 1 - (2015/16)	R702,075,000	R420,000,000	-R282,075,000
Year 2 – (2016/17)	R758,241,000	R247,500,000	-R510,741,000
Year 3 – (2017/18)	R818,900,000	R240,000,000	-R578,900,000
Year 4 – (2018/19)	R884,412,000	R0	-R884,412,000
Total (Excluding VAT)	R3,163,628,000	R907,500,000	-2,256,128,000

c) Roads

The backlog within existing formal developments is **1,550km** of roads affecting 206 600 households, whilst the distance within informal settlements is **924km**. The total length of roads to be constructed within new future developments is **273km**. (Refer to **Table D7, Annexure D**). The Municipality aims to upgrade 55km of gravel roads over the next 5 years, although the entire upgrade will take longer than 10 years, subject to the availability of funds.

d) Stormwater

Stormwater management remains a big challenge for the Municipality, since continued urbanization interferes with the natural discharge of storm water. The volumes of discharge, as well as peak flows, increase, radically in comparison with undeveloped areas. The current storm water backlog can be summarised as follows (Refer to **Table D7, Annexure D**);

- Existing developments: 800km
- Informal settlements: 717km
- Future developments: 219km

The **objective of storm water management** is to limit development in sensitive areas and to provide guidelines for development in order to limit peak flows or to convey storm water in a controlled manner. Precautionary measures are included in the **Stormwater Management System (SMS)**, in terms of which the relevant directorate is responsible to identify and prioritize projects, as well as to find solutions for problems via hydrological modelling of stormwater.

e) Electricity

All formalized areas within Mangaung have been provided with electricity and technically there are no shortages. The provision of electricity in Mangaung is at all-times high – more than 90%.

However, CENTLEC is experiencing serious maintenance backlogs over the past seven years and it has been very difficult for the CENTLEC to clear these backlogs on maintenance and strengthening network projects that maintains a constant, reliable electricity supply to the communities of Mangaung. The lack of investing in the main back bone projects is also a contribution factor to the outages that are being experienced in recent years. It is important to note that Mangaung Municipality will also need a reliable electricity supply for all new developments that are mushrooming around the N8 corridor and the surrounding areas.

In addition to the above, not all informal areas have been provided with electricity. In order to facilitate the provision of electricity in informal areas, Government has set up strategies and guidelines to encourage service providers to electrify un-proclaimed / informal settlements by making a contribution towards the cost of connection and treating these connections as part of Government's electrification targets.

f) Solid waste

The following projects and initiatives are being implemented;

- Rehabilitation and official closure of Thaba Nchu landfill site;
- Upgrading of all the three permitted landfill sites ;
- Establishment of a waste transfer station in Thaba Nchu;

The following additional projects will be funded by the Department of Tourism and Environmental Affairs (DTEA);

- Establishment of 5 drop –off/recycling facilities in Mangaung.
- Establishment of a waste transfer station in Thaba Nchu (in Mangaung's current budget but also additional funding from DEA).

B.3.3 Condition of infrastructure assets and maintenance

Mangaung is currently experiencing huge challenges in terms of managing its infrastructure assets and providing for the increasing needs at the same time. The diversion of resources to new problems makes it extremely difficult to maintain existing infrastructure, with serious repercussions. At the same time, roads and stormwater, parks, water and sanitation services are all deteriorating gradually.

Consequently, there is now a desperate need to address the problems of ageing infrastructure networks with countless water leaks and sewage spillages. Parallel to this, the Municipality is attempting to upgrade, expand, maintain and refurbish infrastructure in existing and new developments, especially recently formalised settlements.

a) Water and Sanitation

The table below shows the 2012/13 asset register for water and sanitation network conditions and replacement values for a period ranging between 8 to 40 years.

Table B3.4: Mangaung water and sanitation network conditions and replacement values

Description	Condition and Replacement Value					
	Very Poor1	Poor 2	Fair 3	Good 4	Very Good 5	Total
FinYear	0	8	16	24	32	40
Network Pipe lengths (m)						
Bulk Sewer Pipeline	2 475	4 089	29 492	52 669	50 162	132 324
Sewer Network Pipeline	92 389	119 324	296 716	666 957	350 174	1 313 847
Bulk Water Pipeline	4 129	29 889	23 985	166 572	297 472	488 030
Water Network Pipeline	16 818	74 416	299 589	408 853	2 236 629	2 945 071
Network Pipe Replacement Value						
Bulk Sewer Pipeline	R 2 564 355	R 5 845 856	R 58 875 531	R 100 705 849	R 76 421 515	R 236 002 895
Sewer Network Pipeline	R 45 427 939	R 68 381 921	R 172 399 090	R 320 591 166	R 198 361 130	R 691 351 386
Bulk Water Pipeline	R 6 128 694	R 112 301 406	R 46 195 854	R 286 849 174	R 413 094 845	R 746 139 873
Water Network Pipeline	R 14 093 638	R 32 494 896	R 145 753 614	R 225 240 347	R 923 020 008	R 1 294 013 969
						R 2 967 508 123

The following table shows the total replacement cost that will be needed every 8 years

Table B3.5: Total replacement cost every 8 years

FinYear	0	8	16	24	32	40
Sewer Replacement	R -	5 999 036.78	9 278 472.12	28 909 327.64	52 662 126.86	34 347 830.60
Water Replacement	R -	2 527 791.46	18 099 537.71	23 993 683.46	64 011 190.22	167 014 356.66
TOTAL	R -	R 8 526 828.2	R 27 378 009.8	R 52 903 011.1	R 116 673 317.1	R 201 362 187.3

b) Roads and Stormwater

The Table below shows the fair (Current) value of the MMM roads and stormwater assets. It shows that MMM must annually invest a minimum of **R134 million** on roads and stormwater to ensure that these services do not exceed its optimistic remaining useful lives.

The table also indicates the optimistic remaining useful life, the annual replacement cost and the subsequent shortfall.

Service	Fair Current Value	Remaining Useful Life (Optimistic)	Annual Replacement Cost	Provided on Annual Capital Budget	Annual Shortfall
Roads	R 3,019,800,000	25	R 120,000,000	R 55,000,000	R 65,000,000
Stormwater	R 702,000,000	70	R 14,000,000	R 12,000,000	R 2,000,000
TOTAL	R 3 721,800,000		R 134,000,000	R 67,000,000	R 67,000,000

Table B3.6: Rehabilitation backlog for Roads and Stormwater

Service	Fair Current Value	Remaining Useful Life (Optimistic)	Annual Replacement Cost	Provided on Annual Capital Budget	Annual Shortfall
Roads	R 3,019,800,000	25	R 120,792,000	R 32,850,000	R 87,942,000
Stormwater	R 702,000,000	70	R 10,028,571	R 4,500,000	R 5,528,571
TOTAL	R 3721,800,000		R 130,820,672	R 37,350,000	R 93,470,571

c) Electricity

For a number of years Centlec’s infrastructure network has been perceived to be one of the best in the country. It is now evident by a number of faults occurring on the system that the utility is experiencing problems with its ageing infrastructure due to the lack of investing on network strengthening projects and its maintenance plans. The utility has now incurred a substantial backlog on both capital and maintenance projects.

The following refurbishment projects have been targeted for the 2014/15 financial year;

- Replacement of 11KV switchgears: R5,000,000
- Remedial work 132KV southern lines: R4,000,000
- Replacement of oilplant: R 800,000

B.4 Residential Infrastructure Review

B.4.1 Current status of land and housing

The table below indicates the types of dwellings that people live in, as recorded during the 2007 community survey.

Table B4.1: Type of main dwelling for H/holds: MMM

Type of dwelling	Households
House or brick structure on a separate stand or yard	139 022
Traditional dwelling/hut/structure made of traditional	6 412
Flat in block of flats	6 323
Town/cluster/semi-detached house (simplex	4 483

Type of dwelling	Households
House/flat/room in backyard	7 883
Informal dwelling/shack in backyard	6 215
Informal dwelling/shack NOT in backyard	30 604
Room/flat NOT in backyard but on a shared property	1 234
Caravan or tent	227
Private ship/boat	55
Workers' hostel (bed/room)	127
Other	178
Total	202 762

Source: Stats SA - Community Survey 2007

The current Housing Backlog stands on 58 820 housing units, of which 27 735 households are living in informal settlements and the GAP market, as indicated in the table below.

Table B4.2: Current housing demand in Mangaung (updated March 2013)

Income Group	Market Segment	Demand	
		No household	Area (or location)
Medium (R8 000+)	Affordable market	10 500	10 land parcels
Medium (R3 500 – R8 000)	GAP market	10 820	10 land parcels
Low (R0 – R800)	Subsidy market	35 000	informal settlements and identified land for human settlement
Low (R800 – R3 500)	Rental market (formal &	2 500	CBD/White City & Kgatelopele
Totals		58 820	

Over 50% of the backlog is experienced in the Bloemfontein area, as it has better social and economic opportunities than Botshabelo and Thaba-Nchu.

a) Types of housing developments

The table below indicates the number of houses that were provided within Mangaung since the 2006/07 financial year.

Table B4.3: Number of Housing Units provided in MMM between 2006 and 2012 (Updated April 2013)

Financial Year	Number of Housing Units	Total Expenditure (R million)
2006/07	2 850	120 047 700
2007/08	1 097	49 179 607
2008/9	3 600	226 252 800
2009/10	3 904	250 098 048
2010/2011	5 300	339 528 600
2011/2012	1 200	81 178 800
TOTAL	17 951	1 066 285 555

Source: MLM, 2006-2012

The **17 951** housing units that were completed during the past five years mainly represent project linked subsidies. In addition to the above, the following allocations were also made for the same period;

- Hostel Development (CRU): 200 units
- PHP: 216 units
- Extended Discount Benefit Scheme: 993 units
- Act 81 tenure conversions: 4 089 units

The spending of the Directorate was also directed towards **integration** with particular focus on;

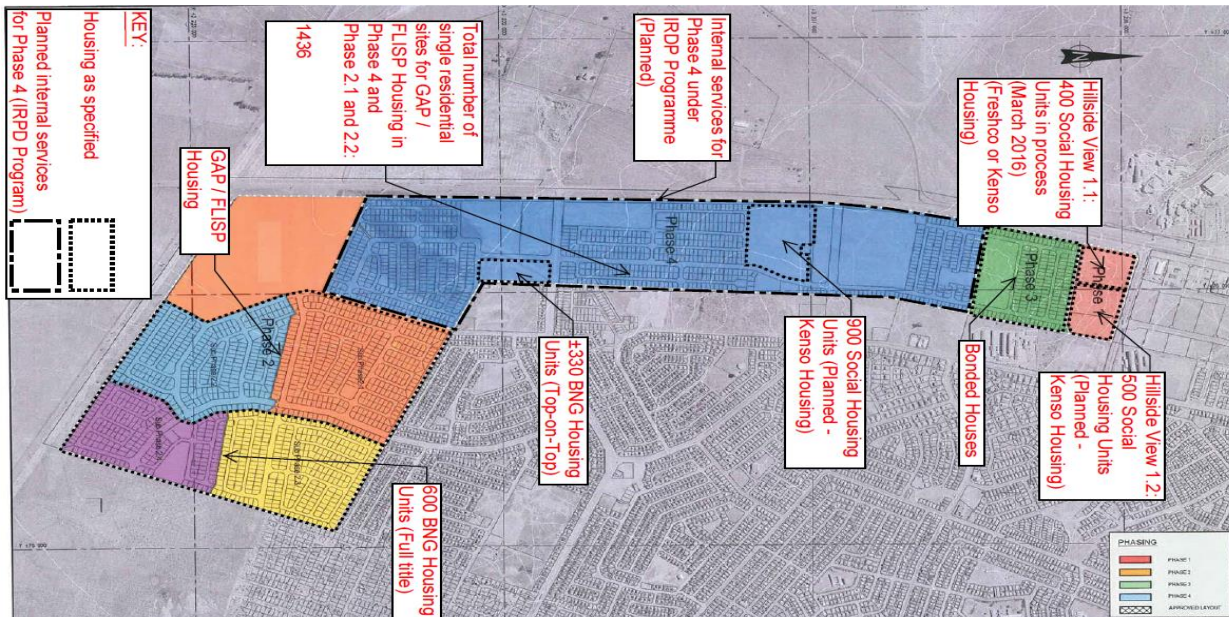
- The Brandwag Social Housing Project;
- obtaining land for the new proposed Botshabelo/Thaba-Nchu development node; and
- Three mixed-development pilot projects in Bloemfontein, addressing the Gap market.

Hillside View development

Hillside View will see the following priority mix of housing units being provided for:-

- a. Phase 1: 900 Social Housing Units (Development of these units has commenced in 2014);
- b. Phase 2: 600 BNG/GAP Housing Units;
- c. Phase 3: Bonded Housing;
- d. Phase 4: 900 Social Housing Units;
 - : 330 BNG Units;
 - : 1436 Gap/FLISP Housing;

Hillside View Site Layout Plan:



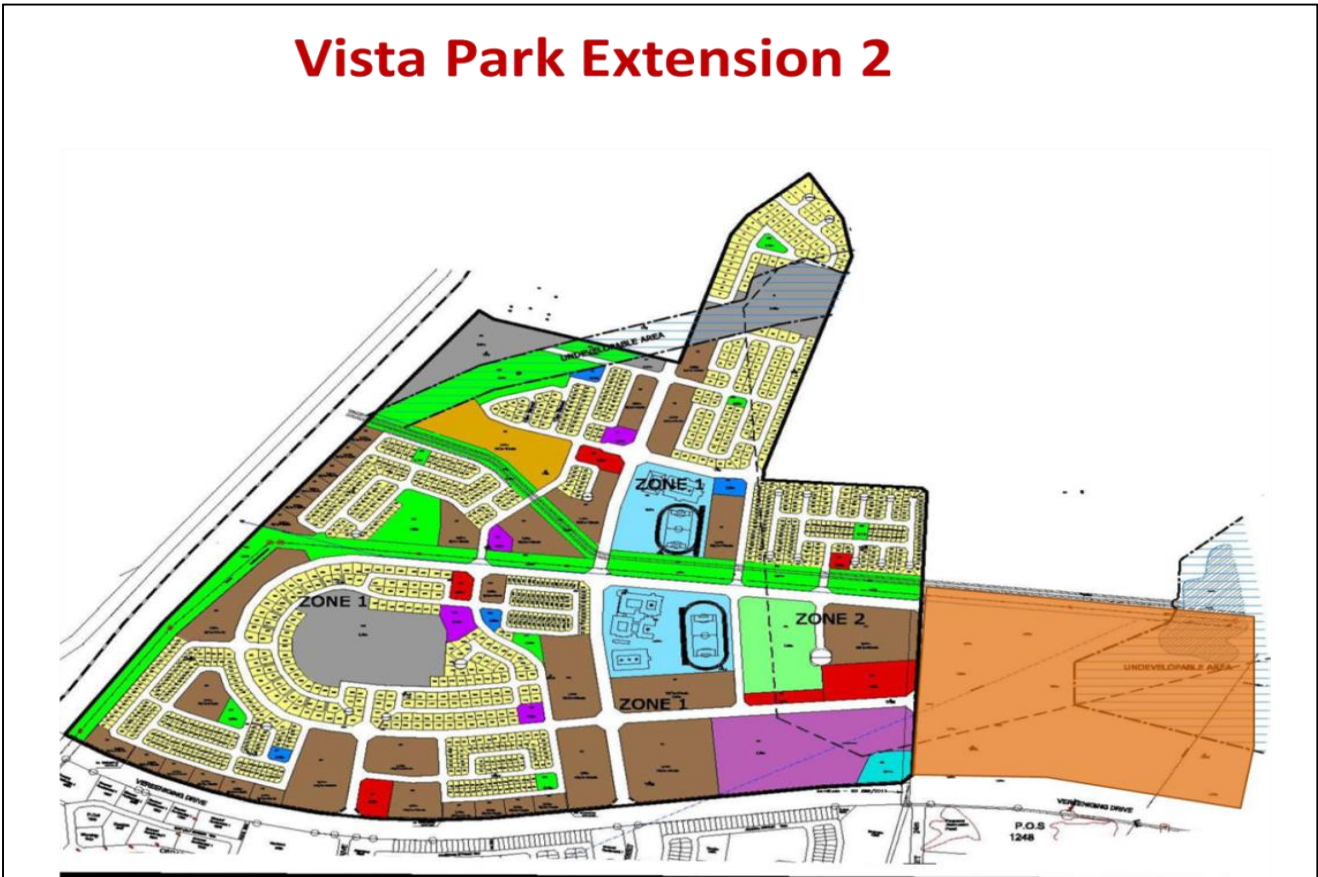
Vista Park 2 Development

Vista Park 2 will see the following priority mix of housing units being provided for:-

- a. Phase 1: 1400 Community Residential units
- b. Phase 2: 1600 Social Housing
- c. Phase 3 : 1842 Bonded housing
- d. Phase 4 : 442 BNG Housing
- e. Phase 5: 376 FLISP Housing

Vista Park 2 Site Layout Plan:

Vista Park Extension 2



Vista Park 3 Development

Vista Park 3 will see the following priority mix of housing units being provided for:-

- a) phase 1: 285 (Affordable /GAP/ BNG/ Mix)
- b) Phase2: 612 (Affordable/GAP/BNG/Mix)
- c) Phase 3: 310 (Affordable/GAP/BNG/Mix)
- d) Phase 4: 367 (Affordable/GAP/BNG/Mix)
- e) Phase 5: 109(Affordable/GAP/BNG/Mix)
- f) Phase 6: 908(Affordable/GAP/BNG/Mix)
- g) Phase 7: 515(Affordable/GAP/BNG/Mix)
- h) Phase 8: 202(Affordable/GAP/BNG/Mix)
- i) Phase 9: 810(Affordable/GAP/BNG/Mix)
- j) Phase 10: 1017(Affordable/GAP/BNG/Mix)

Vista Park 3 Site Layout Plan

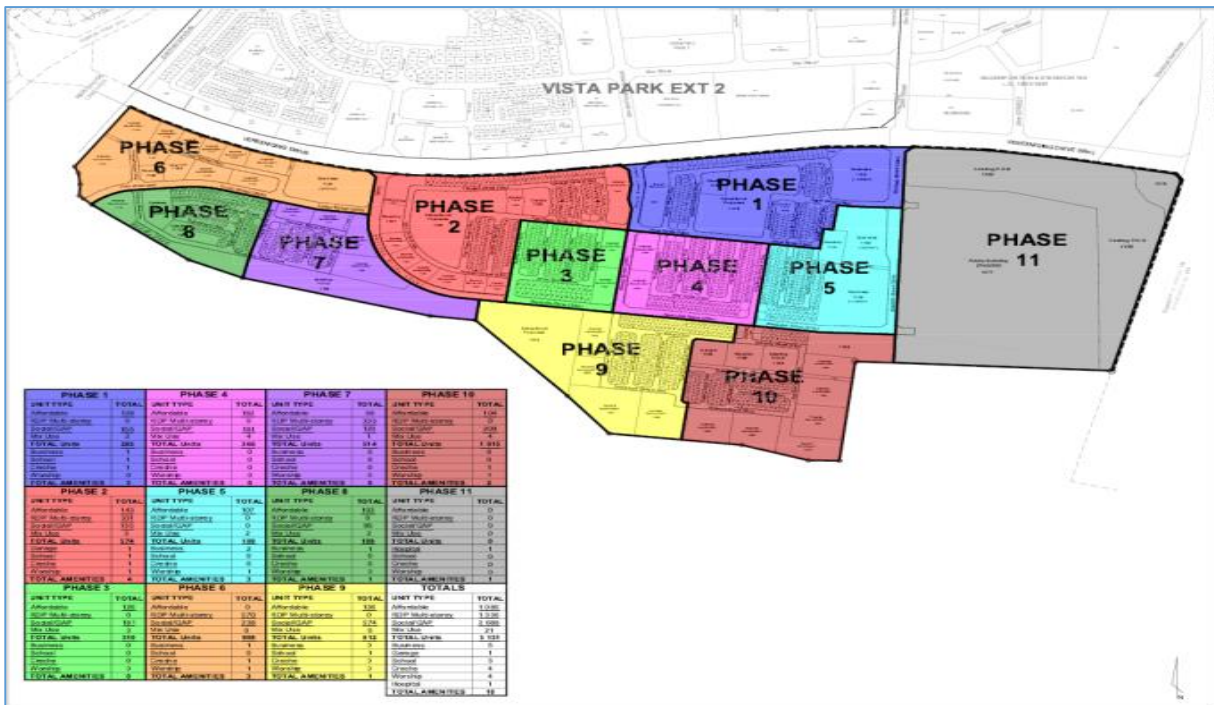


Table 1: Progress to Date on the three land parcels

MANGAUNG CATALYTIC PROJECTS		
PROJECT	PHASE	PROGRESS
HILLSIDE VIEW	Phase 1:	402 (Social Housing) Units
	Construction Commencement	August 2014
	Construction Progress	55% complete
	Completion Date	June 2016
Vista Park 2	Phase 2:	1532 (BNG) Units
	Construction Progress	14%
Vista Park 3	Phase 1-2-6	1819
	Planning and Development	95% Complete
	Preliminary Designs	80% Complete
	Detail Design: Completion	See Key Milestones
	Tender Documentation and procurement	See Key Milestones
	Construction Start	See Key Milestones

Other land parcels identified for the mixed Developments in the MMM

	Project Name	Land Assembly	Bulk Infrastructure	EIA Authorization	Town Planning	General Plans & Township Establishment
1	Brandkop 702	Completed	Not installed	Underway	Underway	Outstanding
2	Cecilia park	Completed	Not installed	Underway	Underway	Outstanding
3	Airport Node	Completed	Completed	Underway	Underway	Outstanding
4	Botshabelo-Thaba Nchu Node	Underway	Not installed	Outstanding	Outstanding	Outstanding
5	Estoire	Completed	Completed	Completed	Completed	Outstanding
6	Lourier Park	Completed	Completed	Outstanding	Outstanding	Outstanding
7	Inner City	Completed	Completed	Outstanding	Outstanding	Outstanding

Hillside View Progress: Construction of 402 Social Housing Units



Name of projects	Phase	Yield	Funding	Budget
Dark/Silver City	Construction	836 CRU	HSDG	R 40 million – 2015/2016
White City	Construction	40 Rental Units (20 Duplexes outstanding)	Own funding (Metro)	

Provincial Housing Programmes

Phase 1 Sites - Dark And Silver City CRU Project



White City Duplexes & Paved Roads



PROJECT INFORMATION: Dark CityCity

PARTNER	Free State Department of Human Settlement (FSDoHS)			Integration Zone Project located in Maphisa Road Integration Zone along the proposed phase 1 a BRT Route . The project support the objective to develop transit orientated development y way of developing high density developments within range of 500 m from BRT route
CONTRACTOR	Ruwacon (Pty) Ltd (RWC)			
CONTRACT PERIOD	18 Calendar Months (Incl. Builders and Statutory Holiday) – 548 days			
NO. OF UNITS	526 units			
SITE HANDOVER DATE	13 August 2014	COMMENCEMENT DATE	1 September 2014	
ORIGINAL PRACTICAL COMPLETION DATE	1 March 2016	REVISED PRACTICAL COMPLETION DATE	19 August 2016	
APPROXIMATE CONSTRUCTION TIME ELAPSED	389 days	APPROXIMATE % TIME ELAPSED	55%	
APPROXIMATE OVERALL % PROGRESS TO DATE	15%	% EXPENDITURE TO DATE	23%	

APPROVED PROJECT AMOUNT	R123, 598, 354.45	Contingencies Vat & escalation included.
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PROJECT INFORMATION: Top Site Silver City

CLIENT	Free State Department of Human Settlement (FSDoHS)		Integration Zone	
CONTRACTOR	Sedtrade/ Makgotamishe Joint Venture (SMJV)		Project located in Maphisa Road Integration Zone along the proposed phase 1 a BRT Route . The project support the objective to develop transit orientated development y way of developing high density developments within range of 500 m from BRT route	
CONTRACT PERIOD	18 Calendar Months (Incl. Builders and Statutory Holiday) – 548 days			
NO. OF UNITS	286 units			
SITE HANDOVER DATE	13 August 2014	COMMENCEMENT DATE		6 October 2014
ORIGINAL PRACTICAL COMPLETION DATE	1 April 2016	REVISED PRACTICAL COMPLETION DATE		n/a
APPROXIMATE CONSTRUCTION TIME ELAPSED	363 days	APPROXIMATE % TIME ELAPSED		66%
APPROXIMATE OVERALL % PROGRESS TO DATE	19%	% EXPENDITURE TO DATE		33.2%
APPROVED TENDERED AMOUNT	R101, 308, 679.82	Contingencies VAT & escalation included.		

Project Name	Contractor/ Developer	No of units	Commencement date	Anticipated Completion date	Contract Amount	Funding Model	Integration Zone
Brandwa g Social Housing Project:	Free State Social Housing company (FSHC)	Total of 1051 units Phase 1 – 402 units Phase 2 – 495 units Phase 3 – 154 units	30 April 2011	31 August 2016	Phase 1 – R 96 060 128.94 Phase 2 – R117 721 657.36 Phase 3 – R59 319 219.00	<ul style="list-style-type: none"> • Restructuring Capital Grant (RCG) • Institutional subsidies • Loan- NHFC 	Nelson Mandela Rd Integration Zone – High Density Housing along Phase 1 Draft BRT Route

Hillside View	Kentha Developers	Total of 955 units Phase 1.1 – 402 units Phase 1.2 & 1.3 – 553 units Phase 1 – Phase 2 -	18 August 2015 Commencement date not known yet	28 February 2016	R111 990 841.00 (Phase 1.1)	<ul style="list-style-type: none"> • Institutional subsidies • Loan • RCG outstanding <p style="text-align: right;">still</p>	Church Street Integration Zone – High Density Housing
White City hostel – completion of 20 incomplete duplexes	Not yet appointment	40 units	Anticipated 1 November 2015	30 May 2016	R10 000 000.00	Municipal funding own	Brits Street Integration Zone High Density Housing along Phase 1 BRT Route



All the above projects are aimed at restructuring the spatial pattern of the city

Upgrading of Informal settlement

There are currently 28 informal settlement groupings comprising in approximately 27 735 structures scattered all over Mangaung, with the most located in Bloemfontein, and several in Botshabelo and Thaba Nchu.

In line with developing sustainable human settlements, the Metro with the assistance of the **HDA**, has developed an **Informal Settlements Upgrading Strategy (ISUS)**, which aim is to come up with a more focused and logical manner to deal with upgrading of Informal Settlements. The objectives of the ISUS are to:

- Ensure alignment with National and Provincial Human Settlement strategies, planning directives and policies;
- Ensure sustainable and spatially integrated Human Settlement delivery;
- Consolidating, confirming and installing a shared human settlement division between Mangaung Metro and all spheres of government, role players and stakeholders by outlining and emphasising targeted informal settlements focus areas in respect of informal settlements within the Municipal area;
- Ensure alignment and integration with the Metro’s other strategic documents (e.g. Integrated Human Settlements Plan, Spatial Development Framework, Metro Growth and Development Plan, 2040, etc.);
- Align budgets and capacities to the objectives of the Metro.

Name of Informal Settlement	Service Provided	No of Households benefitted	Annual Target 2015/2016	Actual Progress Oct to Dec 2016	Budget	Expenditure
MK Square	Ext & Internal Services	492	492	492 erven complete, plumbing in progress	15 759 209	13 699 205
Sonderwater 1	Ext & Internal Services	91	91	92 erven complete, project complete	15 759 209	15 759 209
Khotsong	Ext & Internal Services	1239	1239	Sewer main line 14 194m and waterline 17 482m completed and erf collector lines are 12 827m done...project is 100% for phase 1 And phase 2 is 34% complete (209 households)	R52m	R33m (63%)



Bloemside 2	Internal Services	271	271	Contractor on site	R 38,817,178. 26	R 30,839,420. 69
Bloemside 3	Internal Services	139	139	Provide 166 stands with both sewer and water and provide 247 stands with toilets only		
Sonderwater 2	Internal Services	130	130	Connecting 38 RDP house to the main sewer and building and connect 42 toilets		
Bloemside 4	Internal Services	581	581	SUMMARY: PROJECT IS 89% COMPLETE		
Annual Target	2944					

BASIC CHALLENGES AND REMEDIAL MEASURES		
Project	Challenge	Remedial Measures
Kgatelopele	Money re-directed to complete basic services installation in MK and Sonderwater 1	Designs to be completed and installation budgeted for 2018/19
Thabo Mbeki	Money re-directed to complete basic services installation in MK and Sonderwater 1	Designs to be completed and installation budgeted for 2018/19
Magashule Square	Money re-directed to complete basic services installation in MK and Sonderwater 1	Designs to be completed and installation budgeted for 2018/19
Namibia 27921 & 27778	Money re-directed to complete basic services installation in MK and Sonderwater 1	Designs to be completed and installation budgeted for 2018/19
Bloemside School sites	Money re-directed to complete basic services installation in MK and Sonderwater 1	Designs to be completed and installation budgeted for 2018/19
Botshabelo Section R	Awaiting the completion of re-surveying and re-pegging	Designs to be completed and interim services installed in 2015/16

b) Prevention of illegal occupation of land

The illegal occupation of land is still evident, particularly in areas far away from job opportunities or along public transport routes, although backyard dwellings have decreased in recent years. This has given rise to a continuation of urban sprawl and low-density residential developments in favour of medium to high density developments in the disadvantaged areas, which has resulted in longer travelling distances and the dislocation of poor people on the fringe of the urban areas.

In addition to the ISUS, the Metro is in the process of developing an Informal Settlements Resettlement Plan (ISRP) in an attempt to prevent further proliferation of the informal settlements within the jurisdiction of Mangaung. The following Strategies were identified to prevent informal settlements from mushrooming

Table B4.4: Strategy Interventions to prevent illegal occupation of land

	CHALLENGES	STRATEGY INTERVENTIONS
1	Continuous mushrooming of informal settlements	<ul style="list-style-type: none"> • Consumer education • Forward planning • Regulation and Enforcement
2	Ad hoc approach to upgrade settlements	<ul style="list-style-type: none"> • ISU Strategy document

3	Settlements located in unsuitable areas	<ul style="list-style-type: none"> • Resettlement plans • Forward planning • Consumer education
4	Lack of basic services	<ul style="list-style-type: none"> • Upgrading of settlements (Land development processes) • Integrated resource planning
5	Lack of tenure security	<ul style="list-style-type: none"> • Upgrading of settlements (Land development processes) • Forward planning
6	Lack of socio-economic amenities	<ul style="list-style-type: none"> • Sector alignment • Integrated planning

c) Emergency housing options

Mangaung doesn't currently have an emergency housing and assistance policy in place and should consider drafting such a policy within the 2016/17 financial year.

B.4.2 Housing improvement strategies

a) Improved housing locations

The location of new housing projects is mainly driven by the SDF, which makes provision for both public and private initiated developments within the Urban Edge. Apart from the ISUS that deals with informal settlements only, several priority locations have been identified for future development. These include the 7 land parcels around Bloemfontein and Mangaung, as well as the Airport Development Node (ADN) – also referred to as the eight (8) land parcels elsewhere in this report.

b) Densification strategy

The Municipality has not formulated a densification strategy *per se*, but supports densification within the integration zones and along transport corridors;

- *Supporting applications for the subdivision of land;*
- *Supporting applications for higher density residential development within integration zones;*
- *Supporting applications for second dwellings in accordance to the ruling Town Planning Schemes*
- *Planning/initiating multi-dwelling unit residential developments.*
- *Some areas earmarked for densification are summarised in the table below.*

Table B4.5: Identified Densification Areas in Mangaung

Areas Earmarked for Densification	Motivation	Action Required	Progress
Hillside View	Along Church Street Integration Zone	Public Transport Route to be upgraded	Construction in progress
White City	Along Brits Street Integration Zone	Precinct Plans to be developed and Phase 1 BRT route to be planned	Construction in progress
Dark City and Silver City		Precinct plans to be developed and IPTN Phase 1 to be finalised	Construction in progress
Brandwag	Located within Nelson Mandela Rd Integration Zone and planned IPTN phase 1 route	Precinct Plans to be developed	Phase 1 completed. Phase 2 in progress
Universitas	Located within Paul Kruger Rd Integration Zone route on planned IPTN Phase 1 route, primarily private sector driven	Structure Planning / Precinct Plans to be developed / Upgrade of supporting Infrastructure	Special Use Zoning make provision for development of High Density Student Housing. 5 High Density Student Housing completed and 2 in construction phase
Bloemfontein CBD (Waaihoek Precint)	Within Church / Harvey and Dr Belcher Integration Zone	Implementation Plans required / Marketing / Private sector participation /	Precint Plans completed
Vista Park 2	Church Street Integration Zone	Installation of internal and bulk services required	Township establishment process completed
Airport Node Development Node Phase 1	N8 East Integration Zone	Formulation of township establishment to be completed and internal services to be installed	Township establishment 80% completed
Cecelia	Walter Sisulu Integration Zone	Township establishment process to be completed and internal services to be installed	
Botshaeblo CBD	Main Road Integration Zone	Building Plans to be developed/ Implementation plans required	Precinct Plans completed
Thaba Nchu CBD	Station Road Integration Zone and Main Road	Precinct Plans to be completed	Consultants appointed – planning 15% completed

Additional densification areas and principles, which are in line with the urban networks and integration nodes, need to be identified in the 2015/16 financial year. Part of the densification

strategy will be to encourage higher densities in the 7 land parcel developments and along transit routes. The objective is to increase densities alongside main transit routes within the integration zones. The plan also propose higher densities around bus stations and rail stations.

c) Access to urban opportunities

In 2013 the Metro adopted an **Integrated Human Settlements Plan (IHSP)**, which main aim is to bring about more integrated development with a combination of mixed housing typologies. In this plan, the city has changed focus from the provision of low-income housing to mixed housing developments, including the provision of “gap market” housing which was neglected for many years. The Metro is currently implementing such as projects in Vista Park 2; Vista Park 3 and Hillside View , Pellisier as pilot projects to provide a range of housing for different typologies and income groups, and must be affordable to all the residents (Annexure O – business plans). Another project currently being implemented by the municipality, and that will make a valuable contribution to housing in future, is the Airport Development Node (ADN).

Additional development opportunities exist on land identified by the Municipality, which include Lourierpark extension, Brandkop and Cecilia Park.

In another attempt to bring about spatial, social and economic integration, the Metro is working together with the **Free State Social Housing Company (FSHC)** for the development of the Brandwag Social Housing Project, which is almost completed. This is a rental housing scheme for households earning between R1, 500 to R7,500 and is situated in a **Restructuring Zone**, close to social and economic amenities, as well as the CBD of Bloemfontein.

d) Integration with public transport

All developments are accessible from major transportation routes and main arterials. The public transport system, however, comprise only of privately operated taxis, as well as a heavily subsidised bus service between Thaba Nchu, Botshabelo and Bloemfontein. The absence of an integrated transport plan (ITP) in Mangaung hampers the proper integration of residential infrastructure and other urban opportunities with public transport.

Community Infrastructure Review

Mangaung is well developed in terms of social infrastructure and community services, although most of these are concentrated in Bloemfontein. **Annexure J** attached hereto represents a strategic overview of the capital requirements from the Social Services Directorate, whilst the needs in respect of different types of social infrastructure are discussed in more detail below.

a) Educational Facilities

The City is well known for its high standard of educational facilities with several tertiary institutions located centrally and which are highly accessible. Sufficient provision (land) has also been made in all urban areas for primary and secondary schools in terms of the town planning standards. The challenge, however, is the construction of schools in less established areas due to budget constraints and lack of proper co-ordination between the municipality and the Department of Education.

The best schools with good facilities are located in Bloemfontein and in the high-income suburbs while the former black townships don't have equal access to such schools. Botshabelo for instance, has an oversupply of school sites, but very little schools. As a result the children in the previously disadvantaged areas have to travel long distances to attend school.

The municipality is committed to assisting the Provincial Department of Education in providing both primary and secondary schools sites within a radius of 1000 metres from all residential areas within the next five years. The Department of Education has identified three areas (Caleb Motshabi, Bloemside Phase 6 and Botshabelo West), in the MMM for the construction of new schools within the MTREF period.

b) Sport Facilities

Mangaung boasts excellent regional sport facilities and the municipality has recently succeeded in developing and upgrading several facilities linked to a number of sporting codes. The Municipality embarked on redevelopment and upgrading of several sports facilities in the MTREF period in previously disadvantaged areas amongst others are Billy Murison Stadium, Johnson Bendile Stadium, Freedom Square Sports Centre including the formerly known Seeiso Ramabudo (Dr Rantlai Molemela) Stadium. The municipality collaborated with the Provincial Department Sports Arts and Culture to develop the latter.

The backlog in terms of sports facilities in the historically disadvantaged areas is still huge, especially in Thaba Nchu and Botshabelo. As much as these sporting facilities are also provided for in the municipal plans, budgetary constraints have made it difficult for municipality to fully construct such facilities.

However in 2015/16 financial year the City changed its focus and constructed a new Community Swimming Pool, multipurpose courts including five asides soccer fields and a 6 lane athletic track within the areas of Botshabelo and Thaba Nchu areas. Mangaung has further included in its 2016/17 budget the process of constructing new a community Hall and upgrading of the following stadiums Mmabana, Selosesha, Kaizer Sebothelo Stadium and multi purpose outdoor sport centre in Grassland.

c) Health Facilities

Similar to education facilities, Mangaung is also well served with a number of excellent hospitals and health facilities, as well as several other welfare related institutions. Although land for health facilities have also been well provided in terms of the town planning standards, the actual provision of health care facilities are not always forthcoming. There is currently a huge backlog in terms of clinics, especially in new settlements in the south-eastern part of Bloemfontein, the western settlements of Botshabelo and in the rural trusts land of Thaba-Nchu.

The Municipality in co-operation with the Provincial Department of Health aims to ensure that sufficient primary health care facilities are provided within a radius of 1 000 metres from all urban residential areas, as well as the functioning of mobile clinics at least twice a week in the rural areas.

d) Public Service Facilities

Public Service Facilities includes amenities such as libraries, community centres, post offices, police stations, fire stations, etc. These facilities are also important for the development of human settlements and are in shortage in the south-eastern quadrant of Bloemfontein, as well as in Thaba-Nchu and Botshabelo. For instance, there is only one public library in Thaba-Nchu and also about four in Botshabelo which is far below the required standards.

As much as these amenities are also provided for in layout plans for most new townships, budgetary constraints have made it difficult for government to construct such amenities.

The Municipality plans to use external grant funding to build multi-purpose centres to accommodate these amenities, easily accessible to all residents. The target is to build at least four multi-purpose centres in previously disadvantaged areas in the next five years. The Municipality in co-operation with the Provincial Department Sport, Art and Culture are currently in the planning stage for the establishment, within the next two years, of a new Regional Library in Selosesha (Thaba Nchu area).

Another priority need to be addressed in the next financial year is the construction of a fire station in the south eastern parts of Bloemfontein. This will drastically reduce response times to fires and other emergencies, which will lower the risk of loss of life and increased damage to property.

e) **Parks and Cemeteries Facilities**

The Mangaung Metropolitan Municipality has 883 areas zoned as public open spaces of which 158 of these areas are developed into recreation spaces catering for the recreation needs of the community. Although the backlog is still huge especially in the historically disadvantaged areas, the development of two recreational parks (Kagisanong and Botshabelo) and one Regional Park (Thaba Nchu) will assist in addressing the backlog challenges.

Mangaung Metropolitan Municipality has a total of 18 cemeteries with 12 in Bloemfontein, 3 in Botshabelo and 3 in Thaba-Nchu. Furthermore, there is one crematorium that has been outsourced. In addition to these cemeteries, there are also 45 cemeteries in the rural trust areas and are under the control of Barolong Tribal Authority. Subsequently, the municipality does not play an active role in the burials in those areas.

Although the existing cemeteries seem to be sufficient for now, there is a constant need to identify more land for cemeteries for the area. Due to population growth from urbanisation and natural growth, the MMM intends to consider and promote alternative burial methods such as cremation, recycling, mausoleums, alkaline hydrolysis, etc. In addition to this there is also a move towards regionalising the Cemetery function where one cemetery will cater for all the burial needs of a larger community, rather than having these small and scattered cemeteries which put a lot of strain on maintenance.

B.5 Transportation Review

Approximately 17 000 people commute to-and-from work in Bloemfontein on a daily basis, which has forced the municipality to subsidise transport to an amount of R80 million per annum.

Despite the large number of commuters within Mangaung, most developments still favour private motor vehicles as the mode of transport and there is a lack of non-motorised transport routes, proper pedestrian walkways and public transport amenities within bigger developments.

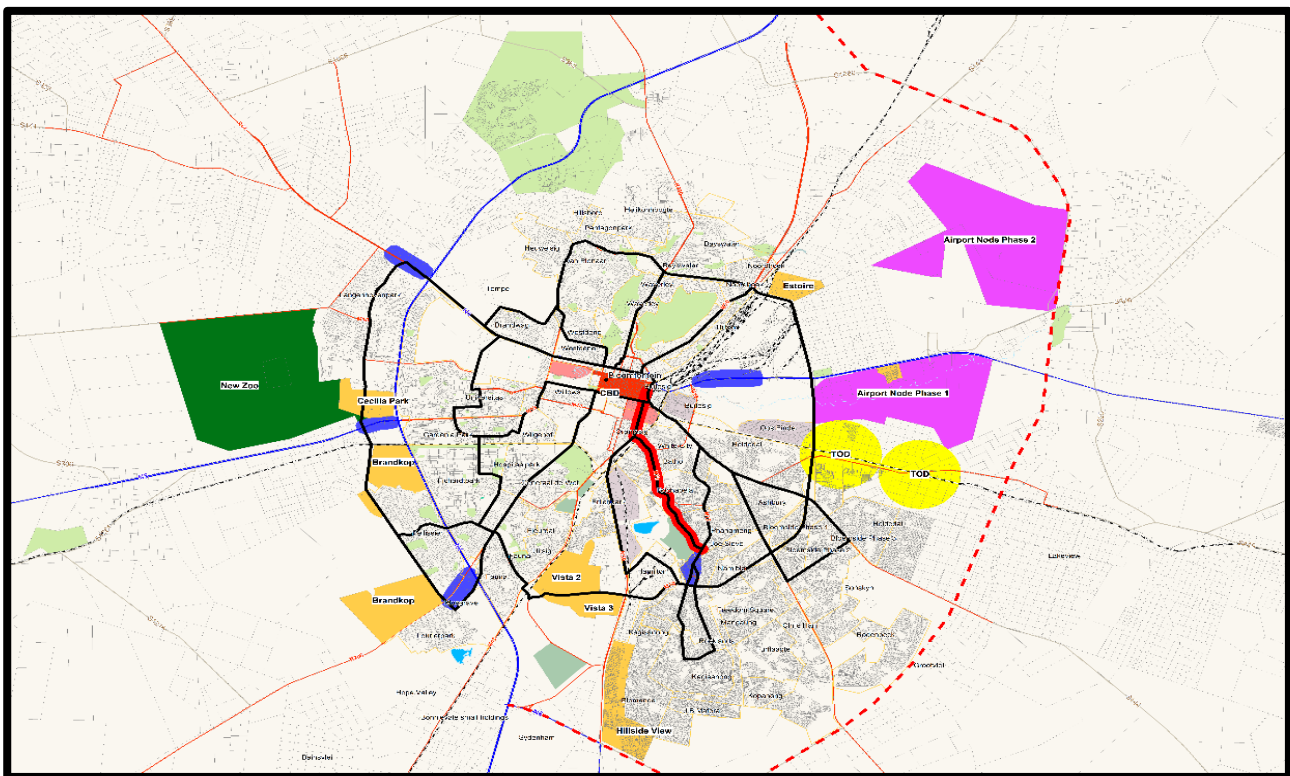
Inadequate on-site delivery facilities are provided with most of the new developments while insufficient taxi amenities leads to littering and pedestrian-vehicle conflict.

The Municipality is currently in a process of drafting an Integrated Public Transport Network (IPTN) Plan, which is expected to be completed by June 2017. The IPTN aims to bring an affordable public transportation alternative for the citizens in Mangaung and will address trends in demand for transport services by mode and income group; average trip lengths (time, distance, cost, reliability, safety). A preliminary Public Transport Plan is, nevertheless, attached hereto as **Annexure F**. The

City has leveraged R615 million from the Public Transport Network Grant (PTNG) to build trunk routes, transit stations, NMT projects and attendant road infrastructure for the City's public transport network. Critical projects to be implemented are as follows:

- Fort Hare Street Trunk Corridor;
- Harvey Road Trunk Corridor;
- Ella Street and Park Road NMT;
- Trunk Stations
- IPTN Depot; and
- Control Centre

re located within the integration zones adjacent to major transport routes in the Bloemfontein and are at different stages of development. The Airport Node, Estoire and Cecelia Park development are all developments alongside the N8 Corridor which traverse in a west east direction through Bloemfontein which feed into Bloemfontein CBD. Hillside View, Vista Park 2 and 3 are accessed alongside towards the south of the CBD via Church Street and Brandkop via Curie Avenue.



Through the IPTN process a route network was developed with prioritization of various routes based on the demand analysis. The phase one development corridor was developed linking the Mangaung Township (undeserved communities) towards the South of Bloemfontein with the Bloemfontein CBD and the Universities towards the west.

B.6 Sustainable Development Review

MMM currently has an environmental sector plan called the Environmental Implementation and Management Plan (EIMP), drafted in 2004. The sector plan is, however, currently under review due to geographical, political, economic and social changes in Mangaung.

The key objective of the Environmental Sector Plan is to promote sustainable development by integrating environmental management information into decision making processes. This is done through the use of various legal and management tools.

The purpose of the EIMP is to promote sustainable development and, as such, has a long-term impact on the wellness of the current and future generations of the community in terms of economic, social and bio-physical factors for development, as well as future planning. The EIMP is a tool to reduce conflict between development and conservation and thus facilitate economic development. In addition the EIMP identifies a variety of future projects which, when implemented, would create jobs and stimulate the local economy (green economy).

B 6 .1 Impact of sector reviews on spatial form

B.6.1 Spatial Restructuring challenges

Mangaung has a spatially fragmented, but interdependent spatial pattern, which is currently under severe stress. The spatial pattern of Bloemfontein has largely remained segregated whilst the marginalised areas are poorly serviced. This pattern is manifested in the following;

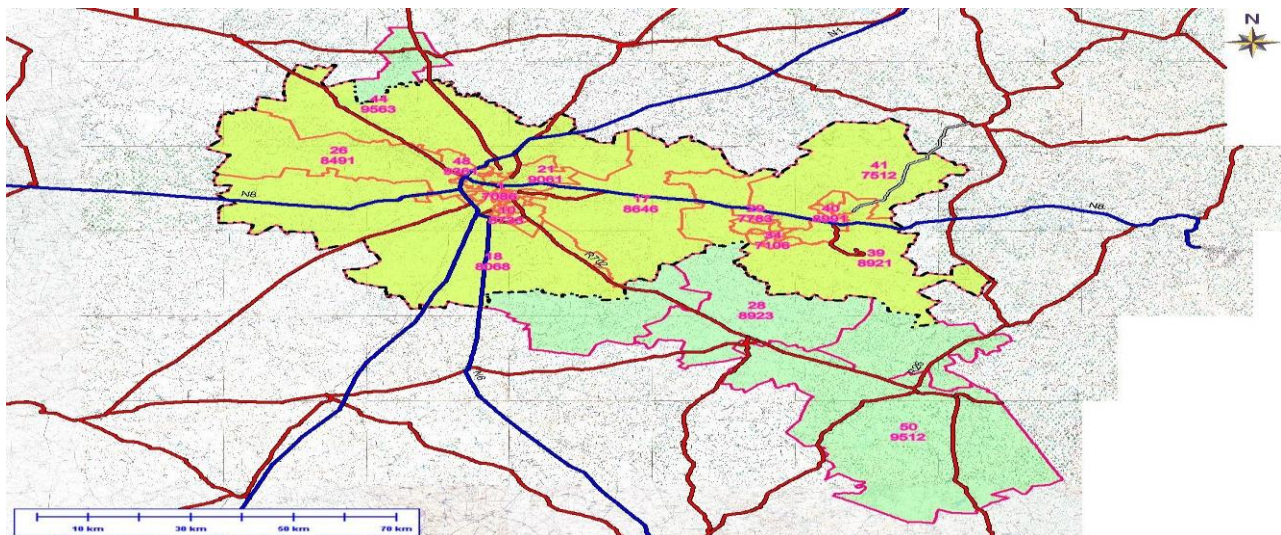
- the CBD is a vital economic asset, but is deteriorating rapidly;
- the extensive growth in opposite spatial directions of the south-eastern and north-western areas, which is pulling Bloemfontein apart;
- Botshabelo and Thaba Nchu are two poorly serviced and over populated areas located far away from the economic centre and have over the years become remote urban dependants of Bloemfontein;

- Imbalanced linkages between the urban areas of Bloemfontein, Botshabelo and Thaba Nchu and some remote rural dependants and neighbours in other municipalities.

The current spatial challenges of Mangaung, and particularly of Bloemfontein, are characterised by the following aspects:

- low density in most of the old and new residential areas catering to the lower, middle and upper income groups contributing to the sprawl of the city;
- inequitable access to the opportunities and benefits of the urban areas due to the historic spatial structure and more recent locations of residential and economic development;
- inefficient land use in the overall spatial distribution of residential development areas, economic opportunity and social services and facilities; and
- Low intensity of investment in the south eastern quadrant of Bloemfontein, as well as in Botshabelo and Thaba Nchu.

The New Demarcation of the Municipal Boundaries will profoundly change the spatial context of Mangaung with the inclusion of rural towns like Soutpan and Wepener , De Wetsdorp and Van Stadensrus . The distance between the urban core of Bloemfontein and the new towns are: De Wetsdorp - 80 km, Wepener – 120km , Van Stadensrus – 160km , Soutpan 47km.



B.6.2 Environment

- The Key Challenges highlighted by the Environmental Implementation and Management Plan (EIMP) are as follows;

- Development applications put pressure on existing open spaces; The Urban Open Space Policy and Framework and other environmental management tools such as the SoER, EMF and EIMP must be strictly implemented and adhered to. Support from Council is of utmost importance.
- Reduction of metropolitan open spaces system (MOSS) and green lungs of city; The MOSS is currently being reviewed. Date of completion is expected to be November 2016. Sensitive areas, identified by specialist, will be included in the MOSS.
- Increase in waste with reduced life span of waste site; Three buy back centres have been constructed. Internal and external audits of the landfill sites are being done twice a year and recommendations are being made. A project for waste pickers is in the planning phase.
- Air Quality; Discussion have taken place with the relevant sub-directorate and plans will be put in place from the environmental management sub-directorate's side. Recommendations made in the EIMP will be implemented.
- Water resource management and overall need to conserve water; Water saving campaigns has been done by other sub-directorates. The planting of indigenous vegetation and use of gray water are recommended in EIA comments.
- Need for increased greening and climate change strategy; The climate change response strategy for MMM has been done and is awaiting approval by council. Projects and a policy for greening, which will also contribute to combating climate change, are in the planning phase.
- Poor environmental awareness in communities; Four environmental awareness campaigns are being planned for the new financial year. Execution will depend on the available budget.
- Biodiversity and sensitive areas; As previously mentioned the reviewed MOSS, EIMP, EMF, SoER and Urban Open Space Policy and Framework are some of the environmental tools that will be implemented to protect the biodiversity and sensitive areas. Terms of reference are being set for a tender for an Alien and Invasive Species Policy. It is foreseen to be in place by October 2016 as per legislation. The success of these documents will be greatly strengthened by the support of council.
- Energy resources and energy use; and Energy saving devices and green buildings are recommended in EIA comments. The facilities sub-directorate alongside with architecture has done several projects regarding energy saving and green buildings. Energy saving regulations has been incorporated into the National Building Regulations and is strictly implemented.
- Land use management. Relocation of informal settlements within flood lines and sensitive areas.

B.6.3 Human settlements

- Huge housing backlogs exist amongst the poorer communities whilst almost 3,4% of Mangaung's residents reside in informal settlements with very little or no access to services.

- Historically Mangaung is regarded as a mono-centric city with one main node. It is therefore expensive and difficult to provide affordable housing in well located areas with access to social and economic amenities.
- Backlogs - although the Municipality is delivering on backlogs, the problem is exacerbated by the continuous immigration from smaller towns and the rural area into the urban areas.

B.6.4 Economic development

- The economy of Mangaung depends mainly on trade, finance and community services, whilst the area offers very little opportunities so as to attract major economic sectors such as mining, manufacturing and construction. This underlines the importance to diversify the region's economy to attract larger investment.
- Botshabelo (55km from Bloemfontein) and Thaba Nchu (67km from Bloemfontein), offer limited employment opportunities and these areas are becoming increasingly dependent on the economy of Bloemfontein, which puts tremendous pressure on the Public transport / commuter systems. Poor people have to travel long distances, associated with high transport costs, for employment opportunities and access to community facilities.
- Botshabelo and Thaba Nchu are also poorly serviced and extremely dependent on BFN in terms of access to economic opportunities. This economic dependency on Bloemfontein has also resulted into an influx of people to the city, which again causes serious social and economic problems;
- There are opportunities to develop the CBD of Botshabelo and Thaba-Nchu, although the challenge lies in stimulating significant public and private sector investment in the area

B.6.5 Transport

- The exceptional long distances between urban centres (Botshabelo and Thaba Nchu), places tremendous pressure on transport cost and becomes totally unaffordable to the commuter, unless it is subsidised, as is currently the case.

B.6.6 Infrastructure

- Increasing pressure on the repairs and maintenance budget due to ageing infrastructure and an inherited massive service delivery backlogs to be eradicated;
- Maintenance backlogs in respect of service delivery infrastructure and utilities;

- The Municipality's infrastructure needs are enormous - the challenge is to balance the demands for services with the available resources;
- Eliminating service delivery backlogs requires R7.5 billion in incurrent financial terms. This will be compounded by the phenomenon of urbanisation.
- The key challenge is to differentiate and prioritize between all the above challenges (i.e. Bulk infrastructure, backlogs, maintenance and replacement of and ageing infrastructure).

B.6.7 Financial constraints

Pressures relating to general service delivery and hindering economic development include the following:

- Higher levels of expenditure (operating and capital) than revenue received;
- Deteriorating debtors book over the years.
- Total reliance on conditional grants, instead of using own funds to fund capital expenditure projects;
- Huge amounts of unspent conditional grants and unsatisfactory expenditure on capital projects.
- Provision for bad debt;
- Compilation of a GRAP compliant asset register;

B.6.8 Social Infrastructure

Sector departments are mostly unable to provide required social amenities in poor areas, which cause the poor having to travel long distances to have access to these services. Although sufficient land is available, there are limited schools, clinics, libraries, etc. in the south-eastern part of the Bloemfontein city and also in the other two regions of Botshabelo and Thaba-Nchu.

B.6.9 Environment

MMM currently has an environmental sector plan called the Environmental Implementation and Management Plan (EIMP), drafted in 2004. The sector plan is, however, currently under review due to geographical, political, economic and social changes in Mangaung. The project is currently in phase 5 and the date of completion is expected to be November 2016.

The development of an EIMP is a measure to meet a number of the constitutional and legislative duties of the municipality as it provides an instrument for the execution of some of the local environmental governance functions stated in South African law and policy. The focus of the EIMP falls on the protection of the health and well-being of the people and on environmental protection – areas that are

extensively covered in environmental and local government law. The EIMP is an operational level framework environmental management plan that is amongst other sources, informed by the Environmental Outlook Report (State of the Environment Report – SoER) and the Environmental Management Framework (EMF). The Outlook Report and the EMF are also environmental management tools that are currently in the process of being generated.

The key objective of the Environmental Sector Plan is to promote sustainable development by integrating environmental management information into decision making processes. This is done through the use of various legal and management tools.

The purpose of the EIMP is to promote sustainable development and, as such, has a long-term impact on the wellness of the current and future generations of the community in terms of economic, social and bio-physical factors for development, as well as future planning. The EIMP is a tool to reduce conflict between development and conservation and thus facilitate economic development. In addition the EIMP identifies a variety of future projects which, when implemented, would create jobs and stimulate the local economy (green economy).

The Key Challenges highlighted by the Environmental Implementation and Management Plan (EIMP) are as follows;

- Development applications put pressure on existing open spaces;
- Reduction of metropolitan open spaces system (MOSS) and green lungs of city;
- Increase in waste with reduced life span of waste site;
- Air Quality;
- Water resource management and overall need to conserve water;
- Need for increased greening and climate change strategy;
- Poor environmental awareness in communities;
- Biodiversity and sensitive areas;
- Energy resources and energy use; and
- Land use management.

B.6.10 General

The following general constraints were identified as potentially having a direct impact on the attainment of the intensions of the municipality to ensure spatial transformation:

- **Financial constraints:** To deliver on Infrastructure, housing etc., the pro-active planning is required whilst sufficient financial resources are not always allocated to implement planned projects;
- **Institutional constraints:** There is insufficient human resources and organisational capacity dedicated to meet the required targets;
- **Implementation constraints:** the municipality's ability to implement projects effectively and efficiently is hampered by limited resources , both financial and human;
- **Governance constraints:** there is insufficient guidance and control to ensure that targets are met.

SECTION C. STRATEGIES AND PROGRAMMES

C.1 Long Term Vision

In line with its IDP vision that Mangaung is “***globally safe and attractive to live, work and invest in***”, the municipality is furthermore committed to bring about spatial transformation by ensuring that “***Mangaung has a thriving urban community where people live productive lives and enjoy the mutual benefits of a well-balanced social and economic environment.***”

C.2 The spatial development strategy of the municipality

C.2.1 Strategic Objectives

The strategic objectives of the Municipality to striking a balance between providing well located serviced land to poor communities and ensuring economic growth and job creation at the same time, are to;

- Identifying **appropriately located land** which can be serviced cost effectively;
- creating **sustainable human settlements** through undertaking housing developments with secure tenure, which establish and maintain habitable, stable and sustainable public and private residential environments;
- ensuring viable households and communities in areas allowing convenient **access to economic opportunities, health, educational, social amenities, potable water, adequate sanitary facilities and domestic energy supply**;
- correcting spatial disparities through **cautiously planned developments and ensure integration** between housing and other service sectors such as the economy, infrastructure development, roads, transport, education, health, safety and security, as well as other myriad municipal services.

C.2.2 Planning Instruments

The Municipal **Integrated Development Plan (IDP)**, forms the backbone of all planning instruments and serves as the main intervention tool to facilitate spatial and racial integration, effective service delivery, poverty reduction and employment creation, overall economic growth and social justice. More specifically the IDP leads to the formulation of a capital investment framework (budget) that is aimed at promoting equity, efficiency, public and environmental protection and the effective use of scarce resources.

The city's **Spatial Development Framework (SDF)** is regarded as the spatial representation of the IDP and acts as a planning instrument to bring about spatial transformation and creating a more compact and efficient built environment. More specifically the SDF is aimed at:

- Supporting an efficient movement system;
- Supporting sustainable Environmental Management;
- Initiating and implementing Corridor Development;
- Managing Urban Growth and densification;
- delineating an urban development boundary; and
- Facilitating sustainable housing environments in appropriate locations.

The SDF is geared towards promoting a **compact city model** in terms of urban development, including settlement densification and the imposition of an urban edge to maximise the utilisation of infrastructure capacity. All the housing projects within the Bloemfontein City are developed within the urban edge to ensure that the existing infrastructure is fully utilised. The City also developed a **Land Use Management Bylaw in accordance with SPLUMA (Act 16 of 2013)** which create a regulatory framework to evaluate development applications.

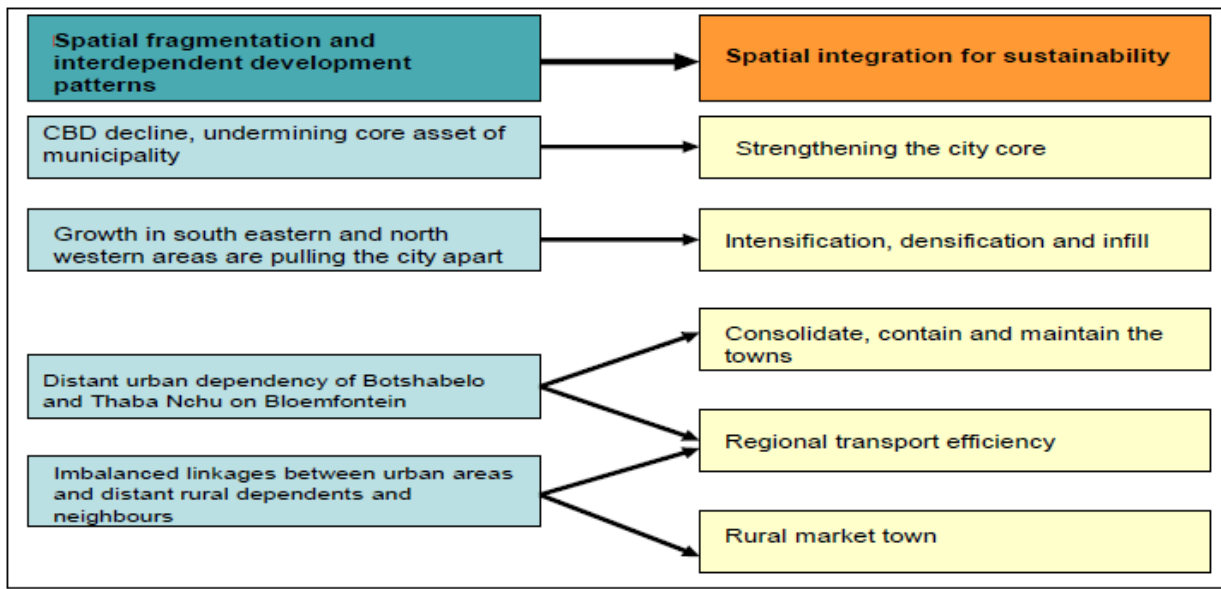
The Municipality is also in a process of compiling a new **Land Use Management Scheme (LUMS)** in accordance with the Spatial Planning and Land Use Management Act, No 16 of 2013. The LUMS will replace older Town Planning Schemes and the purpose thereof is to guide land use management within the entire Municipal area, inclusive of areas that were previously excluded from such schemes.

Other planning instruments that are currently in a process of being compiled by the Municipality include an **Integrated Transport Plan (ITP)**, as well as an **Environmental Implementation and Management Plan (EIMP)**.

C.2.3 SDF Interventions

The **Municipal SDF** identifies several key issues in terms of urban form and proposes strategies to address these challenges, as indicated in the diagram below.

Diagram C2.1: Key Issues and Strategies relating to Urban Form.



The SDF interventions to meeting the objectives of the IDP can be summarised as follows:

- The creation of improved spatial efficiencies and development patterns;
- Improving the use of existing investments and resources of the CBD;
- Providing more efficient access to resources for support;
- Maximising existing resources & creating easier access to the supply of new resources;
- Creating greater efficiencies to access locations;
- Intensifying locations that are more accessible;
- Focusing economic investment to maximise the potential of the current situation;
- Improving the existing environmental opportunities through consolidation & maintenance to maximising their benefits; and
- Providing a spatial transformation to ensure sustained development and investment.

C.2.4 Key Economic Strategies to ensure faster growth

Local economic development (LED) is regarded as one of the key priorities for the MMM to ensure spatial transformation. The Municipality plays an important role in creating the right conditions for sustained growth, and in accepting this challenge the MMM has developed an Economic Development Strategy (EDS) to facilitate and fast track economic growth.

A number of key thrusts and programmes have been identified through the EDS, as summarised below;

- The **N8** corridor development will pave the way for creating a corridor with strategic nodal points that will assist in creating a vibrant, sustainable and investor-friendly municipality that can serve as a globally competitive economic centre, attracting new investment to the area. This initiative will make public transport more sustainable by reducing costs, reducing subsidies and improving the efficiency of transport infrastructure. It will also attract further residential development along the N8, which coincides with the long term vision from a human settlement perspective, as well as the land acquisition strategy from the Municipality.
- The diversification of the local economy into a balanced assortment of economic sectors. Mangaung has committed to striking certain **economic partnerships** to invigorate lagging sectors. The City's economy plays host to a number of parastatals such as Eskom, Transnet and Telkom, which are also the major employers in the city's economy. The City has also established networks with local businesses through the two main business chambers to communicate the city's economic intent and to receive consistent engagement from the business community.
- In order to ensure that Mangaung contributes towards facilitating a **user-friendly economic and business environment**, a range of specific enabling projects have been identified ranging from major investment projects to smaller temporary job creation initiatives, linked to the human settlement programme of the Municipality.
- The Municipality, in co-operation with other spheres of government, need to focus on the creation of **development zones and corridors** where economic development can be concentrated.

- The support and **expansion of SMME's** is a key strategy for the Municipality to broaden the participation in the economy.
- Another key aspect for employment creation is to **enhance value adding** to local products.

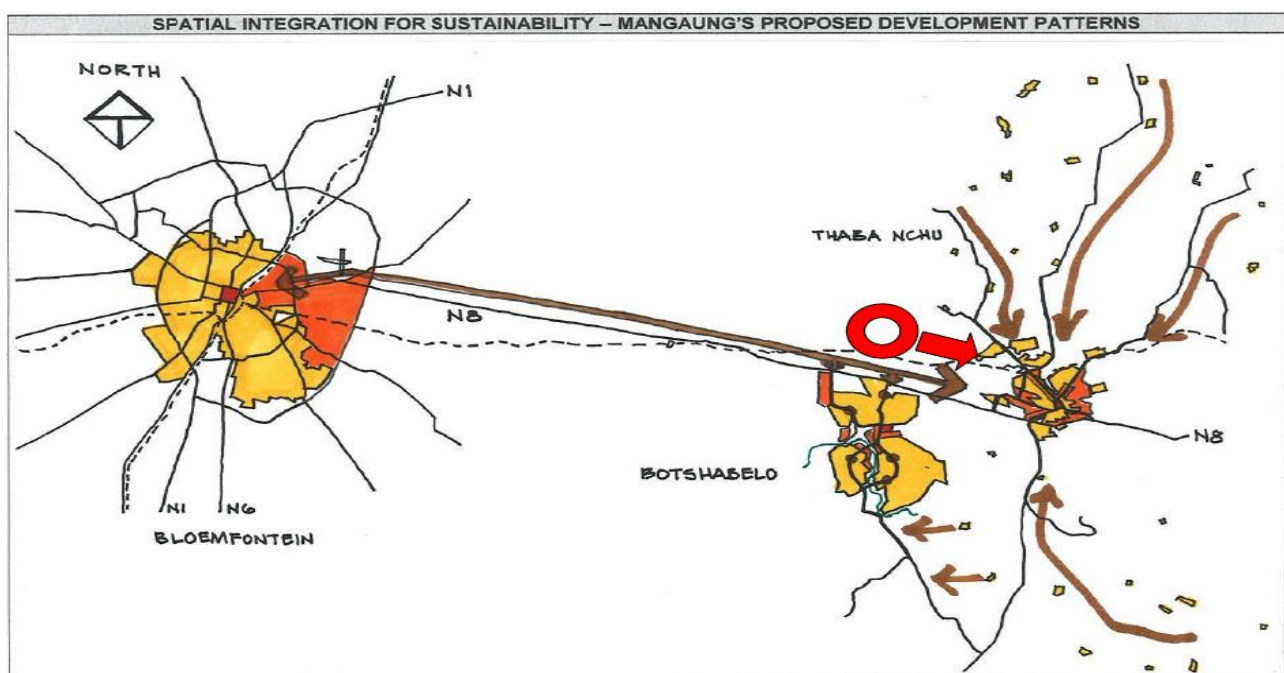
C.3 Strategy implementation and alignment

The central concern underpinning the Built Environment Vision of Mangaung is the need to create a new spatial form, ensure economic prosperity and improving the lives of people in all settlements in its area of jurisdiction. The focus will be to improving low density developments, sprawling, fragmented and largely mono-functional settlement forms. More specifically the MMM will strive to achieve the following qualities:

- To generate a wide range of economic opportunities;
- To be convenient to inhabitants to conduct their daily activities, easily and as inexpensively as possible;
- To offer a choice of living conditions to all;
- To be equitable in the sense that all inhabitants have reasonable access to the opportunities and facilities which support living in settlements;
- To promote the efficient use of resources, and
- To give dignity to people through the quality of the public spatial environment.

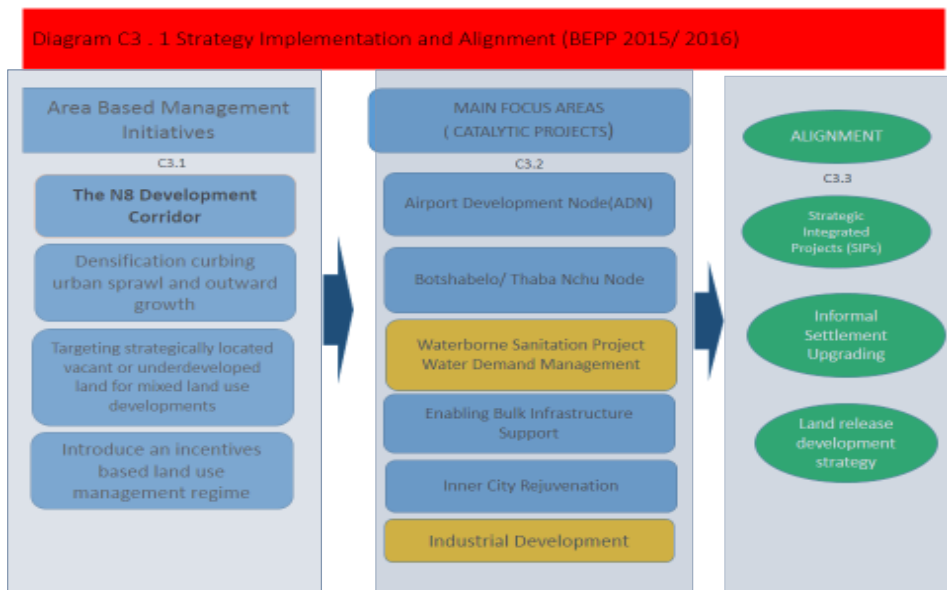
The diagram below indicates the envisaged spatial integration for sustainability.

Figure C3.1: Spatial integration for sustainability



The MMM has identified three pillars through which to address spatial transformation. The first pillar refers to certain management initiatives that were derived from the SDF objectives and key directives. These management initiatives has led to the identification of 5 focus areas (catalytic projects) that will be implemented to bring about spatial restructuring. The third pillar refers to the alignment of the focus areas with several city-wide challenges.

Diagram C3.1: Strategy implementation and alignment



The three pillars are discussed in more detail below;

C.3.1 Area based Management Initiatives

a) N8 corridor development

The N8 Development Corridor focuses on three instruments, namely;

- increasing connectivity and improving mobility;
- igniting nodal development; and
- facilitating linear growth along the transport corridor (long term) and or development corridors.

This development is expected to increase mobility and inter-dependence and linkages between the three urban centres of the MMM. In terms of increasing mobility, the provincial government is in the process of resuscitating the underutilised rail network between Bloemfontein and Lesotho.

This development is expected to reduce the pressure on the roads and reduce transport along the N8.

In support of the N8 Corridor development two nodal developments have been identified, namely the **airport development node** and the **Botshabelo / Thaba-Nchu node**, with the view to ensuring the integration of communities. These nodal developments will contribute positively towards the development of integrated sustainable human settlements with a variety of land-uses and housing typologies built in one development.

b) Curbing Urban Sprawl

As part of the pillars towards transformation, the MMM has adopted the use of the “smart growth” or urban edge instrument to curb outward growth or urban sprawl. This instrument is used to discourage any township development outside the edge and it encourages optimal usage of existing infrastructure to achieve urban efficiency and also to encourage a more compact and integrated urban form and structure.

This development approach has been adopted in the three urban centres of the MMM with clearly defined urban edge, which does not allow developments beyond the borders of the urban edge.

c) Targeting vacant or underdeveloped land

As part of the land release and development strategy, Mangaung has already facilitated the release of more than 30 000 hectares of strategically located land that will benefit more than 50 000 households. The Municipality is continuously busy identifying and acquiring land for mixed land uses and for investment opportunities

d) Incentive base land use management

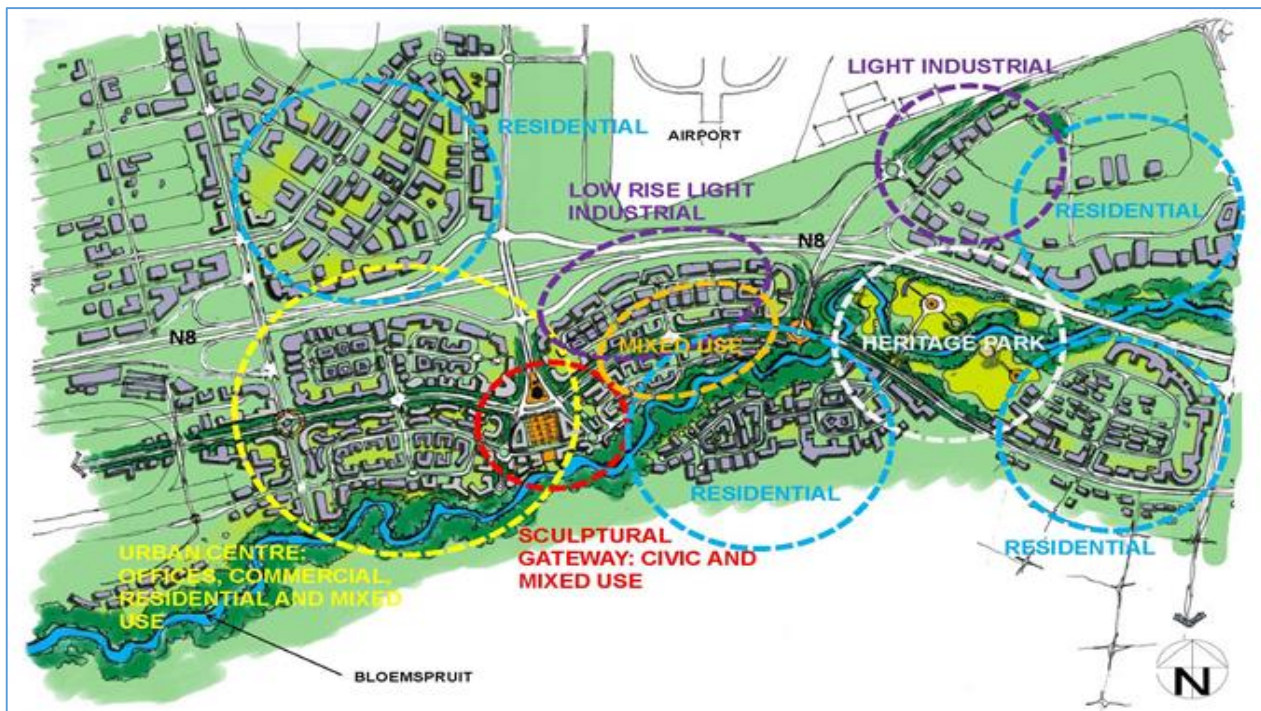
Prosperity is often measured by economic success and a social cohesion that is underpinned by intact moral conscience within a community. To this effect, the municipality is creating more investment opportunities in a conducive and safe environment resulting from a well-coordinated land use management system.

C.3.2 Main Focus Areas (Catalytic Projects)

a) Airport Development Node (ADN)

The Mangaung Metropolitan Municipality has earmarked the Airport Development Node (ADN) as the most significant development that the administration will be undertaking.

Figure C3.2: Conceptual design of the airport node



The ADN along the N8 Corridor is expected to liberate the city economically and financially. The node will boast services ranging from a shopping mall, educational and civic sites, an urban square and an international conference centre, hotels, and mixed housing.

The ADN covers a land area of 1 800 hectares and will be executed in two phases, the status of which is summarised in the table below;

Table C3.1: Current status of airport development node

Activity	Phase 1	Progress
Land Area	700 ha	
Urban Designs	Completed 2012	
Town Planning Establishment	To be completed June 2016	To be approved 2016

Land Release	First land release for commercial purposes completed and awaiting evaluation on the second land release.	To be completed 2016
Engineering Designs	In progress	Tenders at bid committee level
Service Reticulation	To commence July 2016	Awaiting SCM bid processes for water and sewer, roads and storm water, electricity, bridge tenders
Construction	Contractor appointed for bulk earthworks, crushing and rehabilitation of the quarry to generate road building and bedding materials	To be completed 2016

While the entire area to be developed is 2 000 hectares, the first phase which is currently being implemented is 700 hectares. This is about the size of the entire CBD of Bloemfontein.

The ADN will be implemented at an estimated cost of R100 billion and will create 11 000 employment opportunities. The revenue generated from this massive project will be used for necessary cross-subsidization of critical projects in the Botshabelo/Thaba Nchu node. Through this initiative the city seeks to address the five-fold issues of economic growth, job creation, poverty reduction, effective service delivery and social justice. The new planning paradigm must seek to encourage feasibility studies in all catalytic projects to do a cost benefit analysis which will ultimately feed into the revenue enhancement strategy.

b) Botshabelo / Thaba Nchu Development Node (BTN)

The new **Botshabelo/Thaba-Nchu development node** is expected to create a lot of economic activity to the east of Bloemfontein City.

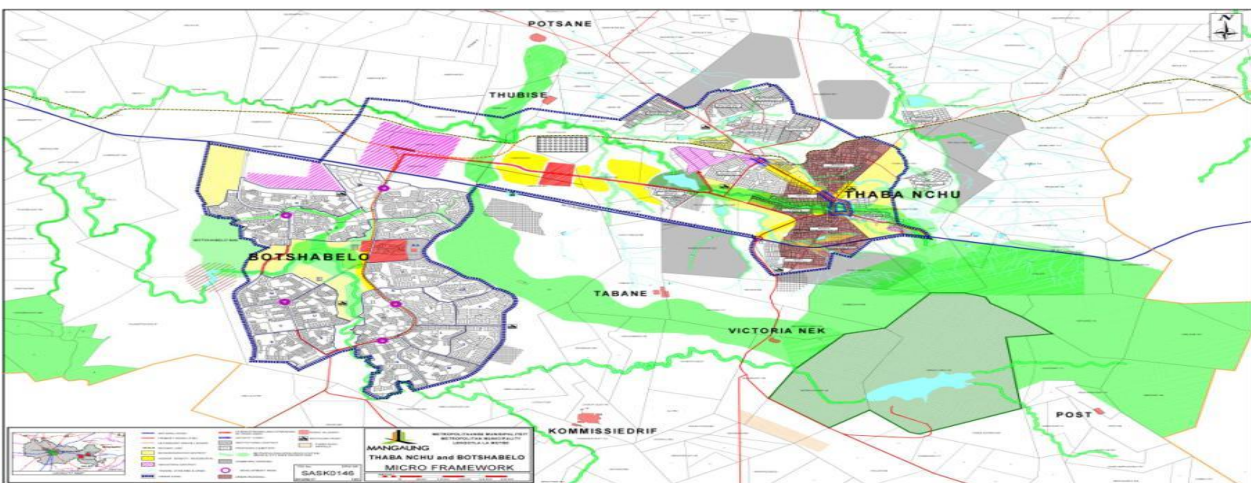


Figure C3.3: Framework Plan for Botshabelo / Thaba Nchu Development Node

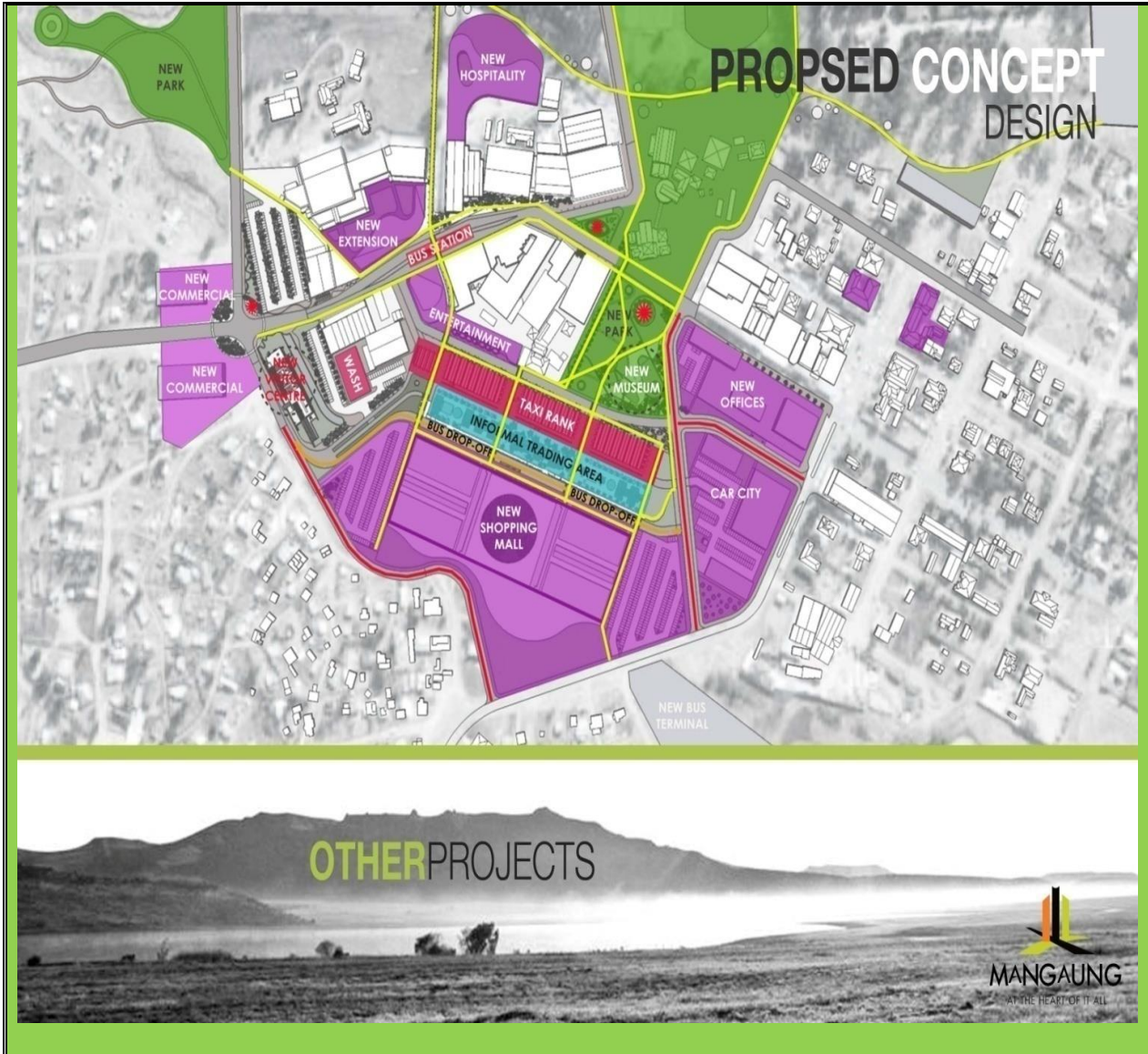
This nodal development will form a new city to reduce over-dependence on Bloemfontein for work opportunities and other benefits offered by the city. The current status of the Botshabelo / Thaba Nchu Node is as follows;

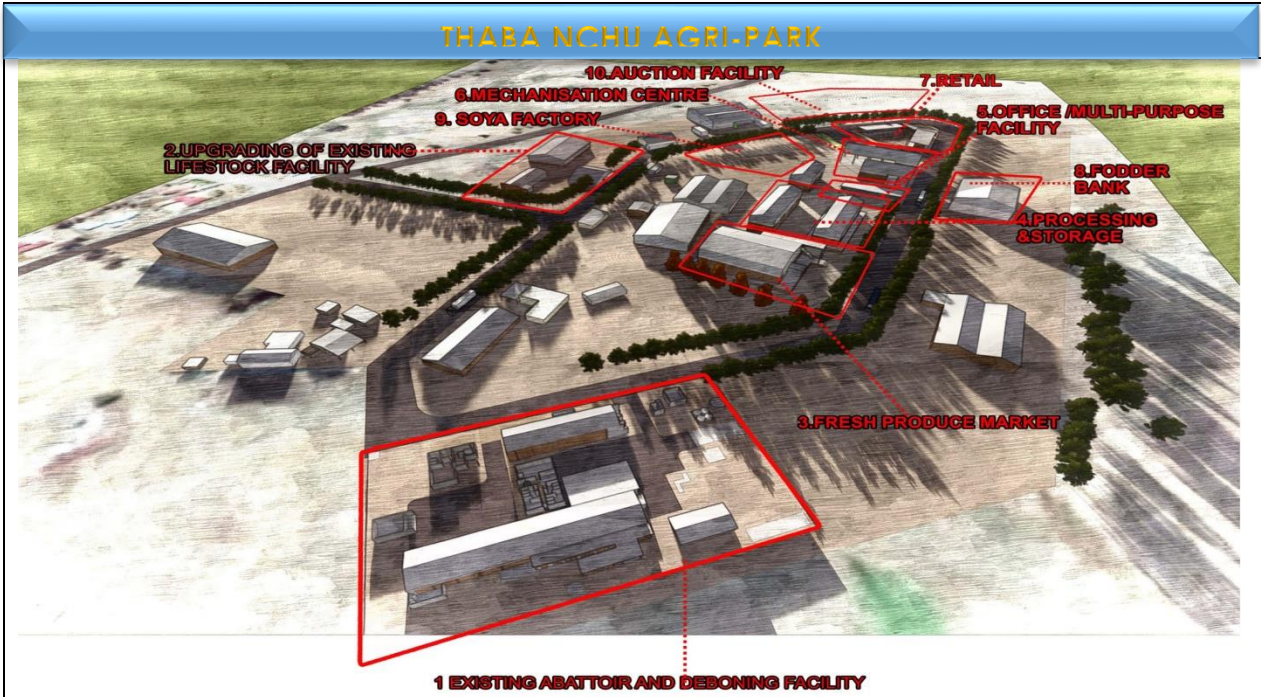
- Some land required for the node had already been acquired;
- Construction of the Regional Recreation park in Thaba Nchu has commenced
- Township formulisation to commence during 2015/16
- Botshabelo entrance to commence in 2015/ 2016

Progress on Thaba Nchu CBD Redevelopment	
-	CBD Master plan completed
-	The costing for the following 23 individual proposed possible projects within the Master Plan has been submitted :
✓	New Shopping Mall , Hawker Area, New Taxi Rank, New Museum & Heritage Park, New Entertainment Area, New BRT Station, Extension of Shoprite, New Taxi Wash Area, New Visitor's Area, New Statue of Maroka, Tourist Parking, Commercial Development, New Park, New Hospitality Development, New Urban Pocket Park
Total Project Expenditure : R 7 850 000	

Thabu Nchu Agri-park: The creation of the agro-manufacturing complex, which has capacity to export agro goods to other provinces and internationally will also form the basis for the transformation of the local economic structure through the implementation of a new initiative called Agri-Park. The Agri-Park initiative is relatively new to South Africa, but it draws from global initiatives aimed at rejuvenating rural economies and agricultural activities by introducing agro-processing and related endeavours. These ideas are based on the ‘clustering’ together of agro-processing activities with one purpose or vision to draw from synergies created by establishing activities together.

While the main focus is on the agro-processing activities, other supporting agri-business also functions within the cluster. However these provide services such research and development, warehouses, etc. that will contribute to the success of the agri-processing facilities.



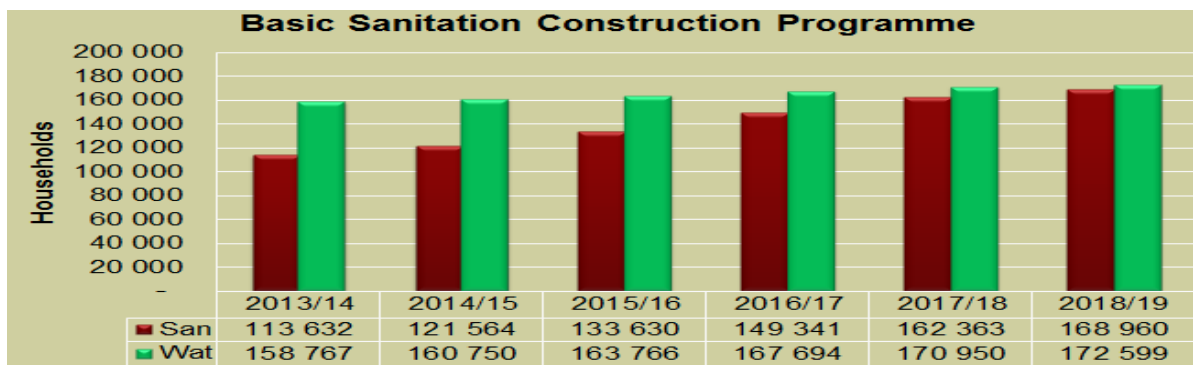


c) Waterborne Sanitation Project

The main objective of this programme is simple, namely to eradicate over 53 000 VIP, Pit and bucket toilets in all three the main urban areas, but the most of which are located in Botshabelo and Thaba Nchu. The first phase comprising approximately 660 stands had been successfully completed during the 2012/13 financial year and covered the townships of Ratau and parts of Bultfontein in Thaba Nchu, as well as parts of Section F in Botshabelo. Phase 2 comprising approximately 1 585 stands will cover the remaining parts of Section F, Sections J & K in Botshabelo, Seroalo and the remaining parts of Bultfontein in Thaba Nchu, as well as parts of Bloemside 6 and Rocklands in Mangaung.

In order to eradicate the entire backlog by installing waterborne sewerage will cost approximately R2.52 Billion and will have to be phased over a number of financial years until 2020, subject to the availability of funding. The phasing of the programme is depicted in the diagram below.

Figure C3.4: Phasing of the basic water and sanitation construction programme (2013/19)



d) Enabling Bulk Infrastructure support

In order to efficiently unlock the economic potential of the city, Mangaung is also prioritizing the improvement of water and sanitation infrastructure. Due to the growing population and development of the **identified urban nodes**, the demand for reliable water supply has become an absolute necessity.

Furthermore, in order to support the **waterborne sanitation project** referred to above, it is necessary to also upgrade several Municipal bulk infrastructure (Water and Sanitation), as further discussed below.

(i) Sanitation

The City is currently busy with the construction of the **North Eastern Waste Water Treatment Works** that will benefit approximately 45 000 people in the long-term, as sewer services will be provided. This project is about 60% complete, but is a multi-year project and will consequently extend over the 2014/15 financial year.

In addition to the above the Municipality has also started with the upgrading of the Sterkwater **Waste Water Treatment Works** that is currently running at its full capacity. This WWTW serves approximately 26500 low income dwellings from the south-eastern parts of Bloemfontein. The upgrading of this project will double the capacity of the Sterkwater WWTW to 20MI/day and will serve three of the seven land parcels located in Vista Park and Hillside View.

The Table below reflects the past bulk sanitation expenditure.

Table C3.2: Current and future bulk sanitation expenditure.

Project	Description	Suburb	2013/14	2014/15	2015/ 2016
Botshabelo WWTW	20MI/day capacity with a current hydraulic demand of 11 MI/day. The spare capacity can only accommodate approx. 15 652 additional stands before an upgrade is required.	Botshabelo	R608 000	R11 662 000	R30 000 000
Thaba Nchu WWTW	6,5MI/day capacity with a current hydraulic demand of 4,5 MI/day. The spare capacity can only accommodate approx. 3 487 additional stands before an upgrade is required.	Selosesha Thaba Nchu	R1 400 000	R2 600 000	R30 000 000
North-Eastern WWTW	Further upgrade of the North Eastern WWTW with an additional 15 MI/day	Bloemfontein	R1 665 000	R3 600 000	R49 445 500

Sterkwater WWTW	The upgrade of the Sterkwater WWTW with an additional 10 MI/day.	Mangaung	R1 000 000	R17 600 000	R30 000 000
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These new projects will unlock development in the northern and southern regions of the city

(ii) Water

The city has developed an extensive plan for developing seven new reservoirs of variable capacity to meet the future water services needs of the city. Mangaung celebrates the fact that in the past 30 months, two reservoirs — Naval Hill (35 megalitres) and Longridge (45 megalitres) are practically complete and will be servicing the residents of Bloemfontein, the Airport Development Node, 18 000 new sites in Vista Park, 6500 new stands in Grasslands and 6500 existing stands in Rocklands.

The following Table reflects the past bulk water expenditure.

Table C3.3: Past bulk water expenditure.

Project No	Description	Suburb	Expenditure 2013/14	Expenditure 2014/15	Expenditure 2015/ 2016
W1106A	Construction of 8MI Reservoir	Botshabelo Section F	R4 240 000	R17 760 000	R18 240 000
W1106B	Bulk Water Delivery and supply pipelines	Botshabelo Section F	R7 360 000	R13 540 000	R9 120 000
W0911A	35MI Naval Hill Reservoir	Bloemfontein	R7 072 638	R22 000 000	R791 172
W0911B	45MI Longridge Reservoir	Bloemfontein	R2 352 648		R1 169 190
W0911C	Longridge reservoir supply line	Bloemfontein	R40 204 000	R25 000 000	R14 820 000
W0911D	Bulk water supply to Mangaung and 4km delivery lines to Naval Hill Reservoir	Bloemfontein	R35 417 850	R26 000 000	R13 680 000

e) Inner City Rejuvenation

(i) Naval Hill Development

Naval Hill is one of the prime tourism destinations in Mangaung. As the single most prominent and iconic natural feature within the built area of MMM, Naval Hill now attracts more than 500 000 visitors from all walks of life annually.

In November 2013, the hill became home to the first digital planetarium in sub-Saharan Africa, after its official opening by the National Minister of Science and Technology, Mr. Derek Hanekom. The digital planetarium is a joint-partnership between Mangaung, the Free State Department of Tourism and the University of the Free State.

In addition to the above, the rejuvenation of Naval Hill also includes the newly constructed 35MI reservoir, the Nelson Mandela Statue precinct with a Restaurant and view- points, a cable car and additional viewing platforms.

Item	Progress
Digital Planetarium	Completed
Nelson Mandela Statue	Completed
Southern Viewpoint	Completed
Restaurant	Completed
Viewpoint 12 completed	
Security gate	Completed
Cable Car	Service providers appointed – to complete designs
Reservoir	Completed

(ii) CBD Regeneration

Regeneration of the respective CBDs will take place in accordance with a CBD Master Plan and the subsequent projects identified in such a document. Bloemfontein has an existing CBD Master Plan, whilst provision was made on the 2014/15 budget to compile similar plans for Botshabelo and Thaba Nchu. Parts of the CBD Master Plan for Botshabelo is in the implementation stage through development of several projects like hawking stalls. The City embarked on plans to design the Thaba Nchu CBD Master Plan.

Some of the more prominent projects that are currently completed is the Hoffman Square development. The Waaihoek Precinct Plan is completed and the City will embark on the Implementation of phase 1 of the plan, as well as the Relocation of the Zoo.

Item	Funding Source	Progress
Hoffman Square	Own Funds / ICDG	Completed
Relocation of Zoo	PPP	Urban Designs completed Waterfront / Construction started at Kwaggafontein
1 st Avenue Bridge		To commence in 2015/ 2016
Waaihoek Precinct		Designs completed Construction to commence 2015/ 2016

The City completed the Hoffman Square project during 2014 which enhance Private Sector Investment confidence.



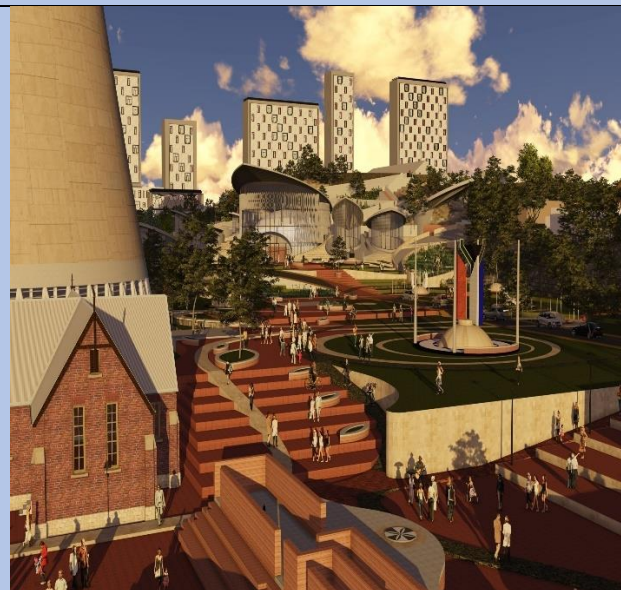
Using the Urban Hub Design Toolkit a status quo report was developed for Waaihoek Precinct and a draft submitted to National Treasury after initial assessments and surveys. Following the status quo report a conceptual plan for Waaihoek Precinct was developed and presented to MAYCO and National Treasury.

Following the above engagements a Precinct Plan was developed based on the following design principles:

- Maximising the existing urban precinct structure and fabric.
- Establish a hierarchic system of internal and external movement linkages for people, goods and services.
- Encourage mixed land uses across the precinct and demarcate existing and new sub-precincts.
- Determine zones of influence of transit facilities.
- Encourage diversity in urban form and structure.

- Emphasize the development of quality public and open space networks.
- Ensure the primacy of pedestrian movement and access.
- Make the past visible by celebrating heritage routes, elements and places with a coherent and integrated management plan.
- Demonstrate the positive yield of regeneration interventions.
- Encourage sustainable building technologies and efficient use of municipal infrastructure.

WAAIHOEK PRECINCT DEVELOPMENT



Waaihoek Project: Phasing Plan

A phasing approach is seen as the most realistic route towards implementation of the project. By creating an urban environment more conducive to development, the phased approach will aim to leverage private sector engagement in later phases.

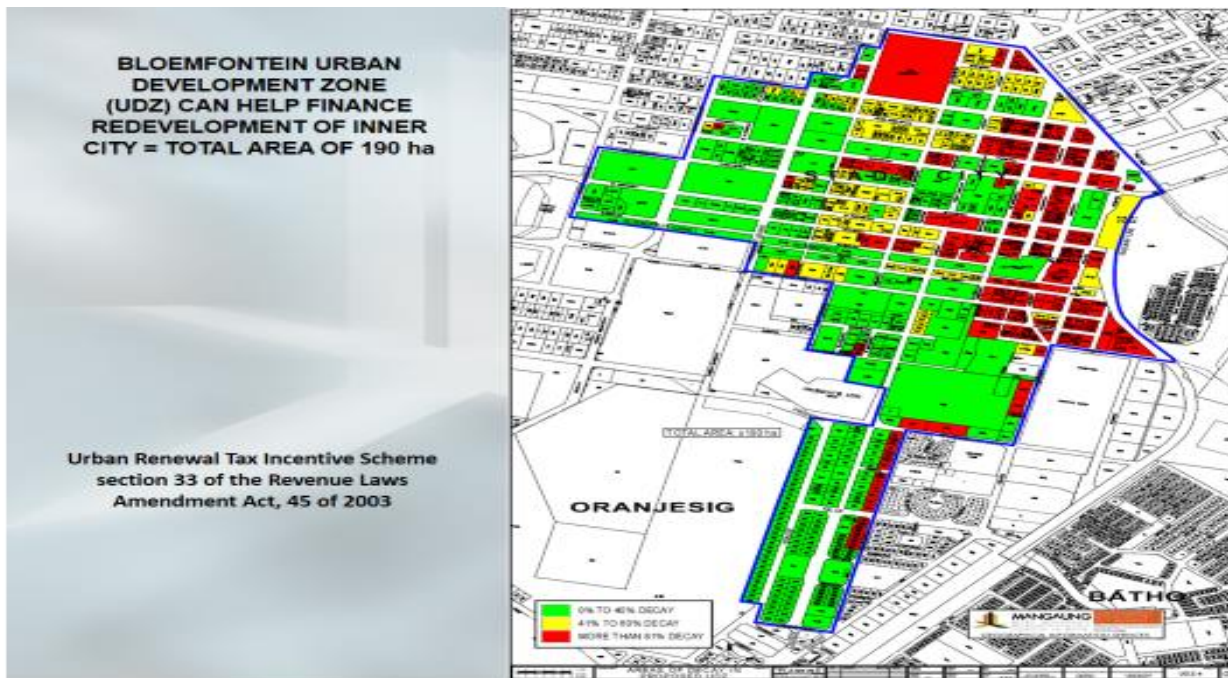
Nr.	Phase Description	Deliverables
1	Phase 1A - Pedestrianisation	Walkway 1 to C (Pedestrian Walkway)
		Walkway "Fan Mile"
		Bloemspruit Greening
		Informal Trading market
		Management Programme
2	Phase 1B - Accessibility and Site Establishment	Upgrade of existing access road
		Site Establishment and Fencing
3	Phase 1C - Urban Pocket Park	Pocket Park and walkway link
4	Phase 2 - Vehicle Bridge over Railway Lines	Construction of new bridge across railway lines
		Extension of Mckenzie Street
5	Phase 3A - Restoration Old Fort Estate	Restoration and rehabilitation of existing structure and site
		Restoration and renovation of existing artillery stores and Two Residences into tourist facilities
		Restoration and renovation of existing artillery stores and Two Residences into tourist facilities
6	Phase 3B - Park (Northern Portion)	Completion of northern portion of public park and amphi-theatre
7	Phase 3C - Park (Southern Portion)	Completion of southern portion of park and extension of landscaping of northern section of park
		Construction of underground parkade and craft market
		Construction of "House of Culture"
8	Phase 3D - Intermodal Facility (Extension)	Extension of intermodal facility across railway lines
		Acquisition of at least 3 Buitesig Properties
9	Phase 3E - Mixed-used Development	Restoration, rehabilitation and conversion of existing residences in Fort Street including hotel, Police Station and offices
		Waste Management and Security of Area
		Acquisition of properties in this block at present value plus 50%
10	Phase 3F - Residential Densification	Construction of six-storey parking garage
		Acquisition of privately owned properties based on current valuations plus 50%
		Management programme and additional security measures
		Housing developments
11	Phase 3G - Urban Foyer	Urban foyer including property acquisition costs
12		Deliverables in incorporating cooling towers

Nr.	Phase Description	Deliverables
	Phase 3H Power Station and Cooling Towers	Conversion and rehabilitation of old power station into accommodation facilities, galleries, offices, etc.
		Pedestrian links between Ramkraal Legislature Precinct, Power Statio, Hotel and Urban Park via Bridges and uderpasses as well as heritage precinct at president brand street
		Parking Areas

Waaihoek Project Budget

Phase	Project	2015/16	2016/17	2017/18	2018/19	Funding Source
Phase 2	Vehicle Bridge over Railway Lines	R 20 000 000	R 60 543 000	R 74 543 000	R 55 492 000	NDPG
Phase 1A - Pedestrianisation	<ul style="list-style-type: none"> • Pedestrian Walkways (R 10 488 682) • Walkway Fan Mile (R 10 607 871) • Bloemspruit Greening (R 5 808 302) • Urban Pocket Park R 11 131 145) 	R 38 036 000	R0	R0	R0	NDPG

The City introduced a IDZ in the Inner City to encourage private developers to invest in the inner City which will be extended to Thaba Nchu CBD and Botshabelo CBD .



C.3.3 Alignment

a) Co-ordination and alignment with Strategic Integrated Projects (SIPs)

The identification and implementation of Strategic Integrated Projects (SIPs) is led by the Presidential Infrastructure Co-ordinating Commission (PICC).

SIP 7 focuses on coordination of planning and implementation of integrated public transport networks, sustainable human settlement and economic and social infrastructure with the objective of addressing the economic and social challenges of our urban spaces. The **Passenger Rail Agency of South Africa (PRASA)** has been tasked to drive SIP 7 under the PICC.

Mangaung has submitted projects under SIP 7 with an estimated capital investment funding requirement of R1,7 billion over the MTEF period and R19.63 billion over the Long Term. These projects primarily relate to improving the public transport system between Thaba Nchu, Botshabelo and Bloemfontein, as well as to modernize the public transport system of the city through the introduction of the **Bus Rapid Transport (BRT)**,

The Integrated Public Transport Network (IPTN) is an anchor programme for the City to support the strategic objectives and implementation of SIP 7. This plan was initially delayed, but is currently being compiled and will be finalised by June 2014.

b) Co-ordination and alignment with Informal Settlements

In accordance with the informal settlements upgrading programme of Mangaung, the Municipality has identified 5 areas comprising 16 450 households for priority upgrading, as set out in the table below;

Table C3.4: Settlement Prioritization for implementation

Settlement	Prioritisation criteria	Status
1. Kgotsong & Caleb Motshabi	<ul style="list-style-type: none"> • Pressure point and one of the oldest settlements • Size – Bigger settlement to make significant impact 	In progress
2. MK Square & Sibuyile	<ul style="list-style-type: none"> • Pressure point i.e. bulk infrastructure, instability • One of the oldest settlement • Infill upgrading project with services available • Size – Bigger settlement to make significant impact 	Completed
3. Botshabelo West	<ul style="list-style-type: none"> • Pressure point i.e. instability, but subject to Flooding (disaster prone) • Size – bigger settlement to make significant impact 	Funding redirected
4. Grasslands Phase 4 (Khayelitsha)	<ul style="list-style-type: none"> • Pressure point but subject to Floodline area (disaster prone) • Size – Bigger settlement to make significant impact 	Planned for 2016/17
5. Bloemside Phase 4 (Sonderwater)	<ul style="list-style-type: none"> • Pressure point • Infill upgrading project with services available • Progress – advanced planning processes 	• Completed
6. Section L1124	<ul style="list-style-type: none"> • Internal Services 	• Planned for 2016/17
7. Section R	<ul style="list-style-type: none"> • Rudimentary Services 	• Busy with design work

In addition to the above, the Municipality also intends continuing with the in-situ upgrading of 15 informal settlements comprising 10 686 units in accordance with the National Upgrading Support Programme (NUSP), whilst 8 informal settlement areas comprising 599 units have been earmarked for relocation.

In terms of programming the work will not be phased by targeting and completing specific settlement areas, but rather the execution of work in different planning implementing stages for all the settlements at once. The time frame and programming for upgrading is therefore structured over the entire MTEF period and beyond, as indicated in the table below, reflecting the amounts required until 2020.

Table C3.5: Time frame and programme for implementation of Informal settlement upgrading

Projects/High Level Activities	Target	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	Total Estimated Budget Required
5 Prioritised Settlements	16450 Sites	R 7 832 071.90	R 44 785 519.90	R 52 146 088.70	R 51 092 783.00	R 26 751 450.00	R 0.00	R 0.00	R 182 607 913.50
15 In-situ Settlements	10686 Sites	R 0.00	R 3 886 008.72	R 25 689 736.43	R 34 457 805.25	R 33 496 346.55	R 18 504 869.68	R 5 652 598.08	R 121 687 364.71
8 Relocation Settlements	599 Sites	R 0.00	R 3 479 530.20	R 455 938.44	R 4 651 415.04	R 0.00	R 0.00	R 0.00	R 8 586 883.68
TOTAL		R 7 832 071.90	R 52 151 058.82	R 78 291 763.57	R 90 202 003.29	R 60 247 796.55	R 18 504 869.68	R 5 652 598.08	R 312 882 161.89

In order to achieve the objectives in relation to the above programme it would be necessary to allocate at least 10% of the USDG budget annually towards informal settlement upgrading.

c) Land release and development implementation strategy

The current land release programme is regarded as the largest and most bold land development programme in the province since 1994. The programme will ensure the release of more than 30 000 hectares of land, creating more than 45 000 employment opportunities and ensure phenomenal growth in the construction industry. It will also create major downstream benefits in other sectors of the economy.

The land release programme is approached from both a long term- and medium term perspectives.

The long term approach is focussed on correcting the imbalances of the past through poverty alleviation, integration of the urban fabric and long term economic growth. This approach includes the following;

- Ten (10) land parcels have been acquired for mixed development.

The medium term approach is more focussed on accelerated land release, optimal use of infrastructure, capitalizing on investment and generating revenue. These include;

- Land for economic investment
- Land for servitudes, cemeteries (Land on request)

(ii) Ten land parcels for sustainable human settlement (Mixed Development)

Various Portions of land owned by the Municipality and falling within the urban edge have been identified to be integrated successfully within the existing urban fabric. These land parcels are

strategically located between the affluent and poor parts of the city and therefore presenting opportunities for integrating the city spatially, socially and economically to also break the racial barriers created under the “*apartheid*” regime. These land parcels are mainly meant to drive integrated development in the city by making available 13 000 housing opportunities for the mixed development.

Ten land parcels have been identified to provide sustainable human settlements for mixed development over the medium term, as depicted in the table below, and also indicated on **Plan 5** attached hereto:

Table C3.6: Land Parcels earmarked for the Mixed Development

Map No	Land Parcel	Size (ha)	Land Use	Development Status				Output	
				Planning	Services	Housing	Tenure	No Units	Density
1	Cecelia 2532	155	Vacant	No	No	No	No	1900	12.26
2	Brandkop Race Track (BFN 654)	140	Vacant	No	No	No	No	1100	7.86
3	Pellissier Infill development	22	Vacant	Yes	Partly	No	No	200	9.09
4	Brandkop 702 (BFN 654)	285	Vacant	Yes	No	No	No	2700	9.47
5	Vista Park 2 (BFN 654),	155	Vacant	Yes	No	No	No	3397	21.92
6	Vista Park 3 (BFN 654),	131	Vacant	Yes	No	No	No	2620	20.00
7	**Hillside (Farm Rocklands 684)	85	Vacant	Yes	Phase 1	Construction	No	920	10.82
17	Sunnyside 2620	700	Vacant	Yes	No	No	No	200	2.86
	TOTALS	1043						13037	12.5

Note: ** Portion of Hillside also included under BNG land parcels

The 10 land portions identified for the GAP market will yield a total of 13 000 housing opportunities at an average density of 12,5 units per hectare.

Three of these land parcels i.e. Hillside View, Vista Park 2 and Vista Park 3 are currently being developed for mixed land-use initiatives by development partners to accommodate high-income households, households in the gap market and marginalised households, all integrated into a

single development. These developments are at advanced stages and a new District Hospital will also form part of the new development of Vista Park 3.

In addition, the MMM has already developed conceptual designs for mixed land-use developments in respect of three other remaining land parcels i.e. Cecilia, Brandkop and the Airport Node. The challenge to the metropolitan municipality is to ensure the long term financial sustainability of the developments which will improve the financial sustainability of the metro.

(iii) Land Acquisition for mixed development

A program of selective upgrade was adopted in the SDF where investigations were carried out to ascertain the development potential of areas being occupied illegally. The following land parcels, identified mainly to the south-east of Bloemfontein, were acquired over the past 10 years from private owners for the purpose of human settlement.

Table C3.7: Land Parcels earmarked for mixed development (updated 31 March 2013)

Map No.	Land Parcel	Size (ha)	Land Use	Development Status				Output	
				Planning	Services	Housing	Tenure	No Units	Density
7	Portion 2, 4, 5	171	Vacant	Yes	No	No	No	2654	15.52
8	Farm Liege	272	Occupied	Yes	No	Informal	No	12094	15.35
9	Farm Turflaagt	516	Occupied						
10	Remainder of Farm	710	Occupied	Yes	Basic	Informal	No	4200	5.92
11	Grassland Phase	198	Occupied	Yes	Basic	Formalized	No	2882	14.56
12	Grassland Phase	134	Occupied	Yes	Basic	Formalized	No	2808	20.96
TOTALS		2001						24638	12.31

From the above table it is evident that the 6 land parcels identified for mixed development projects will yield approximately 24,600 units at an average density of 12,3 units per hectare. It is, however, important to note that the average density represent gross density in relation to the total size of a land parcel and therefore includes all supporting social infrastructure and community services such as schools, crèches, public open space, etc. The lower residential density areas can be ascribed to large land parcels unsuitable for development.

In addition to the above, the Municipality has also acquired several land portions for future development towards the east of Bloemfontein, as indicated on **Plan 6**, attached hereto.

The Mangaung Metropolitan Municipality also receive applications from private developers which make a significant impact to the built environment. All applications are approved in context of location within the urban edge. The applications are in various stages of development and some still in stage of acquiring approvals.

DESCRIPTION	EXTENT	SINGLE RESIDENTIAL SITES	GENERAL RESIDENTIAL	NUMBER OF UNITS	DEVELOPED OR NOT
Sub 20 & 24 Lilyvale	31.7 ha	73	10	402	Yes
Sub 3 Musket 2817	56.6 ha		5	98	No
Remainder of Musket 2817 Red Rock	29.44 ha	100	11	202	No
Sub 33 Lilyvale 2313 Shellyvale	25 ha		7	202	No
Plot 13 Lilyvale	2.3 ha		1	48	No
2/2830 Hillside	70 ha	39	11	789	Yes
Farm Joy 1401	2.93 ha		1	75	Unknown
Plot 4 Rayton	4.3 ha		4	86	No
Roderick's Park 2834 & Hillside 2827	11.7 ha		3	386	Yes
2/2946 New Market	4.59 ha	1	3	55	Yes
4/2946 New Market	4.58 ha	8	1	42	Unknown
Padlang 2154	26.16 ha		3	52	Yes
Farm Western Spitskop	2.5 ha		1	60	No
Rayton View	8.43 ha		8	250	No
1441 Mount Sophia	1.86 ha		1	30	Unknown
Roderick's Park 2834	12 ha		4	201	Yes
Douglas Valley	8.83 ha		5	224	Unknown
Tredenham 2153	11.9 ha		4	201	No
Farm Bayswater 2865	114 ha		19	1650	Yes
Sub 45 Lilyvale 2313	50 ha	10	10	604	Yes
Bloemspruit Extention 1	22,23 ha	403		403	Yes
Bloemspruit Extention 2	13,02 ha	208		208	Yes
Grasslands Phase II	187,26	2831		2831	yes
Grasslands Phase III	161,694	2814		2814	Yes
Cecelia 2352	151.30	355	80	1495	No
Hillside View	250.66	2315	0	2315	Yes
Meriteng/Liege Valley (Caleb Motsabi & Kgotsong)	646	7500	0	± 12000	Yes
Vista 2	120 ha	1419	19	1438	Process of township establishment

DESCRIPTION	EXTENT	SINGLE RESIDENTIAL SITES	GENERAL RESIDENTIAL	NUMBER OF UNITS	DEVELOPED OR NOT
Vista 3	131 ha	1179	38	1282	Process of township establishment
Bloemside 7					Process of township establishment
Grasslands4					Process of township establishment
Raceway Park: Extensions 225, 226 & 227. Ext 217 under review	29.61 ha	212	3	228	Yes
Portion 15 and 16 of 1 of the farm Roodam 2312 & portion 6 and 7 of the farm retreat "a" 2002	16.2058ha	16	1	20	Process of township establishment
Plot 14 Vredenhof, Bainsvlei					Process of township establishment
Plot 50 Spitskop	5.8218 ha	17	2	21	Process of township establishment
Plot 1/20	402827 ha		1		Process of township establishment
Plot 10 Spitskop					Process of township establishment
Farm Retreat 804,					Process of township establishment
Plot 11 Spitskop	2.1402 ha	33	1	38	Process of township establishment
Plot 50 Spitskop					Approved by Council in 2015
Plot 7 Rayton	1.00 ha	32	40	100	Approved by Council in 2010
Plot 3 & 4 Quaggafontein					Approved by Council in 2010
Portion 6 of the Farm Annex Wildeaskloof		35	3		Approved by Council
Plot 1 Quaggafontein	34.1053 ha	2	7	31	In process of consideration

DESCRIPTION	EXTENT	SINGLE RESIDENTIAL SITES	GENERAL RESIDENTIAL	NUMBER OF UNITS	DEVELOPED OR NOT
Portion 2 of Plot 28 Rayton	8.428 ha	8	4	15	Approved by Council in 2010
Plot 16 Bloemspruit	7.5418 ha	57	2	70	Approved by Council in 2010
Farm Douglas Valley					Approved by Council in 2010
Farm Rodericks Park					Approved by Council
Plot 4 Shannon Valley	4.2827	211	3	219	Approved by Council in 2013
Portion 2 of Plot 47 Shannon Valley					Approved by Council in 2013

(iv) Land for economic investment (Renewable energy complex)

Municipal land has been identified in close proximity to Bloemindustria to harvest solar and wind energy. This initiative supports the cities single-project approach where all suitably located municipal owned land is identified, planned and linked to a development concept aimed at supporting the overall vision and objectives of the municipality.

Located adjacent to the N8 national road, this project will also contribute towards the linear growth and strengthening of the corridor between Bloemfontein, Botshabelo and Thaba Nchu. In addition to harvesting the energy, it's also intended to manufacture solar energy components for local, National and International distribution and to become an international repair centre.

C.4 Urban Networks, Integration zones and hubs

C.4.1 Identification of Urban Networks, Integration Zones and Hubs

The identification and prioritization of network elements are indicated in the diagram and table below.

Figure C4.1: Mangaung Urban Networks and Integration Zones

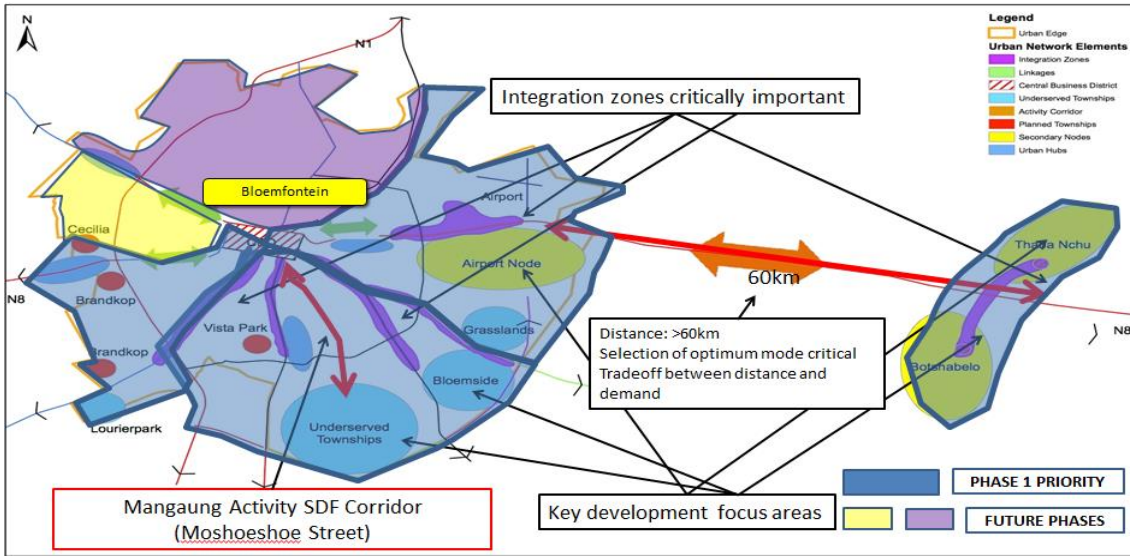


Table C4.1: Urban Network Elements

NR	NETWORK ELEMENT	MUNICIPAL DESCRIPTION	PRIORITY	Supporting documentation
1	CBD	Bloemfontein CBD (Waaiohoek)	1	Refer to attached Plan 7, Plan 8, Plan 9, Annexure K and Annexure L.
		Botshabelo CBD	1	
		Thaba Nchu CBD	1	
2	URBAN HUB AND PRIMARY	Primary Route 1 Bfn – Dr Belcher /		
		Primary Route 2 : Bfn CBD via N8 to Both CBD and Thaba Nchu CBD		
3	ACTIVITY CORRIDOR	N8 Corridor	1	
		Moshoeshoe street / (Maphisa	1	
		Dr Belcher Road	3	
		Church street	3	
		Park Road	1	
4	EMERGING NODE	Airport Node Phase 1 and Phase 2	2	
		Botshabelo / Thaba Nchu Node	3	
5	SECONDARY NODE AND TRANSPORT	Nodal points between Botshabelo	3	
		CBD & Thaba Nchu CBD		
6	ESTABLISHED CORRIDOR			

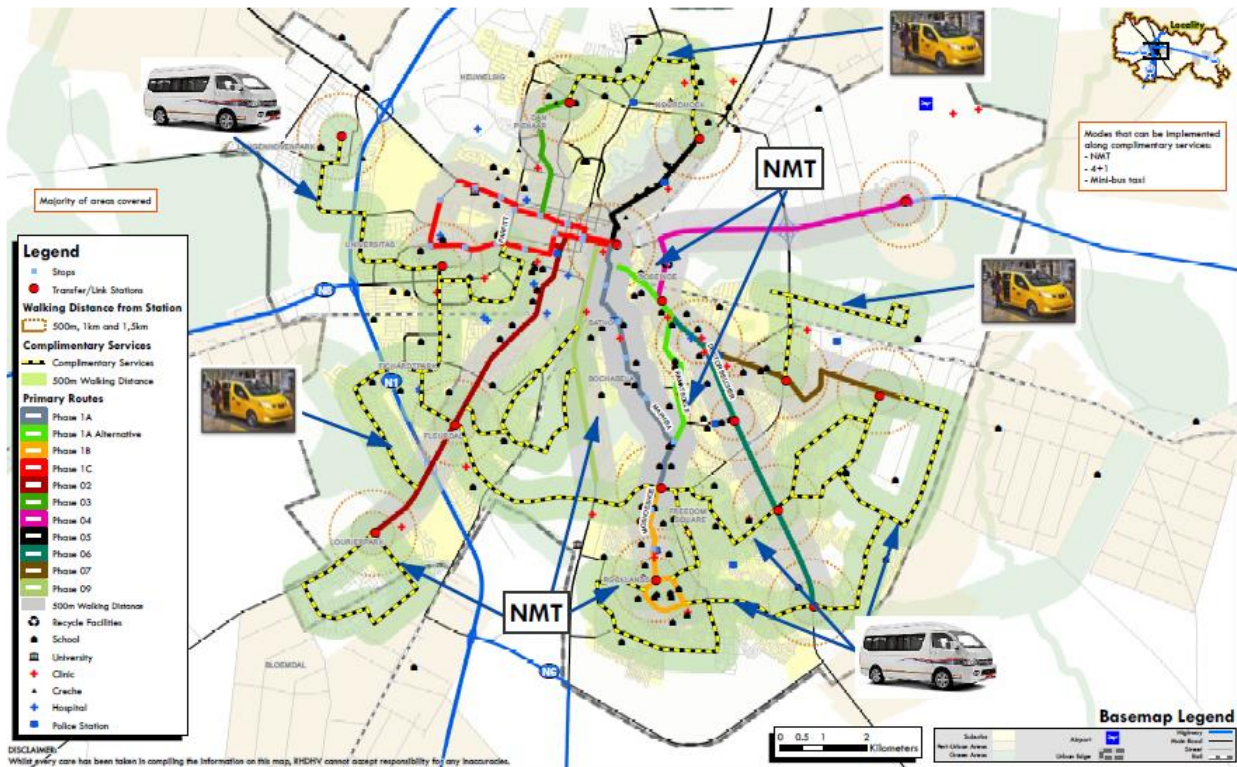


Fig C4 . 2 Bloemfontein Urban Networks

a) Strengthening of the CBD

(i) Bloemfontein

Bloemfontein has a well-developed CBD, which forms a strong business and services node, supported by a variety of mixed activities and community facilities. There are two very large regional shopping centres located in the city. Bloemfontein has three industrial areas, one of which is located along the N8, on route to Botshabelo.

The CBD forms the heart-beat of the City as this is where all transport routes converge and where most people from the Municipal area do their shopping. The Municipality will continue to strengthen the Bloemfontein CBD through rejuvenation, upgrading, conservation and beautifying projects.

(ii) Botshabelo

Botshabelo doesn't have a strong CBD and commercial activities are spread all over the area. Although provision had been made for a large number of supporting community facilities, most of these remain undeveloped. The area is characterized by an oversupply of school sites and public open spaces.

Botshabelo also includes an industrial park with factories and infrastructure worth R500 million. As such there are presently 138 factory buildings in Botshabelo with a total floor area of 200,000m². Fully serviced stands are available for further development, backed up by adequate supportive services.

The CBD needs to be strengthened through providing incentives to stimulate public and private investment.

(iii) Thaba Nchu

Thaba Nchu is characterized by large stretches of communal grazing land – utilized for cattle. The majority of new urban development has taken place towards the west along Station Road, while the CBD has developed to the east of these extensions.

The area has two industrial areas, one to the west near the railway station and the other east of the CBD, The western industrial area was developed along the railway line and has side-line facilities and is the more viable of the two. However inaccessibility and the lack of direct access from the N8 route hampers future expansion – it is presently only 65% occupied. The Municipality is in process with concept designs for the Thaba Nchu CBD and an Agri Village in the area of the Thaba Nchu Airport.

The CBD of Thaba Nchu fulfils and important role in terms of the local economy and should be strengthened through renewal actions and stimulating private investments through incentive schemes.

b) Activity Corridor selection

Due to the transport activity between Thaba Nchu, Botshabelo and Bloemfontein on a daily basis, the N8 is regarded as the activity with the highest priority. Although Dr. Belcher Road currently carries a great volume of public transport passengers, it has a very poor level of accessibility to the corridor, owing to the poor permeability of the road network connecting to the corridor. Meadows Road similarly yields a relatively low level of accessibility to the proposed corridor alignment.

Moshoeshoe Street, along either the Ramatsoele Road / Mkhuhlane Street alignment or the Maphisa Road alignment, provides a higher degree of accessibility and network permeability than Dr. Belcher or Meadows Road. The degree of coverage from the conceptual 800m spaced public transport stops is higher for the Moshoeshoe Street corridor.

The finding of the walkability, network permeability and public transport accessibility level assessment validates and confirms the selection of Moshoeshoe Street corridor as a future “Activity

Street” of Bloemfontein urban node, as identified within the Mangaung Spatial Development Framework.

C.4.2 Spatial Targeting Instruments

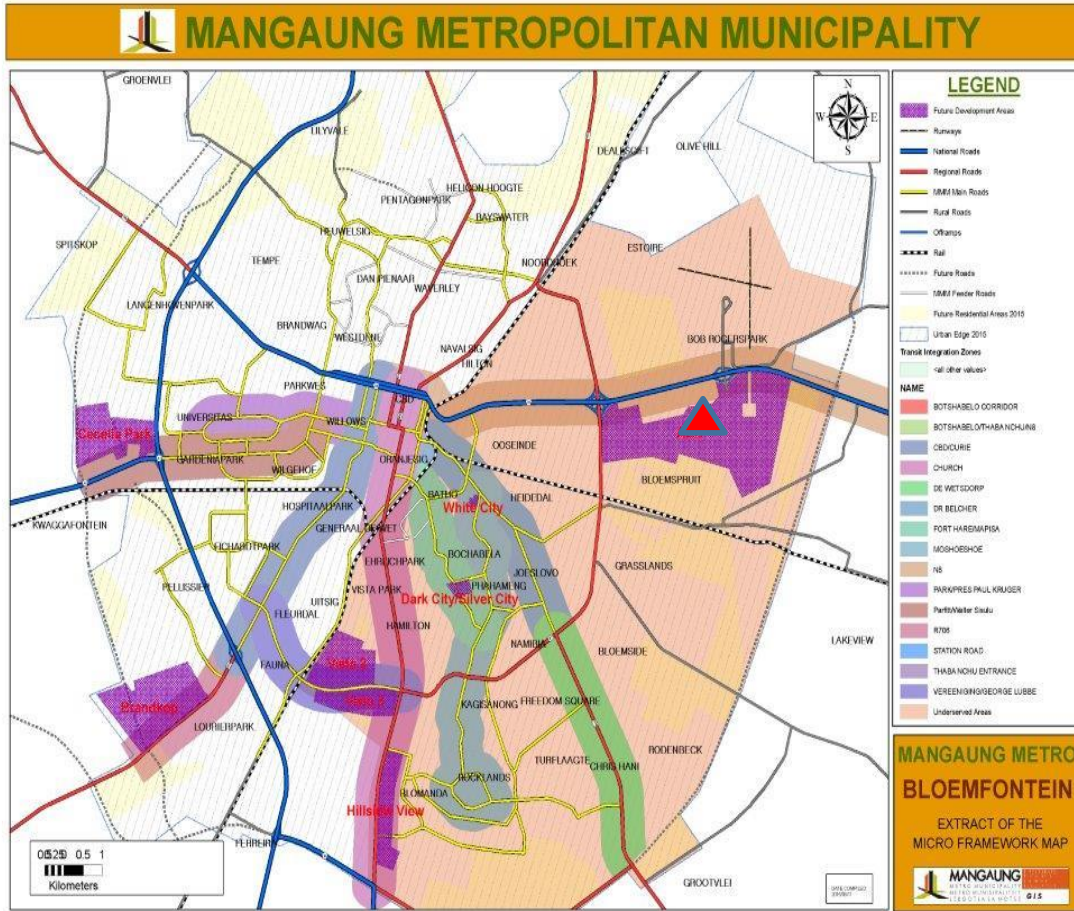
c) CBD Interventions

During compilation of the IPTN a number of key issues within each of the CBDs have been identified.

d) Targeting Integration Zones

Various Integration zones have been identified. The **first** zone is located along the N8 route and aims to achieve integration between Bloemfontein, Botshabelo and Thaba Nchu. The **second** integration zone is somewhat dispersed in the south-eastern quadrant of Bloemfontein and aims to integrate previously segregated areas, as well as to develop vast parcels of underutilized land.

The integration zones seek to link the CBD with the 7 land parcels (mega projects) and with one another to foster integration in the city. The plan propose densification within range of 500 meters from main transport corridors. The 7 land parcels are all greenfield developments. In areas located along main transit routes within the urban fibre brown field development should be considered. The plan propose the development of precinct plans at strategic locations along these main transit routes. Development within Integration zones suggest reconfiguration of planning and designs of settlements with higher densities. The designs of transit routes will make provision for non motorised transport.



Integration zone	Project	Type	Planning	Funding Source	Mangaung Metro	Prov	National	Private
George Lubbe/ Church Street	Vista Park 2 / 3	Greenfield	Township establishment	PPP	x			x
Church Street	Hillside View	Greenfield	Towship establishment	PPP	x	x		x
R706 (Jagersfontein Rd)	Brandkop	Greenfield	Township Establishment	Loan	x	x		
Cecelia	N8 Bfn West	Greenfield	Township Establishment	Loan	x			
CBD Bloemfontein	Waihoek Precinct	Brownfields	Precinct Plan	NPG	x			x
Maphisa Road	Dark and Silver City Social Housing Project/ Maphisa Road Upgrading	Brownfields	Infill Planning	HSDG / USDG	x	x		
Brits / Moshoeshoe Rd	White City Social Housing Project	Brownfields	Infill Planning	HSDG	x			
N8 Botshabelo	Botshabelo Interchange/ N8 Road Upgrading	Transport Corridor					SANRAL	
N8 Thaba Nchu	Thaba Nchu Road Upgrading	Transport Corridor					SANRAL	
N8 Bloemfontein	Airport Node	Greenfields	Township Establishment	Loan	x			
Botshabelo CBD	Hawking Stalls	Brownfields	Precint Plan	ICDG	x			

Thaba Nchu Node	Thaba Nchu CBD	Brownfields	Draft Plan	Precinct	ICDG	x			
Nelson Mandela	Brandwag Social Housing	Brownfields			HSDG	x			
All	IPTN				PTIS	x			

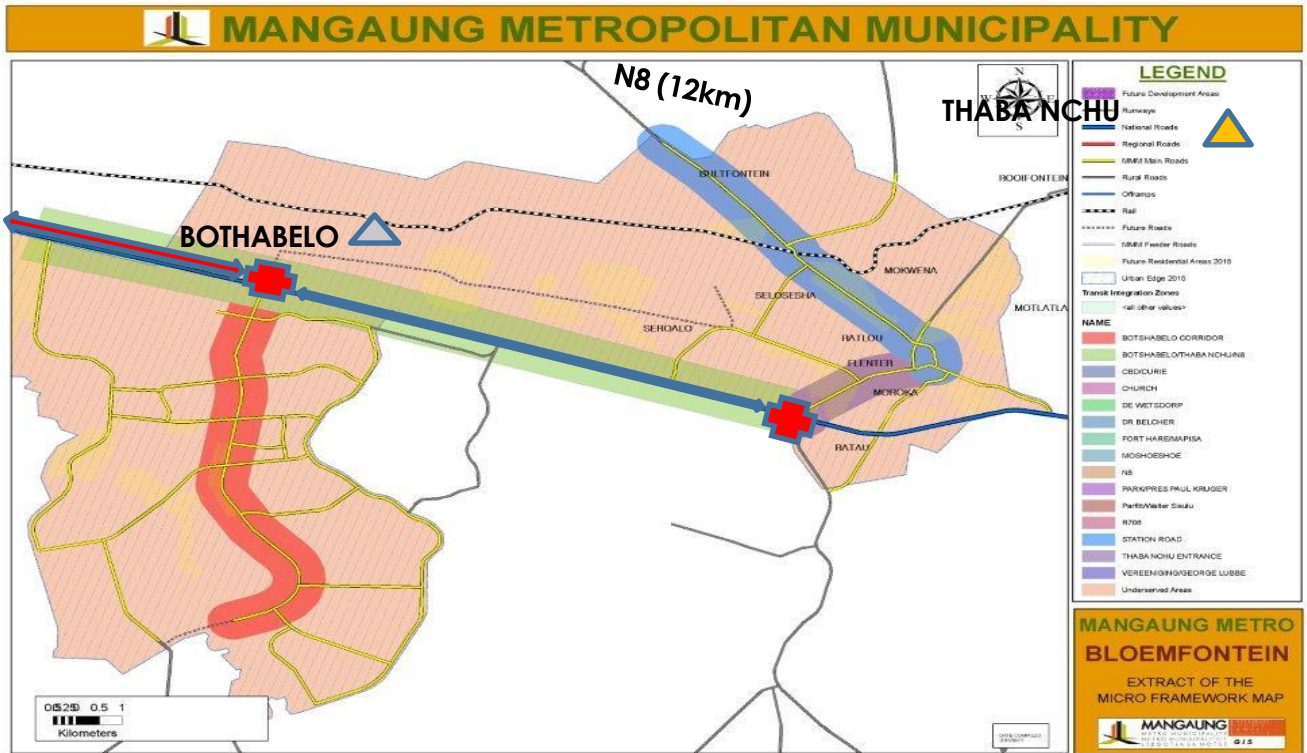


Fig C 4. 3 Integration Zones

Table C4 , 2 Catalytic Projects

Project	Total Cost (millions)	Allocated Budget (2014/15)	Budget 2015/2016	2015/16 Budget			2016/17 Budget			2017/18 Budget			Funding Source
				Required	Allocated	Shortfall	Required	Allocated	Shortfall	Required	Allocated	Shortfall	
Airport Node	R2,6 b	R90 m	46m	R1,3 b	R100 m	(R1,2 b)	R250 m	R51 m	(R199 m)	R800 m	-	(R800 m)	Loan
Botshabelo Node	-	R25 m	25m	To be determined	R46 m	R46 m							Loan
Thaba Nchu	-	R15 m	10.7m	To be determined	R30 m	R30 m							Loan
Vista Park 2	R318,5 m	0	5m	R178 m		(R178 m)	R224,3 m		(R224,3 m)	R296 m		(R296 m)	USDG
Vista Park 3	R355,7 m	0	0	R191,2 m		(R191,2 m)	R82,9 m		R82,9 m	R33,1 m		R33,1 m	Private funds
Brandkop	R1,3 b	R17 m	16m	R459,2 m	R11 m	(R448,2 m)	R500,1 m	R3 m	(R497,1 m)	R300 m	R3 m	(R297 m)	Loan
Cecelia Park	R309,9 m	R20 m	20m	Phase 1 309.9m	R40 m	R40 m							Loan
Hillside	R2,5 b	40m	35										USDG 5m HSDG 30m
Waaihoek	-	R5 m	35	R16,8 m	R36 m	R19,2 m	R67 m	R17,7 m	(R49,3)	R309 m	R18,7 m	(R290,3 m)	Neighbourhood Grant
Park Road / Ella Street Pedestrianisation	36	R12 m	R9m	36m	R16 m	R16 m							Loan

BT1 and BT2 propose the development of a mixed land use area to link the Botshabelo and Thaba Nchu CBD's. The development seek to encourage economic development in an area with high unemployment.

The development approach seek to encourage higher densities within precinct areas and encourage mixed land use developments. These precinct areas can be incentivised by including it in the Urban Development Zones.

(i) N8 Integration Zone

Since the N8 forms the main link between the between the urban clusters, the objective is to strengthen the link itself. This will be achieved by three interventions

- Bringing the urban clusters closer to the N8 link by creating new urban nodes around major transport intersections. The two nodes that will have a significant impact include the Airport development Node (ADN) and the Botshabelo / Thaba Nchu Node (BTN).
- Strengthening of the transport system in between the urban nodes will drastically improve the mass public transportation of the commuting public. In this regard the involvement of the Municipality and PRASA with SIP 7 will facilitate the reactivation of the railway system between the areas.
- The pro-active identification of municipal / state owned land along the N8 route and linkage with economic development initiatives will stimulate both public and private investment in the area. The Municipality has already initiated the renewable energy complex on land directly adjacent to Bloemduin. One of the objectives would be to stimulate employment opportunities along the N8 route over the long term.
- The continuous identification and acquisition of privately owned land to complement existing initiatives will also assist with stimulating development along the N8 in the long

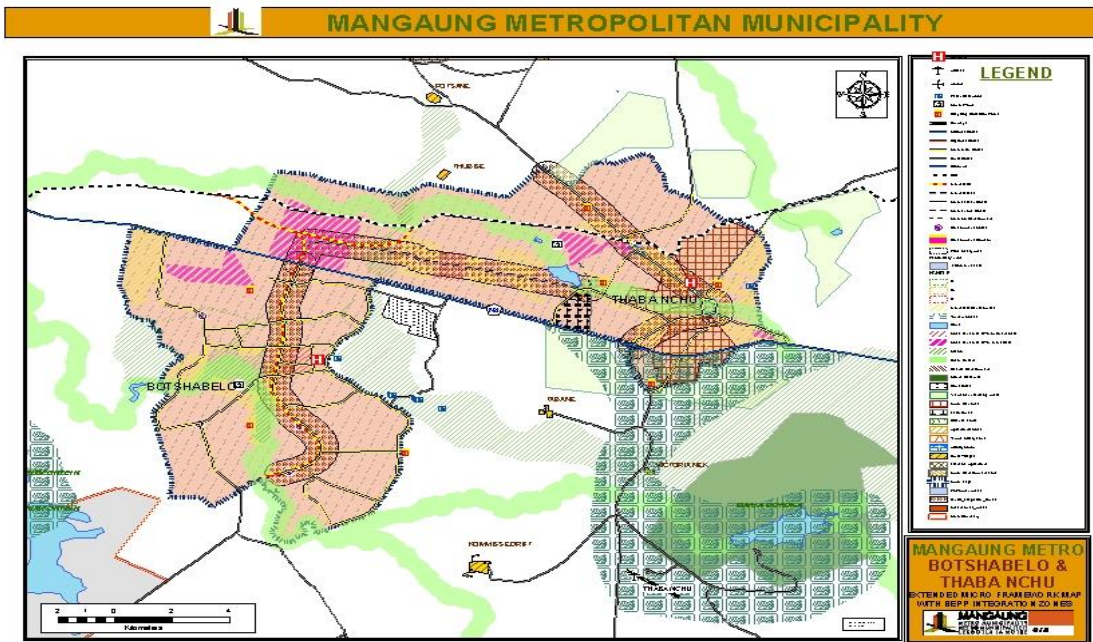


Fig C4.5 Botshabelo / Thaba Nchu Integration Zones

(ii) South West Integration Zone

This integration zone involves the integration of historically segregated neighbourhoods by the development of the **7 land parcels**. As described already, the 7 land parcels (measuring more than a 1 000 hectares all together), are primarily targeted at the residential market (mixed housing typologies at varying densities), and will yield approximately 13,000 housing units. In addition to this the land parcels will also provide for a variety of supporting community facilities and other mixed activities.

The current progress with regard to the implementation of the 7 land parcels is described in **Annexure I** attached hereto.

e) Secondary corridor Interventions

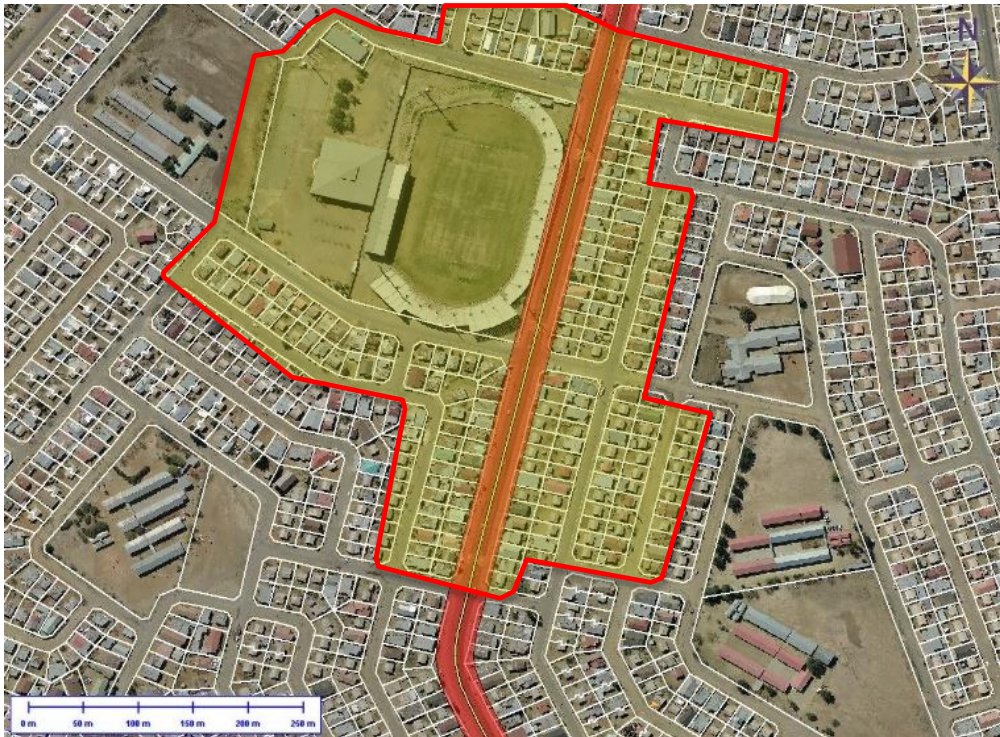
Although several priority corridors exist around Mangaung, a system of public transport demand corridors have been selected as a **Phase 1** intervention. This corridor network will be known as Hauweng Phase 1 Corridor system and is indicated in **Annexure L**.

The system will have an impact on 30 000 households and will be implemented in three distinct phases;

- Phase 1A: CBD – Batho – Moshoeshoe
- Phase 1B: Moshoeshoe Corridor – Rocklands
- Phase 1C: CBD – Waterfront – University (UOFS)

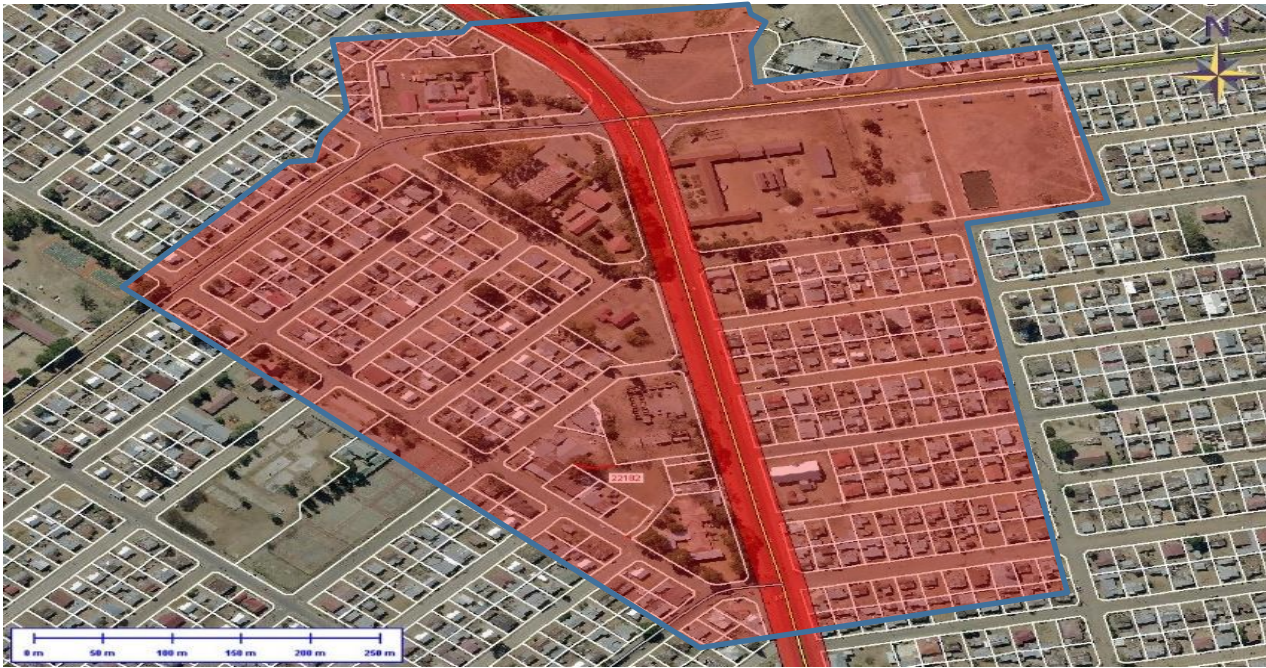
Phase 1A/B will include 11km of infrastructure upgrades and approximately 11 median stations.

The plan suggest that the Maphisa / Moshoeshoe Route be prioritised as phase one which link the townships with the Waaihoek Precinct and the Bloemfontein CBD.



Seiso Sports Specinct (along Moshoeshoe Road – Rocklands)

The Petrus Molemela Sports Precinct will provide for recreation, trading and parking facilities to support the soccer ethos and cultural heritage of the area.



Batho Precinct Plan (along Fort Hare / Mapisa Road Integration Zone)

C.4.3 Required policy adjustments

- IDP and SDF
- Land use management system
- IPTN
- Other policy instruments

C.4.4 Projects and Programmes for Identified Network Elements

The projects and programmes for identified Network elements over the MTEF period are indicated in the table below. A more detailed description of the various projects is reflected in **Annexure N**, attached hereto.

Table C4.2: Projects and Programmes for identified Network Elements

Area/ Settlement	Total Project Cost	Project s	Source	2014/201 5	2015/201 6	2016/20 17	2017/20 18
Hillside View	2.4 Billion	Roads and Storm water	USDG	0	5m	10m	25m
		Roads and sttomw ater	Own Funds	0	0	10m	0
		Social Housin g	HSDG	40m	30m	-	-
Vista Park 2	2.3 Billion	Roads and Storm water	USDG	-	5m	15m	
Vista Park 3	1.5 Billion		Private Funds	-	-	-	-
Brandwag		Bulk Sewer	USDG	4.5m		-	-
		Roads	USDG	5.6m	1m	-	-
		Social Housin g	HSDG	16.6m	16m	-	-

Area/ Settlement	Total Cost of Project	Projects	Source	2014/2015	2015/2016	2016/2017	2017/2018
Brandkop	R1.3 billion	Township Formulation	Loans	17m	-	-	-
		Service Reticulation			16m	3m	3m
Cecelia	R309.9 m	Township Formulation	Loans	20m	-	-	-
		Service Reticulation			20m		
Air Port Node	2.6 billion	Township Establishment	Loans	90m	-	-	-
		Service Reticulation			46m	51m	
Bothsabelo		Township Formulation	Loans	25 m	25m	-	-
Thaba Nchu		Township Formulation	Loans	15m	10,7m	-	-
Bloemfontein Township		Dark and Silver City Social Housing	HSDG	-	40m	-	-
		White City Duplexes Refurbishing	HSDG	-	10m	-	-
Mangaung	UIS		USDG	19.2m	42.2m	-	-
			HSDG	-	13.5m	-	-

REVITALIZATION OF TOWNSHIPS

Area	Project Description	Source	2014/2015	2015/2016	2016/2017	2017/2018
Mangaung	Roads and Stormwater	USDG	24.4m	2.5m	4m	-
	Rectification	HSDG	-	32.3m	-	-

INFRASTRUCTURE PROJECTS

Area	Projects	Source	2014/2015	2015/2016	2016/2017	2017/2018
Botshabelo / Thaba Nchu	Internal Bulk Water	USDG	28.7 m	17m	30m	-
N8 Bloemfontein	Bulk Water Supply	USDG		10m	11m	-
N8 Bloemfontein	Bulk Sanitaion	USDG	43.4m	82.2m	-	-
		Own Funds		1m	-	-
		Loans			137.7	-
Maselspoot	Water Treatment Plant	USDG	36.8m	47m	54.1m	121.3
		Own funds		15m		
		Loans			90m	102m
7 Land Parcels Bloemfontein	Bulk Sanitation Sterkwater	USDG	40m	30m	10.5m	13.8m
		Loans			69.4m	212.1m
	WWTW					
	Long Ridge Reservoir Line	USDG	42.1m	1m		

INFRA STRUCTURE PROJECTS

Area	Projects	Source	2014/2015	2015/2016	2016/2017	2017/2018
Thaba Nchu	Basic Sanitation	USDG	3m			
		Own Funds	3m		7m	
		Loans	81,7m	96,7m	100m	120m
Mangaung Township	Basic Sanitation	USDG	50m	50m	47.5	
Botshabelo	Basic Sanitation	USDG	44			
		Loans	36.8m/ 81.7m	96m	100m	120m

C.4.5 Development Strategies for Integration Zones

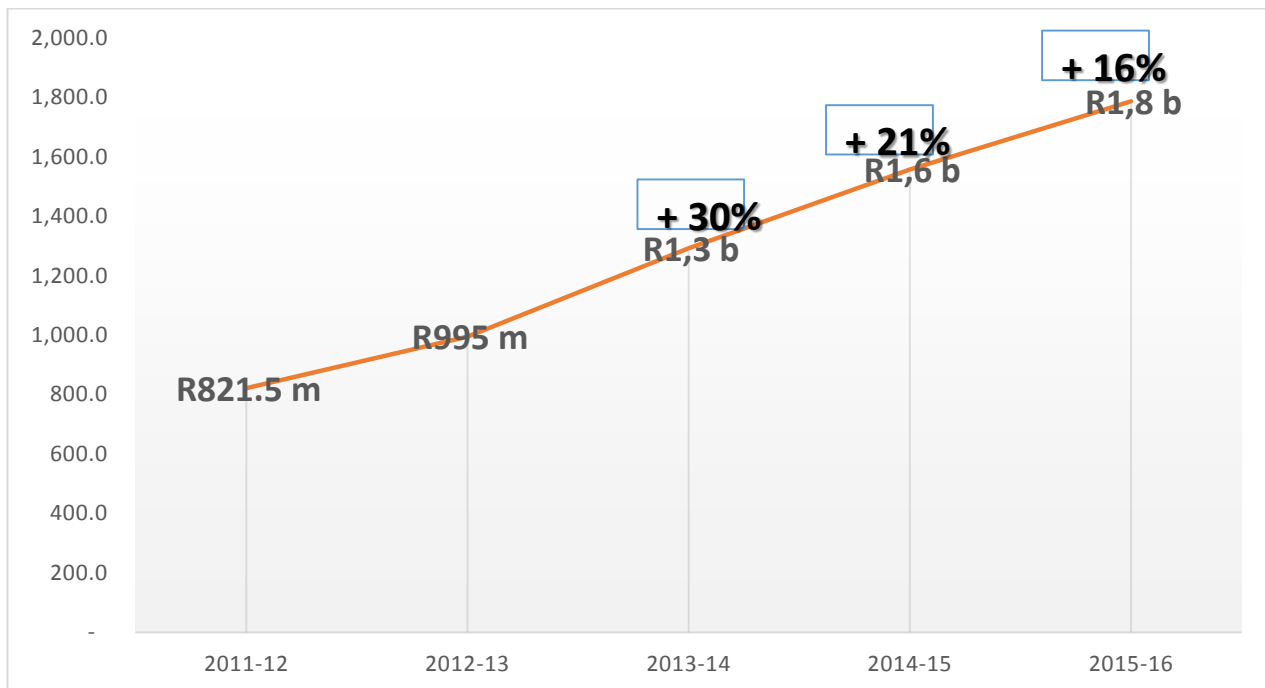
The key integration strategies of the MMM are focussed on the 7 land parcels inclusionary housing projects, N8 Corridor Development and the Botshabelo / Thaba Nchu Integration Strategies which is predominantly greenfield developments . The Airport Node development along the N8 signifies a strategic investment Node to enhance integration and encourage development and investment in close proximity to the marginalised communities on the east.

There are further potential for brownfield developments along the main transport corridors in the underserved townships by increasing densities, once the IPTN project is completed. The identification of strategic projects within integration zones will be planned during the course of 2015/2016 financial year. This will then culminate in towards the completion of implementation of projects and the time frames.

SECTION D. OUTCOMES AND OUTPUTS

D.1 Summary of anticipated outcomes and outputs

The capital budget of the city has been growing steadily and thus allowing the city to expand its infrastructure roll-out and the spatial transformation programmes.



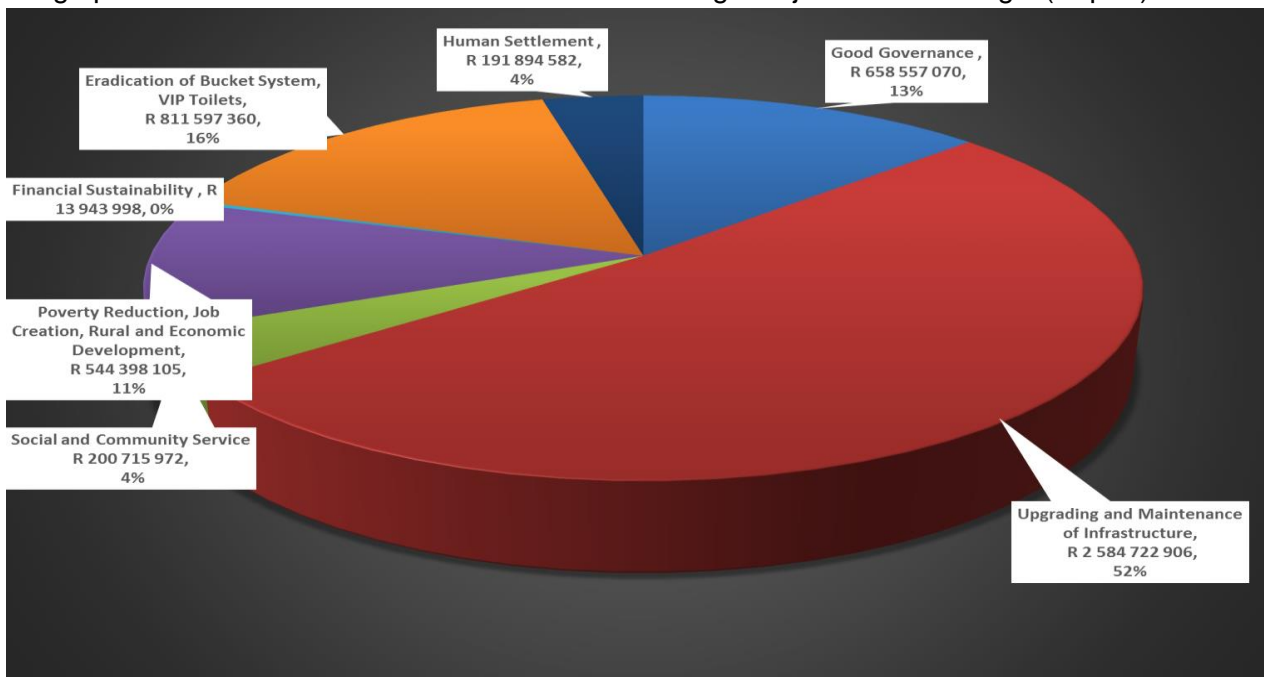
MMM Capital Expenditure Trends

The projected capital budget for the 2016/17 financial year is set at R 1,806 billion. The draft capital budget for the two outer years of the MTREF period has been set at R 1 594 billion and R 1,605 billion respectively. The capital budget injection in the Metro's economy over the MTREF period will thus be R 5,005 billion.

Catalyst Projects		Bloemfontein	Botshabelo	Thaba Nchu	All Areas
Airport Development Node		R 97 000 000			
Botshabelo / Thaba Nchu Node			R 25 000 000	R 15 000 000	
7 land parcels		R 37 000 000			
Informal settlement upgrading		R 20 099 063			
Sanitation Project		R 2 014 542	R 26 787 557	R 8 580 101	
Bulk Services	Water	R 80 021 000	R 28 699 069		R 10 000 000
	Sanitation	R 105 119 871		R 10 000 000	
	Electricity	R 76 405 000	R 20 131 228		
New Infrastructure	Water				R 20 000 000
	Electricity	R 29 119 113			R 32 627 015
	Traffic				R 456 522
Infrastructure Upgrading	Roads & Stormwater	R 140 602 286	R 31 370 393	R 13 596 439	R 2 431 000
	Solid Waste	R 4 850 000	R 4 700 000	R 11 300 000	
	Emergency	R 1 150 000			
Infrastructure Maintenance	Water	R 24 000 000			R 116 000 000
	Electricity	R 743 837			R 61 980 887
	Sanitation	R 32 500 000			
	Traffic				R 2 000 000
	Other	R 2 700 000			
		R 653 324 712	R 136 688 247	R 58 476 540	R 245 495 424

D.2 Development objectives and desired outcomes

The metro capital budget is linked to the IDP Strategic Objectives and action plans. Each submitted budget project has to demonstrate relevance and linkage in meeting service delivery needs. Refer to the graph below illustrates the reconciliation of IDP Strategic Objectives and Budget (Capital).



D.3 Sector Development outcomes and outputs

The sector outcomes are summarised in the table below;

Table D3.1: Sector outcomes

The anticipated spent per service directorate for the MTEF period is indicated in the following table and graphs;

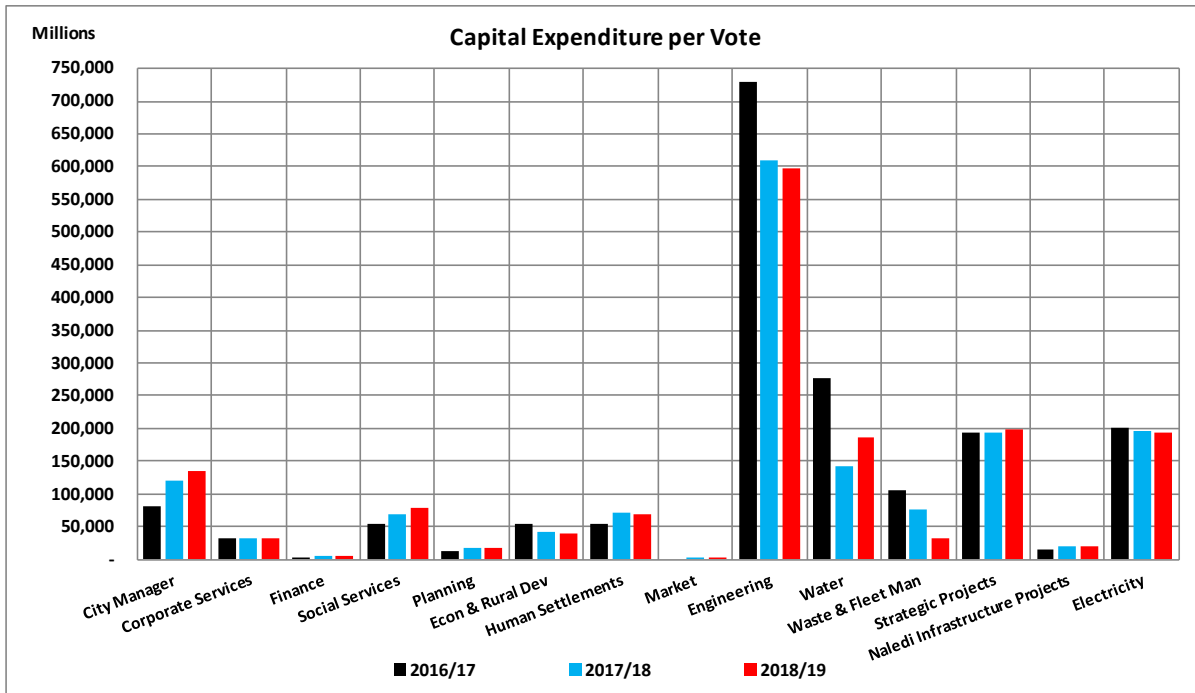
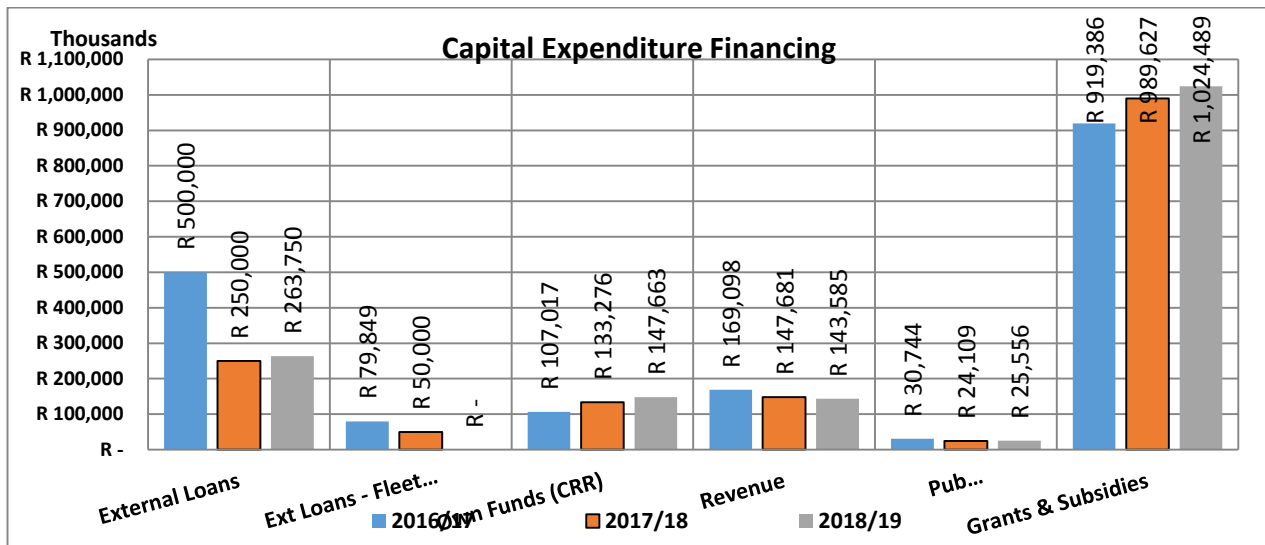


Table D3.2: Anticipated spent per directorate

D.4 Outcomes and Impact of Integration Zones

Each budget project needs to indicate the proposed ward location and serves to demonstrated public consultations and participations. The wards are the grouped into clusters as agreed to with the respective ward councillors for maximum impact. The budget is therefore divided in clusters as per the table below:

Table D4.1: Capital budget spread

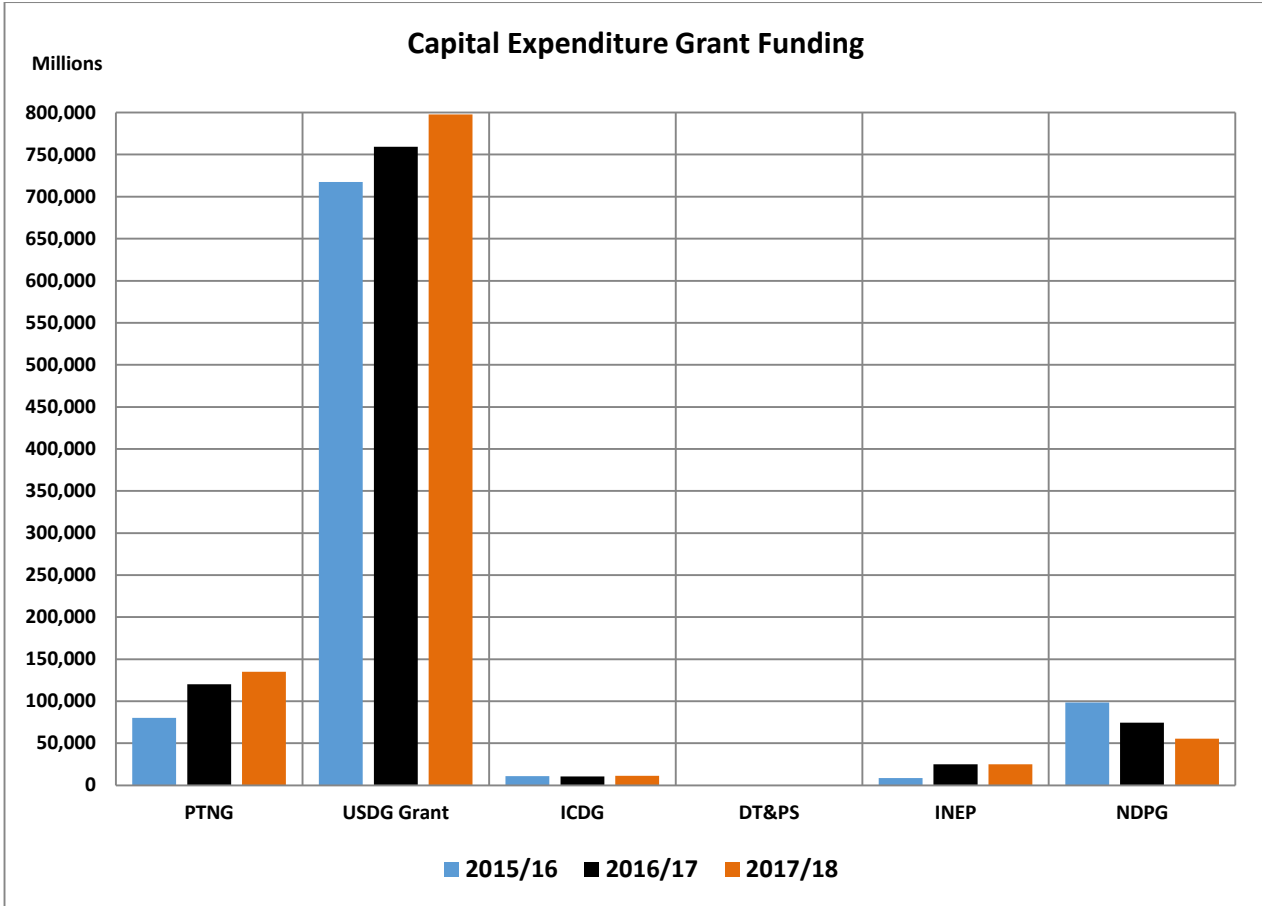


BUDGET BY SOURCE (2016/ 2017): The capital budget of (R 1,806 billion), is to be funded from a variety of sources as per the table below:

FINANCING - MANGAUNG AND CENTLEC		Budget 2016/2017	Budget 2017/2018	Budget 2018/2019
4300	External Loans	500 000 000	250 000 000	263 750 000
4300B	External Loans - Bonds	-	-	-
4300D	External Loans - DBSA	-	-	-
4300F	External Loans - Fleet Lease	79 849 000	50 000 000	-
4300S	External Loans - Standard Bank	-	-	-
4400	Own Funds (CRR)	107 016 528	133 275 983	147 663 308
4500	Revenue	169 098 290	147 680 548	143 585 425
4600	Public Contributions/Donations	30 744 351	24 109 010	25 555 551
4800	National Lottery	-	-	-
4801	District Municipality	-	-	-
4900	Other ad - hoc financial Sources	-	-	-
5000	Other not included in above	-	-	-
Grants and Subsidies		-	-	-
4700A	Municipal Infrastructure Grant (MIG)	-	-	-



4700B	Public Infrastructure & Transport Systems Grant	80 142 000	120 042 000	135 045 000
4700C	Department of Water Affairs	-	-	-
4700D	USDG Grant	717 503 000	759 324 000	797 613 000
4700F	Housing Accreditation Subsidy	-	-	-
4700J	Integrated City Development Grant	10 912 000	10 718 000	11 339 000
4700E	Municipal Systems Improvement Grant	-	-	-
4700K	Free State Province Development Grant	-	-	-
4700L	EPWP Incentive Grant	-	-	-
4700R	Department of Telecommunication and Postal Services	3 750 000	-	-
4700H	Provincial Grants and Subsidies Hlasela	-	-	-
4700I	National Electrification Programme	8 500 000	25 000 000	25 000 000
4700M	Demand Side Management Grant	-	-	-
4700N	Provincial Grant CCTV Cameras	-	-	-
4700P	Provincial Human Settlement Grant	-	-	-
4700Q	Neighbourhood Development Partnership Grant	98 579 000	74 543 000	55 492 000
		1 806 094 169	1 594 692 541	1 605 043 284



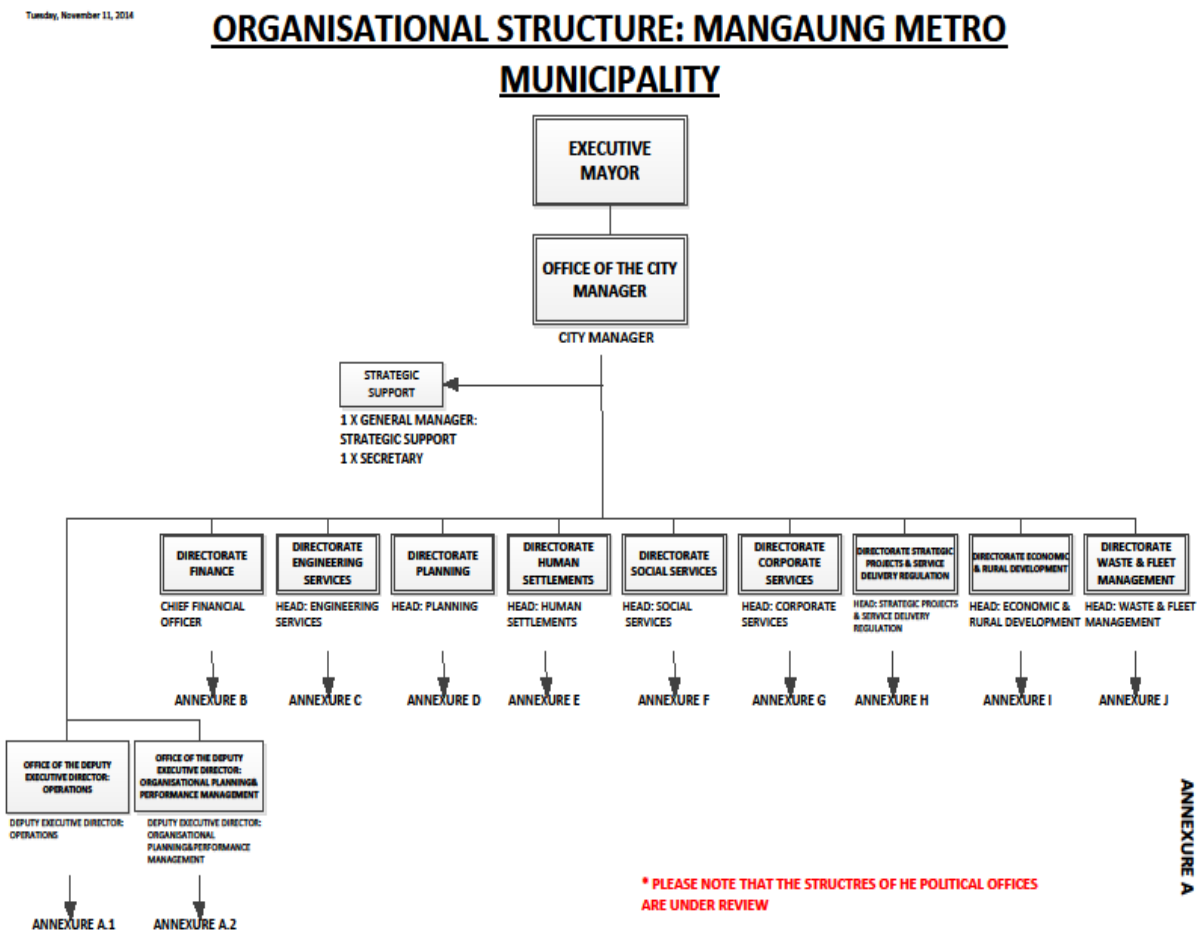
SECTION E. INSTITUTIONAL AND FINANCIAL ARRANGEMENTS

E.1 Institutional arrangements for sector integration

The City of Mangaung is committed to providing effective service delivery to its communities and for this purpose has structured its administration into **seven** directorates, as indicated in the diagram below;

Diagram E1.1: Organisational Structure of MMM

The Office of the Municipal Manager provides the momentum of the administration and integrates all the disparate components of the Municipality.



The main thrusts for sector integration are to;

- facilitate ring-fencing of the functions associated with provision of services for proper costing and to enhance effective service delivery;
- build capacity to ensure effective integrated planning and coordination of key projects, especially those that are grant funded; and
- Implement a service delivery performance monitoring and evaluation function, in line with the national and provincial government initiative.

In addition to the above directorates, the Office of the City Manager is further capacitated with two significant strategic functions, namely the Operations unit and the Organisational Planning and Performance Monitoring unit. These functions support the City Manager in the compilation of the IDP, SDBIP, and in ensuring that governance systems are in place to manage and track institutional performance.

Mangaung Metropolitan Municipality Council created the Strategic Project and Services Regulation directorate (SP & SR), which amongst others, is responsible for the programme management, coordination, monitoring and control of the implementation of Capital projects. The Strategic Project and Services Regulation directorate acts as the single point of control for the initiation and management of projects within the Municipality.

The SP & SR directorate provides an independent technical advisory support function to the City Manager in order to enhance service delivery and expenditure performance of Mangaung Metropolitan Municipality. The SP & SR directorate compiles monthly reports for consideration by the Executive Management Team (EMT). The EMT is chaired by the City Manager, who is the accounting officer. The City Manager will then provide comprehensive reports to the Audit and Oversight Committees, Executive Mayor and MAYCO with appropriate corrective measures in cases of implementation deficiencies. The quarterly reports tabled at MAYCO are eventually forwarded to Council for approval.

E.2 Institutional arrangements for capital programme management

E.2.1 Budgeting Process

The projects selected to be implemented are budgeted as accurately as possible to be included on the Draft Capital Budget. The Finance Department is responsible to verify the Draft Budget against the funds available. Budget meetings will follow to do the necessary adjustment and to finalise the Capital Budget.

E.2.2 Tender Evaluation

Once the budget has been approved, projects are put out tender. Guidelines are followed as set out in the municipality's Procurement Policy. The Supply Chain Management process is followed to evaluate the tenders. Members of the Supply Chain Unit verify the validity of the tenders and the consultants compile an evaluation report according to rules as prescribed by municipal officials, within the requirements of the MFMA.

The Bid Evaluation Committee strives to succeed in the following key objectives:

- Quality in service delivery
- The spreading of work in a fair and professional manner
- The accommodation of emerging service providers

E.2.3 Implementation of Projects

During the implementation of projects the consultants are responsible for project management and quality control, monitored by municipal officials. All stakeholders are involved by means of technical meetings, project steering committee meetings and monthly site meetings. The community is represented by ward councillor's, CLO's and project steering committee members.

It is expected of consultants to do full time supervision on site and to give accurate feedback on progress, expenditure, challenges, job creation, etc. Progress reports are submitted on a monthly basis.

The key objectives of project implementation are:

- To complete the projects within the required timeframe's;

- To complete the projects not exceeding the budgeted amounts;
- To complete the projects to the standards required;
- To apply labour intensive construction methods as far as possible.

E.3 Supply chain managements and procurement plan

E.3.1 Compliance

The MMM has established a Supply Chain Unit in line with the internal Supply Chain Management (SCM) Policy. The head of the unit is a general manager, who reports to the Chief Financial Officer.

E.3.2 Delegated Authority

Section 79 and 106 of the MFMA empower the Accounting Officer of MMM to delegate decision-making powers to officials. The following should apply to acquisition of goods and services and the disposal and letting of assets:

- All delegations must be in writing;
- No supply chain management duties or powers may be delegated or sub-delegated to a person who is not an official of the Municipality or to a committee which is not exclusively composed of officials of the Municipality.

E.3.3 SCM Procedure

The calling for tenders to secure supplies of goods and services is an integral part of SCM, as legislation compels public institutions to procure goods and services through this process. A thorough knowledge of the different phases of the tendering process and the accompanying procedures is therefore necessary to ensure that public officials procure goods and services timeously and according to their requirements.

In line with the MFMA, the Accounting Officer has approved the Bid Committees.

The Municipality ensures that the tender process is fair, transparent and equitable and cost effective to all parties. More specifically it will:

- Clearly separate its role as a purchaser from that of a provider of services;



- Produce tender documents, which clearly specify MMM's required services to allow bidders to bid for and price their work accurately;
- Package work put to tender in a manner which encourages competition and the best outcome for residents and ratepayers;
- Actively discourage improper tendering practices such as collusion, misrepresentation, and disclosure of confidential information;
- Require any conflict to interest to be disclosed immediately.

E.4 Partnerships

The Municipality is aware that the desired future is only possible if programmatic partnerships are forged with all stakeholders, given the finite resources at the disposal of state and the absolute necessity of yielding maximum impact through collaboration. Vertical alignment with National and Provincial Government is critical for maximizing this developmental impact.

The following provides a summary of the financial commitment of Provincial Government departments in terms of projects located within Mangaung. A more detailed breakdown of the various projects is reflected in **Annexure M**.

Table E4.1: Partnership Programmes

DEPARTMENT OF SPORTS, ARTS CULTURE AND RECREATION

PROJECT	AREA	PROJECTED TOTAL COST R ('000)	PROJECTED EXPENDITURE 2016/17 (R '000)
Botshabelo 11 Library	Botshabelo	14, 500	9 000
Heroes Park Thaba Nchu	Thaba Nchu		3 400
Bloemfontein Library (Phase 3)	Bloemfontein		1 982
Seisa Ramabodu Stadium	Bloemfontein	300, 650	56 221
National Training Centre		9 000	3 000
TOTAL		324 150	73 603

10.1 DEPARTMENT OF SOCIAL DEVELOPMENT

PROJECT	AREA	PROJECTED TOTAL COST (R '000)
Substance Abuse Dependency Treatment Centre ¹	Botshabelo	42 000

DEPARTMENT OF POLICE, ROADS AND TRANSPORT

PROJECT	AREA	PROJECTED TOTAL COST (R '000)	PROJECTED EXPENDITURE 2016/17 (R '000)
Botshabelo Transport Route	Botshabelo	45 000	10 000
Thabanchu (trprt Route acc)	Thabanchu	100, 000	20 000



Thabanchu (trpr Route acc)	Thabanchu	100, 000	5 366
TOTAL		245, 000	35, 366

DEPARTMENT OF HEALTH

TYPE OF INFRASTRUCTURE PLANNED FOR 2016/17	AREA/ NAME		PROJECT VALUE (R '000)
EMS Station			
PELONOMI HOSPITAL	Mangaung	Mangaung Hospital	56 378
National Hospital	Bloemfontein		20 000
HOSPITAL	Botshabelo	Botshabelo Hospital	4, 100
TOTAL			80 478

DEPARTMENT OF BASIC EDUCATION

PROJECT	AREA	PROJECTED COST R ('000)	TOTAL	PROJECTED EXPENDITURE 2016/17 R ('000)
Secondary School	Grassland (BFN)	53 857		12 107
Primary School	Matla (BFN)	32, 946		4, 369
Combined School (Hostel)	Baainsvlei (BFN)	57, 309		3, 959
Special School (New Hostel)	Buitumelong (Thabanchu)	20, 000		12, 000
Primary School	Botshabelo	43 ,536		9, 554
Primary School	Bloemfontein	58 007		12 090
Primary School	Bloemfontein	43 140		9 111
Primary School	Bloemfontein	32 946		5 000
Thaba Nchu		20 000		5 600
Total		404 881		73 790

DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT

PROJECT	AREA	PROJECTED TOTAL COST R ('000)	PROJECTED EXPENDITURE 2016/17 R ('000)
Shearing shed, Fencing, Water reticulation, Handling facility, Kraal, Merino sheep		19 900	4 600
infrastructure and production inputs		16 000	7 000
2 shade nets, 2 hydro tunnels, storage house, irrigation system		7 771	6 500

Construction and equipping of poultry layer house		3 999	3 999
Production of maize on 410ha,315 beef cattle (300 cows +15 bulls) and 320 sheep (300 ewes +20 rams) and production of plantation of 100ha fodder, 1 x Feed grow unit, vegetable production inputs and water reticulation.		6 345	6 345
		54 015	28 444

10.9 DEPARTMENT OF ECONOMIC, SMALL BUSINESS DEVELOPEMNT, TOURISM &

ENVIRONMENTAL AFFAIRS.

PROJECT	AREA	PROJECTED TOTAL COST (R '000)	PROJECTED EXPENDITURE 2016/17 R ('000)
Construction of new offices		R 25 000	R 500
Construction of Office Complex		R 25 000	R 500
Construction of Environmental Education Centre		R 12000	R 500
Soetding Nature Reserve. Upgrade Camp .		35 400	R 11 000
Sandvel d Nauture Reserve.Upgrade day Visitors Facilities		25 000	R 00
Maria Moroka	Thaba Nchu	25 000	500
Total		147 400	3 100

Additional Partnerships with National Departments and parastatals are as follows;

Area of Concern	Partner
VIP Eradication	DWAF
Waste water	Bloem Water
Raw water supply	DWAF
Electricity	ESKOM
Underutilized rail transport	PRASA
Dormant airports	ACSA
Economic Growth	DED, DTI, DRDLA



Informal Settlements	NDHS
N8 Corridor	SANRAL
Agri Village	DDL R
Waihoek	NDPG

Table E4.2: Additional Partnerships

E.5 Project and programme values per sector

Refer to tables A5 and SA6 forming part of **Annexure B**.

E.5.1 Capital Budget Expenditure by Vote

EXPENDITURE PER VOTE	2016/17 R	2017/18 R	2018/19 R
City Manager	80,142,000	120,042,000	135,045,000
Corporate Services	32,159,070	31,600,000	30,955,000
Finance	3,162,300	5,096,458	5,685,240
Social Services	52,801,287	69,154,025	78,760,660
Planning	12,500,000	16,500,000	17,000,000
Econ & Rural Dev	54,282,105	42,218,000	39,339,000
Human Settlements	53,620,482	69,800,000	68,474,100
Market	-	2,409,000	2,400,000
Engineering	729,419,283	610,592,248	598,013,908
Water	275,689,001	141,220,777	185,388,938
Waste & Fleet Man	104,656,000	75,603,475	31,422,642
Strategic Projects	193,579,000	194,543,000	198,242,000
Naledi Infrastructure Projects	13,741,000	19,124,000	20,175,820
Electricity	200,342,641	196,789,558	194,140,976
	1,806,094,169	1,594,692,541	1,605,043,284

See Table C5 (A5) forming part of **Annexure B**

- Multi-Year expenditure appropriation
- Single-Year expenditure appropriation

E.5.2 Capital Expenditure by Standard Classification

The proposed budget by standard classification is an outline in Table C5 (**Annexure B**). Economic and environmental services has grown by 184,11% in the 2014/15 budget year to R 516, 620 million when compared to the 2013/14 allocation of R 181,837 million. Planning and Development being the biggest benefactor of the allocation.

E.6 Project and programme values per integration zone

The table below gives an outline in which the category of the fixed asset register is likely to be impacted by the proposed MTREF capital budget expenditure. The major component of spending is in the municipal infrastructure area.

Table E6.1: Project and programme values per integration zone

MANGAUNG AND CENTLEC					
IDP STRATEGIC OBJECTIVES AND ACTION PLANS	STRATEGIC OBJECTIVE	IDP CODE	BUDGET 2016/2017	BUDGET 2017/2018	BUDGET 2018/2019
Strategic Leadership and Planning	Good Governance	1	83,892,000	120,042,000	135,045,000
IT governance and planning	Good Governance	2	2,500,000	3,600,000	5,800,000
Human Resource Management	Good Governance	3	25,909,070	28,000,000	25,155,000
Fleet Management and Support	Upgrading and Maintenance of Infrastructure	4	85,111,000	50,000,000	-
Stategic Management Programmes	Good Governance	5	98,579,000	74,543,000	55,492,000
Fire and Disaster Management	Social and Community Service	6	8,770,500	18,285,000	8,034,500
Environment Health	Social and Community Service	7	-	-	-
Parks and Cemeteries Management	Social and Community Service	8	38,103,787	46,074,025	67,004,000
Law Enforcement and Safety	Social and Community Service	9	5,927,000	4,640,000	3,154,000
Social and Community Development	Social and Community Service	10	-	155,000	568,160
Economic Development	Poverty Reduction, Job Creation, Rural and Economic Development	11	161,782,105	178,718,000	199,089,000
Market Services Management	Poverty Reduction, Job Creation, Rural and Economic Development	12	-	2,409,000	2,400,000
Fiscal Prudence	Financial Sustainability	13	3,162,300	5,096,458	5,685,240
Roads and Stormwater Improvement	Upgrading and Maintenance of Infrastructure	14	306,062,923	419,716,248	453,689,728
Solid Waste Management	Upgrading and Maintenance of Infrastructure	15	19,545,000	25,603,475	31,422,642
Water and Sanitation Provision	Eradication of Bucket System, VIP Toilets	16	437,097,360	210,000,000	164,500,000

Sustainable Shelter Provision	Human Settlement	17	53,620,482	69,800,000	68,474,100
Purified Water Provision	Upgrading and Maintenance of Infrastructure	18	275,689,001	141,220,777	185,388,938
Electricity Provision and Maintenance	Upgrading and Maintenance of Infrastructure	19	200,342,641	196,789,558	194,140,976
Total			1,806,094,169	1,594,692,541	1,605,043,284

E.7 Project and programme values per network element

Refer to table SA36 forming part of **Annexure B**.

E.8 Grant Application and allocations

The capital expenditure budget is R 4,414 billion for the MTREF period. Funding from the government continues to be the anchor for the capital budget funding at 51 % (919 million for 2016/17). The municipality envisages approaching the funds market for an additional R 1,013 billion (MTREF) borrowings, for specific projects aimed at boosting economic development activities within the metro area. Internal generated funds for the MTREF period amounts to R 387,955,819.

Also refer to the detail Capital budget for the status of different grants by programme and project.

Table E9.1: Funding sources for capital budget

FINANCING MANGAUNG -		Budget	Budget	Budget
		2016/2017	2017/2018	2018/2019
4300	External Loans	500,000,000	250,000,000	263,750,000
4300B	External Loans - Bonds	-	-	-
4300D	External Loans - DBSA	-	-	-
4300F	External Loans - Fleet Lease	79,849,000	50,000,000	-
4300S	External Loans - Standard Bank	-	-	-
4400	Own Funds (CRR)	107,016,528	133,275,983	147,663,308
4500	Revenue	-	-	-
4600	Public Contributions/Donations	8,000,000	-	-
4800	National Lottery	-	-	-
4801	District Municipality	-	-	-

4900	Other ad - hoc financial Sources	-	-	-
5000	Other not included in above	-	-	-
Grants and Subsidies		-	-	-
4700A	Municipal Infrastructure Grant (MIG)	-	-	-
4700B	Public Transport Infrastructure & Systems Grant	80,142,000	120,042,000	135,045,000
4700C	Department of Water Affairs	-	-	-
4700D	USDG Grant	717,503,000	759,324,000	797,613,000
4700F	Housing Accreditation Subsidy	-	-	-
4700J	Integrated City Development Grant	10,912,000	10,718,000	11,339,000
4700E	Municipal Systems Improvement Grant	-	-	-
4700K	Free State Province Development Grant	-	-	-
4700L	EPWP Incentive Grant	-	-	-
4700R	Department of Telecommunication and Postal Services	3,750,000	-	-
4700H	Provincial Grants and Subsidies Hlasela	-	-	-
4700I	National Electrification Programme	-	-	-
4700M	Demand Side Management Grant	-	-	-
4700N	Provincial Grant CCTV Cameras	-	-	-
4700P	Provincial Human Settlement Grant	-	-	-
4700Q	Neighbourhood Development Partnership Grant	98,579,000	74,543,000	55,492,000
		1,605,751,528	1,397,902,983	1,410,902,308



CLOSING REMARKS AND RECOMMENDATION

The document reflects the current status of the Built Environment of Mangaung and also aims to provide the strategies required to bring about spatial transformation of the city to ensure long term sustainability and prosperity to all inhabitants. It is recommended that this Mangaung BEPP plan for 2016/2017 be approved by the National Department of Treasury to give effect to the implementation of the built and spatial programme of the City, with the view to improving the overall performance of the Mangaung Metro Municipality.



MMM: HS - CATALYTIC URBAN DEVELOPMENT PROJECT PIPELINE

Annexure 3: Catalytic Urban Development Project Pipeline Template

Catalytic Urban Development Project Pipeline Template							
PROJECT DESCRIPTION							
Name of integration zone	Network element	Name of precinct	Name of project	Description of project	Location	Type	Yield
Church Street Integration Zone	Church Street	N/A	Hillside View	Development of Mixed Land Use	Bloemfontein South	Mixed Development	Estimated total no of 4081 units, BNG units 560, Social Housing Units 2873, GAP Housing 495, Bonded housing 153, other land uses such as commercial/ retail, recreational facilities, schools
Church Street Integration Zone	Church Street	N/A	Vista Park 2	Development of Mixed Land Use	Bloemfontein South	Mixed Development	Estimated total no of 4464 units includes BNG units 287, Social Housing Units 1500, GAP Housing 1116, Bonded housing 1261, other land uses such as commercial/ retail, recreational facilities, schools
Church Street Integration Zone	Church Street	N/A	Vista Park 3	Development of Mixed Land Use	Bloemfontein South	Mixed Development	Total no of 5113 units, BNG units, Social Housing Units, GAP Housing, Bonded housing, other land uses such as commercial/ retail, recreational facilities, schools
R706 Jagersfontein Rd)	Curie Ave/ R706	N/A	Brandkop 702	Development of Mixed Land Use	Bloemfontein South West	Mixed Development	Total no of 6042 units, BNG units, Social Housing Units, GAP Housing, Bonded housing, other land uses such as commercial/ retail, recreational facilities, schools
N8 Bfn West	N8 Corridor West	N/A	Cecilia Park	Development of Mixed Land Use	Bloemfontein West	Mixed Development	Total no of 5111 units, BNG units, Social Housing Units, GAP Housing, Bonded housing, other land uses such as commercial/ retail, recreational facilities, schools
N8 Bfn East	N8 Corridor East	Airport Precinct	Airport Node	Development of Mixed Land Use	Bloemfontein East	Mixed Development	BNG units, Social Housing Units, GAP Housing, Bonded housing, other land uses such as commercial/ retail, recreational facilities, schools



MANGAUNG METRO AFTER INTEGRATION OF SOUTPAN AND NALEDI MUNICIPALITY

