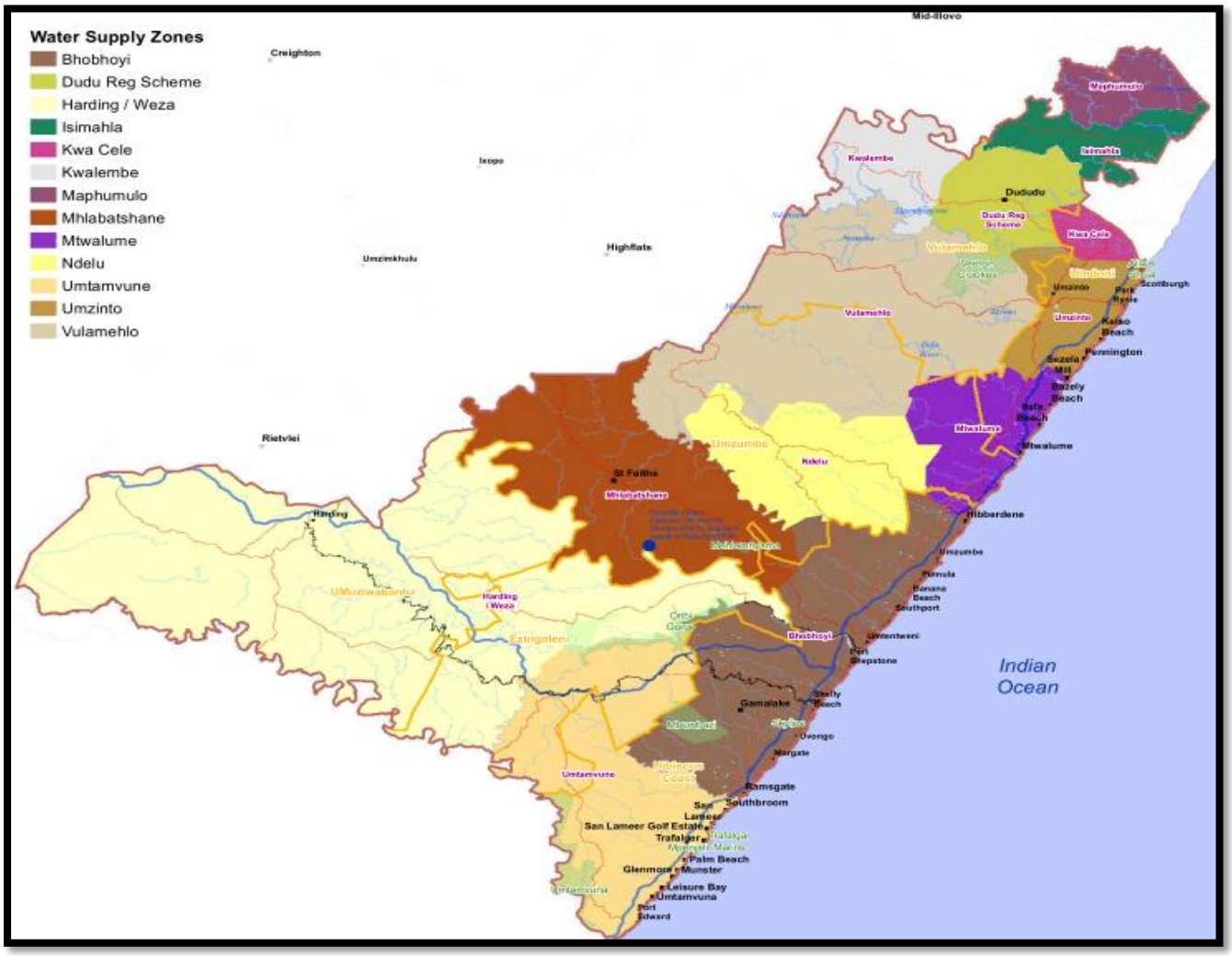

Figure 3.6.1.1.2: Ugu District Water Supply Zone
Source: Ugu District WSDP, 2015

3.6.2. Water Delivery Standards

The water supply to the District is derived from dams, rivers, ground water and bulk purchases from eThekwini and Umgeni Water. The water is then treated at several treatment plants, owned by Ugu before being distributed to households. Distribution of water is done via more than 42 000 private household connections and over 5000 communal stand taps which mainly service the inland rural areas.

The demographics of the Ugu district vary from dense formal urban settlements to scattered rural settlements and must to be dealt with differently when planning for the provision of water services.

Different levels of service are appropriate for each settlement category and the “CSIR Guidelines for Human Settlement Planning and Design” was used as a guideline to determine the water delivery standards per settlement category as indicated in table 3.6.1.2.1.

Table 3.6.1.2.1: Water Delivery Standards per Settlement Category
Source: Ugu District Municipality Bulk Infrastructure Audit, 2011

Settlement Category	Average daily per capita consumption	Description of level of service
Formal Urban	200l/c/d	Medium/high income, with waterborne sanitation
Informal Residential Upgrade	120l/c/d	Moderate income, with waterborne sanitation
Linked Rural Upgrade	75l/c/d	Yard connections, dry pit latrines/septic tanks
Good Access Rural Upgrade	75l/c/d	Yard connections, dry pit latrines/septic tanks
Limited Access Rural Upgrade	75l/c/d	Community standpipes, dry pit latrines/septic tanks
Scattered	75l/c/d	Community standpipes, dry pit latrines/septic tanks

The water delivery standards were used to develop a water demand model for the district and to calculate current and future water demands per supply zone. The current level of basic service within Ugu comprises predominantly of community standpipes at 200m.

3.6.2.1. Current and Future Water Demands

The current and future water demands for each supply zone were calculated and compared with previous studies in this regard, as well as with actual water usage figures where they were available. The actual usage figures assisted in calibrating the water demand model as best as possible.

The future or “ultimate” water demands represent a scenario where backlogs have been eradicated and all households have access to at least a basic RDP level of service. Future developments that are known and “development drivers” that have been identified in the Ugu SDF have also been taken into account with the calculation of the future water demands. The population growth rate was assumed to be 0,3% per year for Rural Municipalities and 0,5% for urban Municipalities.

Certain peak factors were also included in the calculations to determine the “Peak Week Daily Demands”, which represent the average daily consumptions that can be expected during the week of highest consumption in the year (summer holiday season). Allowance was also made for water losses based upon figures that were obtained from the Ugu District Municipality and the results from previous water-loss studies that were conducted. The peak factors and water loss figures that were used in the water demand model were as follows:

Urban

- Summer Peak Factor – 1.3
- Allowance for water losses – 30%
- Holiday peak factor – 1.5

Rural

- Summer Peak Factor – 1.4
- Allowance for water losses – 30%
- Holiday peak factor – 1.5

The current and future water demands within each supply zone were then compared with the current capacities of the bulk infrastructure that supplies the zone and the results are summarised in Table 3.6.1.3.1 below:

Table 3.6.1.3.1: Water Demand and Capacities
Source: Ugu District Municipality Bulk Infrastructure Audit, 2011

Water Supply Zone	Current water demands (2011)	Future water demands (including SDF developments)	Current infrastructure capacities	Bulk Source Of Supply
	Ml/d	Ml/d	Ml/d	
Maphumulo	2	0.5	1.0	Umgeni Water
Isimahla	3	2.4	2.0	Umgeni Water
Dududu	5	3.8	0.4	Ethekwini Metro
KwaLembe	5	1.2	1.0	KwaLembe WTW
Vulamehlo	12	5.1	1.8	Vulamehlo/ Hlokozi WTW
Ndelu	2	2.8	0.6	Ndelu WTW
Mtwalume	12	10.9	8.0	Mtwalume WTW
Umzinto	18	39.6	13.0	Umzinto WTW
KwaCele	3	3.4	1.0	Ethekwini Metro
Mhlabatshane	5	8.6	2.0	Phungashe WTW
Bhobhoyi	70	109.8	54.0	Bhobhoyi WTW
Umtamvuna	26	23.0	20.0	Umtamvuna WTW
Harding/Weza	12	14.4	6.0	Harding &Weza WTWs
Totals (Ml/d)	170	225.5	110.8	

The above table clearly shows where current infrastructure capacity problems are experienced, and where the infrastructure will be inadequate to meet the future water requirements.

It should be noted in particular that the demands generated by the proposed SDF drivers will have a significant impact on the capacity demands of the existing infrastructure and that significant capital investment will therefore be required to fully implement these drivers.

3.6.2.2. Access to Water Services

The census 2011 with regards to access to piped water released data in the following categories:

- In Dwelling
- In Yard
- Communal < 200m
- Communal >200m <500m
- Communal >500m <1000m
- Communal >1000m
- No Access

The levels of access and backlog per local municipality are captured Table 3.6.1.4.1 and figure 3.6.1.4.1. The table shows the backlog percentage over the last three censuses. The census 2011 reveals that the major backlog is in Umzumbe and Vulamehlo Municipalities with backlogs of 46% and 34% respectively whilst the rest of the municipalities have backlog of less than 20%.

Table 3.6.1.4.1: Access to Water Services
Source: Sats SA, Census 2011

Local Municipality	Total Households (HH)	Total Households Served	HHs below minimum standards	% Backlog		
				2011	2001	1996
Vulamehlo	16135	10617	5518	**34**	68	89
Umdoni	22869	22389	480	**2**	15	32
Umzumbe	35171	19050	16121	**46**	77	90
Hibiscus Coast	72175	69452	2723	**4**	32	33
Ezinqoleni	11472	9809	1663	**14**	58	84
Umuziwabantu	21619	18296	3323	**15**	53	84
Ugu District	**179441**	**149613**	**29828**	**17**	**49**	**67**

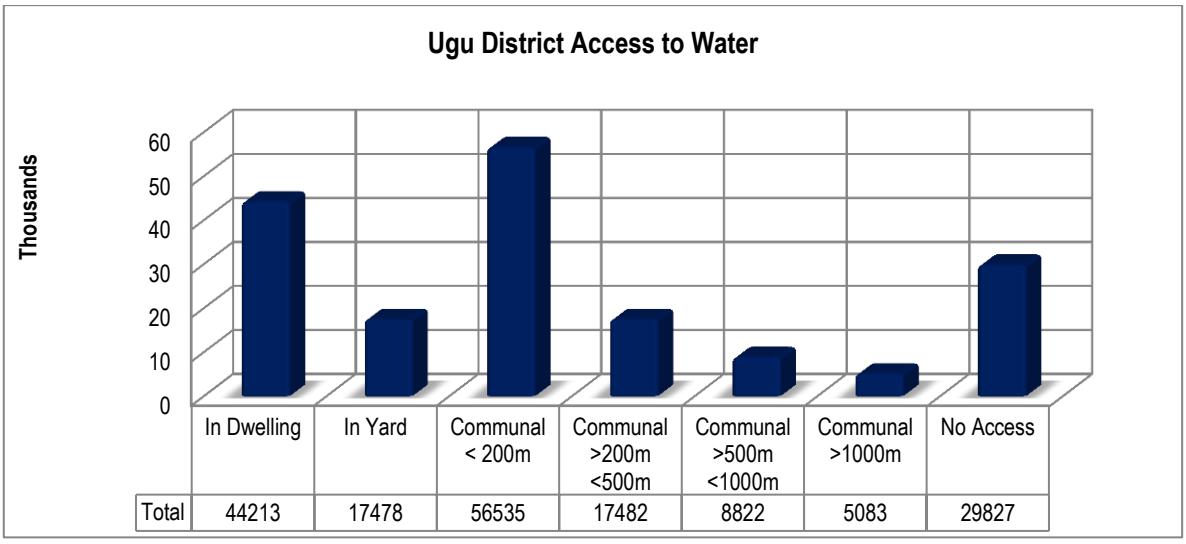

Figure 3.6.1.4.1: Ugu District Access to Water
Source: Stats SA, Census 2011

As reflected in figure 3.6.1.4.2, there has been a drastic reduction of backlog from 1996 to 2011 with the overall reduction in Ugu District amounting to 50%, from 67% to 17%. Umdoni and Hibiscus Coast Municipalities are almost complete with backlog of 2% and 4% respectively. There have been substantial reductions at Ezinqoleni and Umuziwabantu Municipalities both having had backlog of 84% in 1996 and now having backlog of less than 15%. The challenge remains with Vulamehlo and Umzumbe Municipalities where progress has been slow.

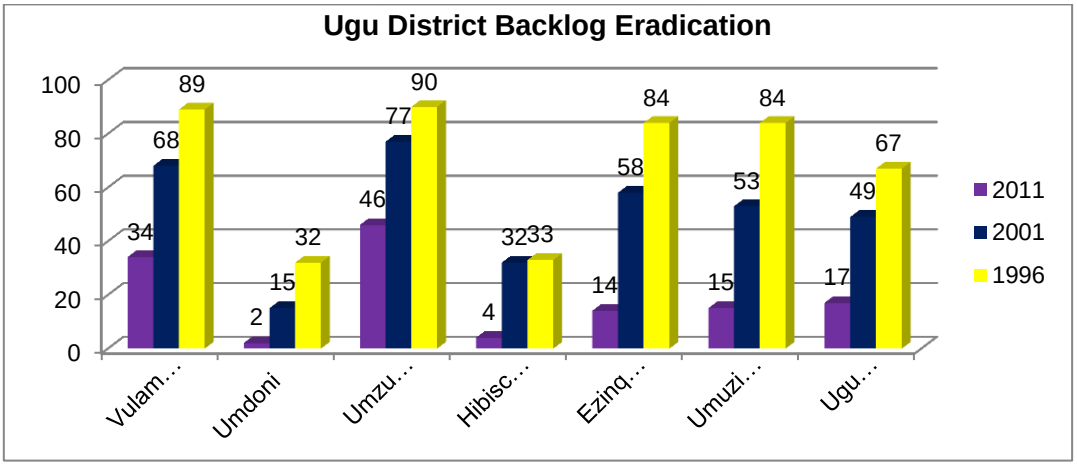

Figure 3.6.1.4.2: Ugu District Water Backlog Eradication
Source: Stats SA, Census 2011

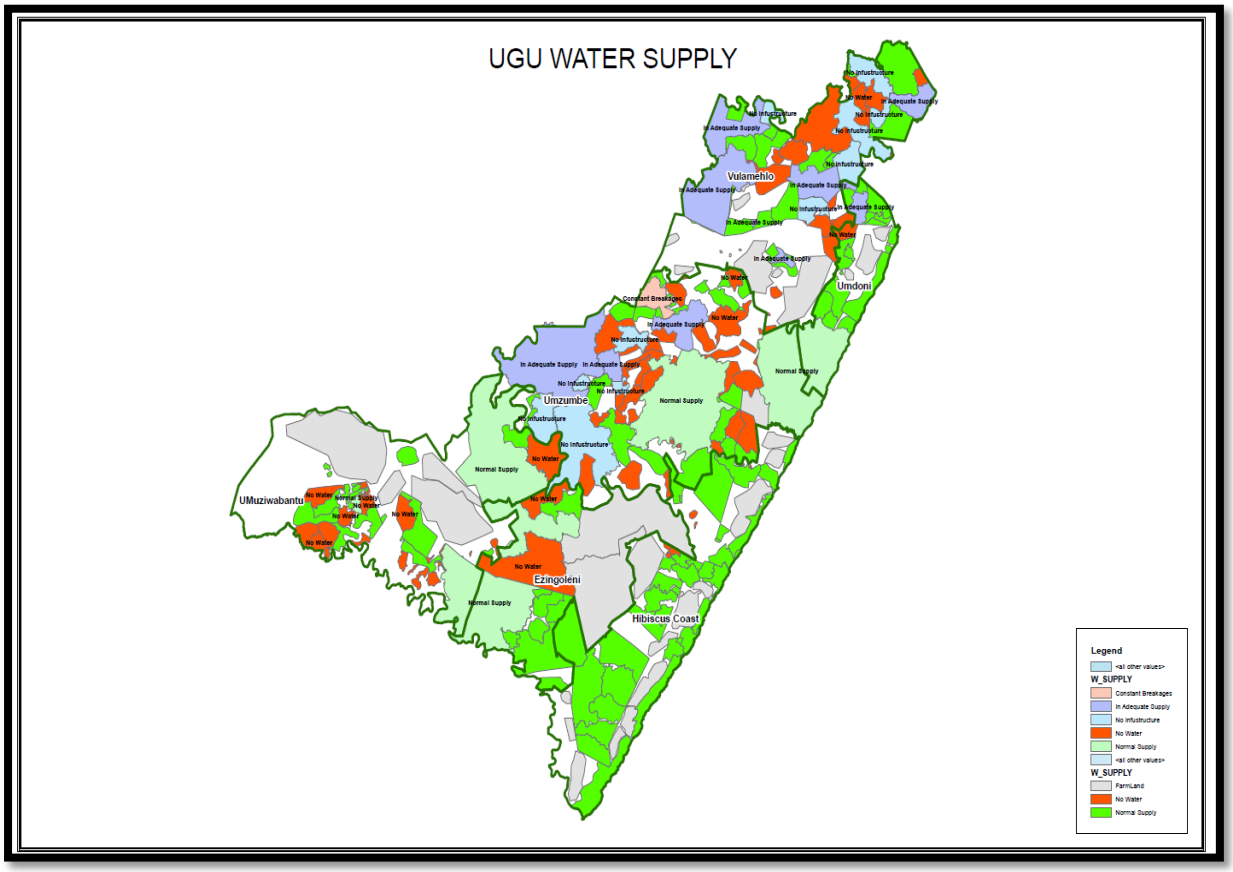

Figure 3.6.1.4.3: Ugu District Municipality Water Supply
Source: Ugu District Municipality GIS, 2013

3.6.2.3. Current Strategies / Programmes for Water Provision

The following are the programmes and strategies that Ugu District uses to ensure efficient water services delivery to the community and that the backlog is eradicated.

i. Free basic water and indigent support

A free basic water policy makes provision for the supply of 6kl of water per metered household per month. An Indigent Support Policy is in place which applies to residential and non-profit organizations entitling the beneficiaries to 6kl of free water per household per month and 100% rebate on water and

sanitation basic charges. To date, we have 6616 water and 2638 sanitation households benefiting from Indigent Support. The information is however based on the billing system while in rural areas households benefit through over 5000 stand pipes in the entire district.

ii. Ground Water programme

Ugu has a rudimentary water supply programme incorporating the use of boreholes and spring water. There is a spring protection and borehole maintenance programme to support supply to communities. However, the ground water potential is not very good in most areas, resulting in the failure of such schemes.

iii. Regional Water Resources Planning Strategy

Ugu has developed a water master plan that seeks to integrate the 16 individual water schemes into sustainable systems, as follows:

- Harding Weza water supply scheme
- Umtamvuna water supply scheme
- UMzimkhulu water supply scheme
- Umtwalume water supply scheme
- Vulamehlo water scheme
- KwaLembe water scheme
- Mhlabatshane water scheme
- South coast water transfer system from Inanda Dam

The strategy seeks to integrate the isolated individual water schemes and provide for investment in more reliable water sources that will be more cost effective in addressing backlogs, meeting the demand due to urban development growth, and mitigating the effect of drought.

iv. Water and Sanitation Master Plan

The Water and Sanitation Master Plan was completed in 2006 and is currently under review for the development of a new master plan with a projection for 2030. The Water Services Development Plan which was last reviewed in 2015 encompasses amongst others, water, sanitation and infrastructure backlog studies, waste water treatment studies, bulk infrastructure development studies. The WSDP is reviewed every year. Additional funding is required to eradicate the water and sanitation backlog etc.

Ugu could not meet the millennium developmental goals of 100% access to water and sanitation by 2014 due to inadequate and sustainable water resources. The municipality has programs such as: urban waterborne sanitation and the rural VIP programme.

v. Umgeni Water's Master Plan for Ugu District Municipality

Umgeni Water operates the following bulk water infrastructure for the provision of potable water to Ugu District Municipality:

- *Storage Dams: Nungwane Dam, Umzinto Dam and E.J. Smith Dam, Mhlabatshane Dam*
- *Water Treatment Plants (WTP): Amanzimtoti WTP, Umzinto WTP and Mtwalume WTP*

- *Bulk Pipelines: Nungwane Raw Water Aqueduct, South Coast Augmentation (SCA) Pipeline, South Coast Pipeline Phase 1 (SCP 1), South Coast Pipeline Phase 2a.*

Figure 3.6.1.5.1 shows the location of the bulk water infrastructure and the status of the projects (as of April 2015) Umgeni Water is implementing to ensure that Ugu District Municipality has an assured supply of water.

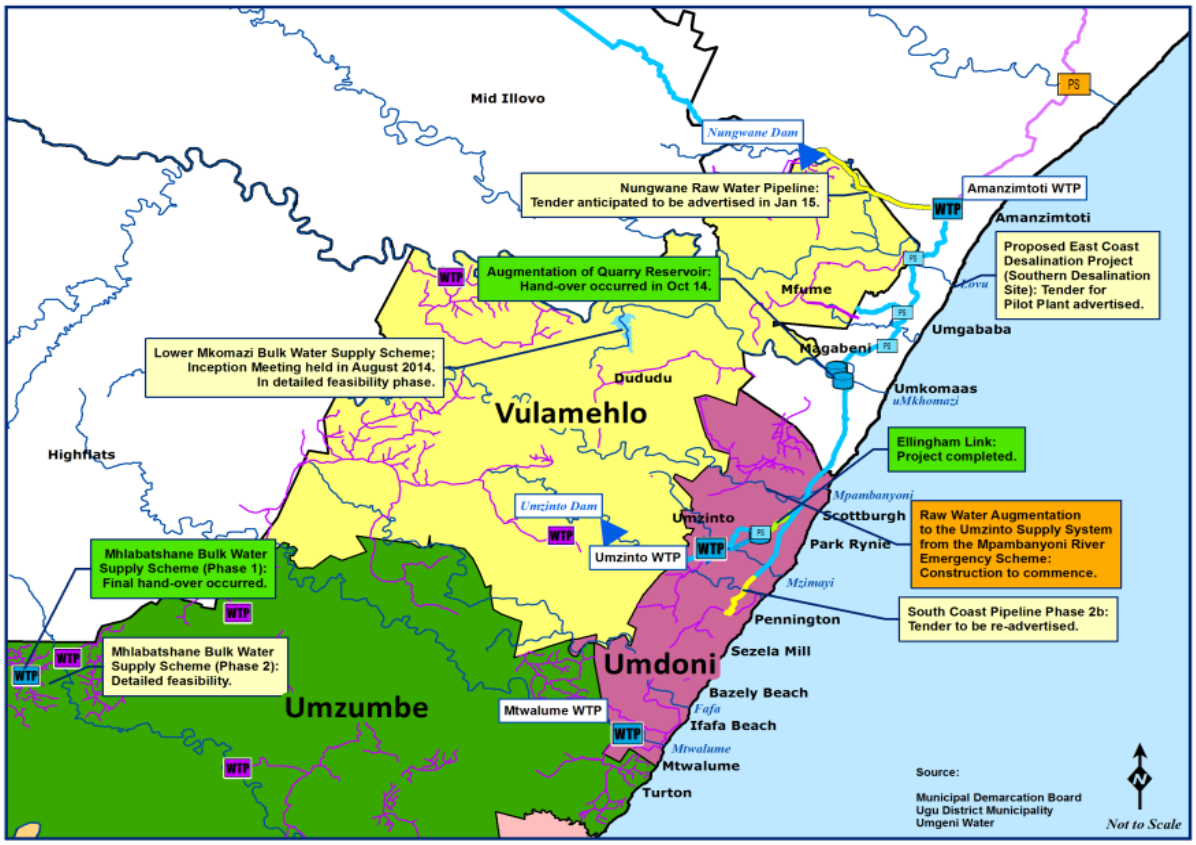

Figure 3.6.1.5.1: Umgeni Water's Catalytic Projects
Source: Ugu District Rep Forum, 2015

vi. Sihambasonke Project

This is an initiative that ensures all residents receive some level of service, even though it might be below the National standard. The project has made progress on the ground since it has been introduced to six (6) Local Municipalities within the District. The programme is headed by the Deputy Mayor as the Community participatory information gathering process. During the introductory meetings Ward Councillors were tasked with the responsibility to work together with ward committees in co-ordinating meetings on the ground with communities so that they would gather accurate information on the following sectors:

Existing infrastructure - that is functional or non-functional water schemes. (This will assist in making a valuable assessment of what needs to be done in order to rectify the situation on the ground).

Pipeline extension - In areas where there is enough water capacity pipes can be extended to accommodate the communities within the surrounding areas.

Water tanks - This will include identifying the existing water tanks within the areas of the Local Municipality, taking into consideration the community that utilises that water tank, the period in which the tank gets finished in order to determine the intervals of filling the same water tank. Further to this, it will assist in establishing where there is high demand so that more tanks can be added in order to meet the supply and demand a cost effective method.

Rain water harvesting - This will be dedicated to areas where there are no pipeline extensions and as well as water tankers. The idea behind this is to give every citizen of our Municipality clean water at some point.

Springs /borehole Protection - This is highly recommended as the best method of providing clean water to our communities since most of our areas have a good potential to have springs.

Table 3.6.1.5.1: Sihamba Sonke Project
Source: Ugu District Municipality WSDP, 2015

Item	Number	Unit	Unit Cost	Total Cost
Portable Water Storage Tanks	1163	each	5000	R 6 396 500
Springs	419	each	25000	R 11 522 500
Boreholes	79	each	100000	R 8 690 000
Pipe extensions	124.72	km	1000000	R 137 195 751
Rainwater harvesting	3790	each	6000	R 25 014 000
SUB-TOTAL				R 188 818 751.00
Escalation				R 11 329 125.00
Fees				R 20 014 787.00
VAT				R 30 822 772.00
TOTAL				**R 250 985 436.00**

3.6.2.4. Blue and Green Drop Status

The Blue Drop Certification Programme for Drinking Water Quality Management Regulation and The Green Drop Certification Programme for Wastewater Quality Management Regulation are important to ensure effective and efficient delivery of sustainable water services which is recognised by both South African and International authorities.

The minimum score for Blue Drop Certification is 95% and 90% for Green Drop Certification respectively. Ugu District Municipality is currently ranked at the 7th place in the KwaZulu Natal provincial log in terms of Blue Drop and holds a municipal score of 92.55%(Blue Drop Report 2012) with the following plants holding the Blue Drop Awards:

- Southbroom to Port Edward and Inland areas(Umthamvuna WTW) at 95%
- Umzinto, Pennington to Scottburg(Umzinto WTW) at 95.22%
- Mathulini, Mthwalume and Qoloqolo(Umthwalume WTW) at 96.27%

The Blue Drop Risk Rating for the Ugu District Municipality is 43.8% (Blue Drop Report 2013), this is categorised as Low Risk. While this may be a good reflection of the operational capacity of Ugu Water

Treatment Infrastructure, the municipality strives to implement projects in ensuring that the risk is contained within the Low Category.

In ensuring delivery of high quality drinking water and improved access to water services, the municipality has in the 2014/2015 financial year refurbished and upgraded Vulamehlo, Weza and Bhobhoyi Water Treatment Works. The upgrades currently add up to the tune of R94.2m

A total of 25km of water pipelines were upgraded and replaced in the 2014/2015 financial year including the critical project in Murchison where the municipality intervened swiftly and was able to bring forward the Murchison Upgrade Project which includes an upgrade of 7.7 km of pipeline, a 10ML storage reservoir and a pumpstation. While the project unfolds, the municipality is implementing effective alternative water services delivery to the area. The Murchison Project is expected to be complete by December 2015.

As the year comes to the end, the municipality is proud to have provided access to water to an additional 2200HH constituted by the areas of Mbiyane, Egoli, Maphumulo, Gumatane, Phongolo, Nhlalwane and Ncengesi. Various other water projects were implemented in this financial year with assistance from grants such as Municipal Water Infrastructure Grant (MWIG), Municipal Infrastructure Grant (MIG), Regional Grant Infrastructure Grant (RBIG) and Massification Grants. All the municipal grants will be 100% spent by the end of the 2014/2015 financial year assuring the public that Ugu District Municipality is here to deliver to the mandate of water and sanitation services provision.

The municipality positively looks ahead to the 2015/2016 financial year as it aims to continue with the plight of rendering services to its communities in spite of the drought challenge that is upon us. Out of the R253 million MIG allocations for the 2015/2016 financial year, the district will continue and complete the Bhobhoyi Water Treatment Works upgrade and commence the uMthamvuna Water Treatment Works Upgrade from 20ML/day to 40ML/day and the Mistake Farm Water Project.

Responding to the drought challenge, the municipality will by July 2015 spend the R10.8m drought relief allocation. In the 2015/2016 financial year the municipality will intensify programmes on water loss management from the MWIG allocation of R100m through its Non-Revenue Water Programme.

For the 2014 Blue Water Services Audits, the municipality participated in the first assessment of No Drop Awards. The results for the assessment have not been published however the municipality is proud to contain its Non Revenue Water Score at 30% being one of the lowest in the country. The municipality continues to implement measures to reduce its Non-Revenue Water from 30% to a projected 23% by the year 2017.

2012 was a gap year for Green Drop Awards however in the year 2013, the municipality's Green Drop Score improved from 70% to 73.91% with the following plant getting a Green Drop Award (Red Desert Waste Water Treatment Works at 90.3%)

In the 2014/2015 financial year the municipality spent R75 million of its MIG allocation towards sanitation projects, these including the refurbishment of 25 sanitation pumpstations to ensure minimal sewage spillages due to aged infrastructure. The Umzinto Wate Water Treatment Works is at its final stages of upgrade for the assurance of service in the Umzinto areas and ready to take on Low Cost Housing Developments. The municipality will for the 2015/2016 finacial year commence and complete critical sanitation projects such as Malangeni Waste Water Upgrade, Harding Sanitation Project and Margate Sewer Pipeline Upgrade.

The municipality has heeded to the need for effective operations and maintenance budget and will in the year 2015/2016 increase the budget a few percentages up to the generally accepted norm of 7% of the municipal budget. At 7.3% operations and maintenance budget, the municipality will engage into the implementation of the council adopted Water Safety Plans ensuring efficient and effective delivery of compliant water in line with the South African National Standards 241:2011. Technology in the modern day is an excellent enabler towards delivery of effective service, the municipality starting from 2015/2016 financial year will implement a continuous upgrade of its telemetry system as a means to swift response to remote infrastructure breakdown. The municipality will continue to invest into its technical human resources by adding four more officials into its register of Professionally Registered Officials in line with the Engineering Profession Act 46 of 2000.

3.6.2.5. Capital Requirements for Backlog Eradication

The Ugu District Municipality, as a delegated Water Services Authority (WSA), is in the process of progressively rolling out water services to all consumers in the District, as per the National Government's mandate of servicing all households with at least an RDP level of service by 2014. The estimated cost and time frames to eradicate the backlog, based on the available funding, has been calculated and is indicated in Table 3.6.1.6.1. The following benchmark costs were used in the calculation:

- R 45 000 to service per urban households
- R75 000 to service per rural households that are situated between 200m and 800m from a formal water supply
- R125 000 to service per rural households that are situated further than 800m from a formal water supply

Table 3.6.1.6.1: Water Eradication Plan
Source: Ugu District Municipality WSDP, 2015

Eradication Plan (Excl VAT)	
Estimated cost to eradicate backlogs	R 5 300 000 000,00
Assumed MIG Allocation future	R 290 000 000,00
% of MIG Allocation towards water	70%
Allocation towards water	R 203 000 000,00
Estimated years to eradicate backlogs	23
New Dams (3)	R 2 400 000 000,00
TOTAL	**R 7 700 000 000.00**

3.6.2.6. Ugu DGDS on Water Services

In terms of the Ugu DGDS Strategic Objective 4.5: **Ensure Effective Water Resource Management and Awareness,** identifies that a key challenge for the district will be eradicating household water backlog while at the same time ensuring that sufficient water is made available for expansion of economic activities. The ability of the district to change its current spatial development patterns will depend to a large extent on addressing water access, rights and management within rural communities.

It estimates the cost of backlog eradication to be R3.4 billion. Massive infrastructure investment will need to be leveraged into the district in the next 10 years. In order to achieve this, three strategic programmes have been identified. These include ensuring effective water resource management; increasing water infrastructure capacity; and promoting awareness for water efficiency.

3.6.3. Sanitation Service Provision

The sanitation service provision in the Ugu District area of jurisdiction is broken down to urban and rural sanitation. With regards to the urban sanitation the service delivery standard is mostly waterborne sewer and for rural sanitation the pit toilets with ventilation (VIPs). Table 3.6.2.1.1 below shows the overall access to sanitation of the district and the following subsections breaks it down per rural and urban area.

The sanitation backlog of the Ugu District area of jurisdiction was determined using the 2011 Statistics South Africa and the minimum requirements for acceptable access to sanitation as per CoGTA backlog study 2013 which are:

- Flush toilet (connected to sewerage system);
- Flush toilet (with septic tank);
- Chemical toilet; and
- Pit toilet with ventilation (VIP).

The service levels therefore that fall below the minimum requirements (backlog) in the Ugu District area of jurisdiction are:

- Pit toilet without ventilation;
- Bucket toilet;
- No sanitation; and
- Any other service level.

Table 3.6.2.1: Access to Sanitation Services per Municipality
Source: Statistics SA, Census 2011

Sanitation Service Level	Ugu	Vulamehlo	Umdoni	Umzumbe	Hibiscus Coast	Ezinqoleni	Umuziwabantu
Flush toilet (connected to sewerage system)	**32647**	444	7832	703	21397	383	1889
Flush toilet (with septic tank)	**13181**	325	2672	625	8562	245	752

Sanitation Service Level	Ugu	Vulamehlo	Umdoni	Umzumbe	Hibiscus Coast	Ezinqoleni	Umuziwabantu
Chemical toilet	**15281**	2857	981	2773	5330	194	3146
Pit toilet with ventilation (VIP)	**32885**	4421	2747	5050	8254	7400	5014
Pit toilet without ventilation	**62133**	6154	4402	21477	20247	2248	7606
Bucket toilet	**3123**	523	1503	359	558	14	167
None	**8397**	695	523	1654	3757	673	1094
Other	**11793**	716	2209	2530	4071	316	1951
Total	**179440**	**16135**	**22869**	**35171**	**72175**	**11472**	**21619**
Backlog (% HH below min. Standards)	**48**	**50**	**38**	**74**	**40**	**28**	**50**

As per the Statistics South Africa Census 2011, the major sanitation backlog in the Ugu District Municipality area of jurisdiction is in Umzumbe (74%), Vulamehlo and Umuziwabantu (both at 50%). These are predominantly rural municipalities that are inland and the predominantly urban municipalities that are along the coast have sanitation backlog that is below 50%. The overall sanitation backlog for the Ugu District Municipality is sitting at 48%.

3.6.3.1. Urban Sanitation

The urban areas within Ugu are located predominantly within a narrow coastal strip comprising of a combination of permanent residents and local tourists who descend on the area during holiday periods.

The SSMP suggests that the water demand (and hence waste water flows) in the peak December/January period is typically 33% higher than the annual average values.

Although largely “residential”, most urban areas include some “commercial” activity and there are also some “light and/or service industrial” nodes particularly in Port Shepstone (Marburg) and Park Rynie to a lesser extent. The urban sanitation comprises a combination of waterborne sewerage linked to Waste Water Treatment Works (WWTW) as well as a system of septic tanks and conservancy tanks in the less densely populated areas.

Most of the treatment facilities are owned and managed by Ugu although there are also a number of privately owned and managed, small sewage treatment plants – mostly “package” plants. With the exception of Gamalakhe, the sewerage coverage of formal, urban areas which have a Municipal water connection is approximately 30%.

Being a coastal strip, the topography generally falls towards the coast and is segmented by many water courses (streams/rivers) resulting in numerous hills and valleys as well as very flat areas along the coast. As a result there are numerous pump stations in the reticulated areas whilst the WWTWs

are generally located inland of the coastal strip such that many of the pump stations deal with pumping heads which exceed those readily achievable with open impeller pumps operating at low speeds.

The SMMP notes further that “the geology of the coastal strip may be described in general terms as having rock outcrops all along the coast overlain by one to two metres of sand and with some of these areas being characterised by a high, perched water table” – clearly not ideal for the use of septic tanks with sub-soil percolation drains and as a result there are numerous conservancy tanks within the urban strip.

3.6.3.2. Urban sanitation delivery standards

The SSMP deals with sewage demands and individual scheme options/preliminary designs in greater detail. For the purposes of this audit and a broad assessment of the status quo, the following standards were adopted:

Table 3.6.2.2: Urban Sanitation Standards
Source: Ugu District Municipality WSDP, 2015

Settlement Categories	Sub-Category	Flow	Unit
Formal Urban	Formal Urban	600	l/d/100m2
	Industrial/Commercial	NA	NA
Informal Residential Upgrade		120	l/c/d

3.6.3.3. Urban Backlog Eradication Plan

Other than maintenance issues and upgrades/extensions of existing sewerage schemes based on the rationale contained in the SSMP, it stands to reason that formal township development requires the provision of adequate water and sanitation and as such there are in effect very few backlogs other than those “informal urban upgrade” areas adjoining the coastal urban strip which by nature of their density should be provided with reticulated waterborne sewerage as opposed to a basic level of service - septic tanks.

The Local Municipalities have allowed residents to construct septic tanks in wetland areas resulting in serious pollution in many areas. Replacing the septic tanks with waterborne sanitation will be very costly and also difficult because the area is built up with well established gardens and boundary walls. Cost recovery and affordability is also an issue. Most residents are pensioners that cannot afford the exorbitant cost to install waterborne sanitation.

A total estimated capital investment (2014) of the order of R 3 billion is required to reticulate and upgrade sanitation within the urban strip.

The refurbishment/upgrading of certain existing assets and the proper management of sludge disposal were identified as immediate priorities and some of this work has already been accomplished by Ugu.

3.6.3.4. Rural Sanitation

There is no reliable data spatially or otherwise pertaining to either the location or age of Ventilated Improved Pit Latrines (VIPs) constructed within Ugu. This poses a major challenge as there is no reliable data with which to plan for de-sludging/re-location of VIPs when full and further prevents the accurate determination of the backlog. Therefore, in order to obtain a better understanding regarding the status quo of the rural sanitation within Ugu, a number of random sample surveys were undertaken within each local municipal area.

3.6.3.5. Rural Sanitation Delivery Standards

The standard for a basic level of rural sanitation in Ugu is a ventilated improved pit latrine (VIP) comprising pre-cast concrete "C" sections. The anticipated life-span to de-sludging/re-location of the VIPs based on various household densities and a sludge accumulation rate of 0.05m³ per annum is reflected in table 3.6.2.5.1.

Table 3.6.2.5.1: VIP Sludge Accumulation Rate
Source: Ugu District Municipality WSDP, 2015

Household Size (persons/household)	Life Span (years)	
	Pit Capacity 1.5m3	Pit Capacity 2m3
5 persons/household	6	8
6 persons/household	5	6.7
7 persons/household	4.3	5.7
8 persons/household	3.8	5

Whilst the standard Ugu VIP has an effective pit volume of 1.5m³ (allowing 200mm freeboard), the benefits of a larger pit are clearly apparent in terms of time taken to fill up. Table 3.6.2.5.2 below shows the level at which the VIPs are filled.

Table 3.6.2.6.2: Level at which VIP are Filled
Source: Ugu District Municipality WSDP, 2015

Condition	% of Surveyed
Good	50%
Fair	29%
Poor	21%
Full	19%
75% Full	42%
Balance	39%
Pits older than 5 years	20%

Considering that the survey suggests that 61% of the pits are between 75% and 100% full and that 20% are older than five (5) years suggests that major challenges lie ahead in ensuring the sustainability of the rural sanitation programme. The maintenance plan for VIP toilets installed is under development.

3.6.3.6. Rural Sanitation Backlog Eradication

The sample survey suggests that the rural sanitation backlog is of the order of 20 %. The backlog is further compounded by the fact that there is virtually no spatial data with which to plan and manage

the de-sludging /re-location of pits which are almost or already full such that the health and hygiene effectiveness of the programme going forward must be brought into question.

Therefore, in order to cost a backlog eradication plan for the District, one first needs to determine an accurate assessment of the current status quo. While the mini-audit provides a sample the current situation, it does not give an actual reflection. The most important component therefore in the backlog eradication plan, is an initial audit of rural sanitation. This audit would not only provide the District with a detailed spatial representation of VIPs in the District, it would also provide statistics about usage and full percentage across the District.

3.6.4. Solid Waste and Cemeteries

Waste management services involve the waste collection, treatment, recycling and disposal. The National Environmental Management: Waste Act (Act 59 of 2008) has placed a huge responsibility on municipalities to deliver waste services. Phase 3 of the Infrastructure Audit as well as the Integrated Waste Management Plan reported that solid waste is the most undersupplied service in the district. Where services are being offered, they are usually limited to the formal, urban areas of Umuziwabantu, Hibiscus Coast and Umdoni Municipalities.

Waste minimisation in the district is poorly organised and there is no integrated system which exists private recyclers may link to. The viability of recycling relies heavily on economies of scale as there must be enough recyclables available to justify the cost of transport associated with the collection of recyclable materials. Ugu requires a great deal more work before an economically viable waste recycling system can be put in place.

In terms of cemeteries, three out of six of the local municipalities have formal sites, namely Hibiscus Coast, Umdoni and Umuziwabantu. The remaining three, Ezinqoleni, Vulamehlo and Umzumbe have a majority rural population who practice traditional on-site burial of deceased family members. In some cases there has been resistance to the development of cemeteries and interviews with officials have indicated that this is a sensitive matter with cultural implications. A detailed study, with a strong social focus, is needed to assess the need for, and provision of, cemeteries in the district. Table 3.6.3.1 and figure 3.6.3.1 indicate access on a household level to solid waste removal services in the District.

Table 3.6.3.1: Households Access to Solid Waste Removal
Source: Statistics SA, Census 2011

Type of Solid Waste Removal	Ugu	Umzumbe	Umuziwabantu	Ezinqoleni	Hibiscus Coast	Vulamehlo	Umdoni
Removed by local authority at least once a week	**44137**	417	3402	160	27876	274	12007
Removed by local authority/private company less often	**2398**	325	487	98	1075	164	249
Communal refuse dump	**2400**	187	153	55	1211	447	346
Own refuse dump	**118601**	29568	16416	10849	39086	12974	9709
No rubbish disposal	**10480**	4492	832	291	2393	2033	439
Other	**1425**	182	328	18	534	243	119
Total	**179440**	**35171**	**21619**	**11472**	**72175**	**16135**	**22869**

The refuse removal by local municipalities occur at least once a week or less and communal refuse dump is only 27%, the other 63% is households that have their own refuse dump or do not have any form of refuse removal as shown in Table 3.6.3.1.

3.6.4.1. Waste Services Level

The current level of service differs in each Local Municipality. The overall view of the status quo is known, however, it was important to represent the waste service figures for each municipality at a settlement level as this will inform the type of service that should be provided. The current status within each Local Authority is provided in table 3.6.3.1.1.

Table 3.6.3.1.1: Waste Services Level
Source: Ugu District Municipality WSDP, 2015

Settlement Category	Vulamehlo LM			Ezinqoleni LM			Umzumbe LM		
	Serviced HH	No Service	Total HH	Serviced HH	Not Serviced	Total HH	Serviced HH	Not Serviced	Total HH
Formal Urban	1	80	81	0	0	0	0	25	25
Good Access Rural Upgrade	73	4,317	4,390	52	4,133	4,185	136	8,034	8,170
Limited Access Rural Upgrade	73	2,189	2,262	8	712	720	131	5,541	5,672
Linked Rural Upgrade	48	2,768	2,816	53	2,612	2,665	169	8,998	9,167
Scattered	42	4,882	4,924	7	1,053	1,060	95	7,959	8,054
Total	**237**	**14,236**	**14,473**	**120**	**8,510**	**8,630**	**531**	**30557**	**31088**
Percentage	**1.6%**	**98.4%**	**100%**	**1.4%**	**98.6%**	**100%**	**1.7%**	**98.3%**	**100%**
	Hibiscus Coast LM			**Umdoni LM**			**Umuziwabantu LM**		
Formal Urban	20,082	5,683	25,765	5,505	1,947	7,452	1,303	826	2,129
Good Access Rural Upgrade	1,681	5,228	6,909	583	1,309	1,892	435	5,716	6,151
Informal Residential Upgrade	111	142	253	225	67	292	106	65	171
Limited Access Rural Upgrade	151	827	978	4	125	129	227	7,059	7,286
Linked Rural Upgrade	1,155	13,906	15,061	824	6,153	6,977	140	1,711	1,851
Scattered	57	1,629	1,686	63	220	283	50	2670	2,720
Total	**23,237**	**27,415**	**50,652**	**7,204**	**9,821**	**17,025**	**2,261**	**18,047**	**20,308**
Percentage	**45.9%**	**54.1%**	**100%**	**42.3%**	**57.7%**	**100%**	**11.1%**	**88.9%**	**100%**

3.6.5. Transportation Infrastructure

The Ugu District Municipality does not have an adopted Integrated Transport plan as the one available was last adopted in the 2006/2007 financial year and is now outdated. Through the Ugu Sector Wide Infrastructure Audit, updated information is available for the purposes of analysis. Furthermore, Ugu District as an organisation does not maintain the roads as all the district roads were transferred to DOT.

3.6.5.1. Public Transport

Access to public transport is a major development challenge within the Ugu District and a potential factor in increasing access of communities to economic opportunities. 87% of public transport users within the district are dependent on mini bus transport, compared to 9% dependent on bus transport. Table 3.6.4.1.1 illustrates current commuter demand from the main public transport terminals within the Ugu District. In those instances where bus services are available, they transport more commuters than the mini bus taxi service.

Table 3.6.4.1.1: Commuter Demand from Main Public Transport Terminals
Source: Ugu District Municipality Sector Wide Infrastructure Audit, 2014

Terminal point	Annual passengers	Mode	Daily vehicle trips
Gamalakhe	3,282,353	Bus	182
	2,230,800	MBT	572
Nyandezulu	2,837,647	Bus	158
	1,662,300	MBT	427
D338/N20	2,601,900	Bus	144
	1,879,800	MBT	482
Mthwalume	2,229,390	Bus	100
	1,610,700	MBT	413
Murchison	2,107,059	Bus	117
	1,267,500	MBT	325
Assisi	1,683,529	Bus	94
	741,000	MBT	190
Mzumbe	1,281,177	Bus	71
	588,900	MBT	151
Palm Beach	1,115,100	Bus	55
	807,300	MBT	207
Melville	900,450	Bus	42
	651,300	MBT	167
D952/R102	198,720	Bus	9
	144,300	MBT	37
D1097/N20	84,600	Bus	5
	66,560	MBT	16

Access to rail transport is limited within the region. The metropolitan rail system serving eThekwini only reaches the northern extremity of the Ugu area with three stages in the Umdoni municipality, namely Kelso, Park Rynie and Scottburgh. Although the south coast railway line is electrified and in use by Transnet Freight Rail as south as Port Shepstone, no commuter services are offered beyond these three stations. The district is looking to benefit from the rail station upgrading plans of the Passenger Rail Agency of South Africa (PRASA), as the Port Shepstone Train Station is one of the targeted multi-modal upgrades. This is in line with longer-term plans to extend the passenger rail service southwards. Ugu stakeholders have made presentations for a rail link into the Eastern Cape. Municipal Integrated Public Transport Plans are required to support the SDF of the district and ensure alignment with the plans for nodal investments.

Intermodal Public Transport Facilities

The KwaZulu-Natal Department of Transport (KZNDoT) has identified the development of intermodal public transport facilities as one of the key public transport improvement elements. An intermodal facility is a focal point where many modes of transportation converge to provide economical and

efficient service to destinations. Port Shepstone has been identified as a potential nodal point for building such a facility. This suggests that there is a constant demand for transport feeding from the more rural areas into this economic hub.

3.6.5.2. Freight Rail Infrastructure

The main rail corridor in the district is the standard gauge South Coast line that runs from Port Shepstone to eThekwini. The volume of freight has been reduced over time due to more goods moving to the N2 for transportation. The main commodity on the rail network is 500,000 tons of lime clinker from Simuma to Mount Vernon. There are no longer any passenger services in operation on this line.

A narrow gauge line used to operate between Port Shepstone and Harding. This was primarily used to transport timber and sugar cane. The line was also used for tourism, providing excursions to Paddock. Unfortunately the line has been abandoned due to the demise of the Alfred County Railway and the final destruction of the Izotsha river bridge in 2007.

There is definitely a need for revival of passenger rail and additional freight rail capacity within the district has been highlighted during the GDS consultation process. The standard gauge line is supplemented by a narrow gauge line from Port Shepstone to Harding, which no longer functions and is in a state of disrepair. This is primarily used to transport timber and sugar cane. Overall, the volume of freight on this line has reduced and more goods are being transported by road along the N2. The reason given for this switch is that many branch lines are no longer in operation. An opportunity for the district is that Transnet has recently released a plan to invest R300bn in infrastructure within the country, of which R151 billion has been earmarked for freight rail.

Further investigation into demand should be undertaken to inform an approach to Transnet. This could include a review of the current location of the railway line with a proposal to re-route the railway line away from the coast into the hinterland. This would serve to boost tourism along the coastal strip and economic activity within the hinterland.

3.6.5.3. Roads and Transport

The road hierarchy in the district starts with national roads, then provincial roads down to local municipal roads. The N2 runs parallel to the coast with plans to extend this coastal route into the Eastern Cape. The provincial road network provides a high proportion of the road network in Ugu and covers a vast range of types of roads from main regional links (class 2) through to local roads (class 7). In terms of road usage, up to date traffic volume data is only available for the N2 and R103.

The largest traffic volumes pass along the N2 towards Port Shepstone, and further towards Kokstad, as well as along the R61 from Port Shepstone towards Port Edward. Large volumes of traffic also pass along the R612 from Park Rynie to Ixopo and the road from Umtentweni to St Faiths. Access to road infrastructure varies across the district, especially between rural and urban areas. In Table 3.6.5.3.1, access to transport is measured in terms of the percentage of households that have access to Level 1 and Level 3 roads (i.e. national, main and district roads).

Table 3.6.5.3.1: Access to Transport
Source: Ugu District Municipality Sector Wide Infrastructure Audit, 2014

Local Municipality	HH within 1 km of a Road	Total HH	Percentage
Vulamehlo	11,771	15,661	75
Umzumbe	24,274	31,801	76
Ezinqoleni	6,996	9,041	77
Umuziwabantu	17,956	20,840	86
Umdoni	16,452	17,257	95
Hibiscus Coast	49,993	51,480	97
Ugu District	127,442	146,080	87

The SDF has identified priority road corridors for development that will promote spatial integration of the district. These include the upgrading of the P77 and P58 in order to increase accessibility for rural communities. Consultations with the agricultural sector have also identified key roads and causeways that need to be targeted for upgrade to open up areas for commercial activity. Other sectors have raised concerns regarding the poor condition of roads servicing large populations, such as Gamalakhe. The key strategy for the district will be to ensure that its specific road infrastructure needs are included in the Department of Transport's and relevant local municipalities' project priority lists.

The poor condition of provincial and local roads within the Ugu District has been raised during the GDS consultation process. Lack of road maintenance and asset deterioration will result in much greater financial burdens on provincial government and municipalities in the medium to long-term.

A road in poor condition also impacts negatively on journey speed and road safety, decreasing the accessibility or desirability of the region for business. The findings of the Infrastructure Audit undertaken by the municipality were that:

- National roads are of a very high standard with good continual maintenance. Funding is generally adequate, supported by funds generated by toll fees.
- Funding for maintenance and new provincial roads is limited, and generally dealt with at two levels. First, there are major/strategic projects, and secondly there are locally-based projects operated by the regional cost centre based in Port Shepstone and communicated through local "Transport Forums"
- Local roads within the more urban centres are constructed and maintained by local municipalities. Rural municipalities are heavily reliant on the provincial Department of transport for budget.

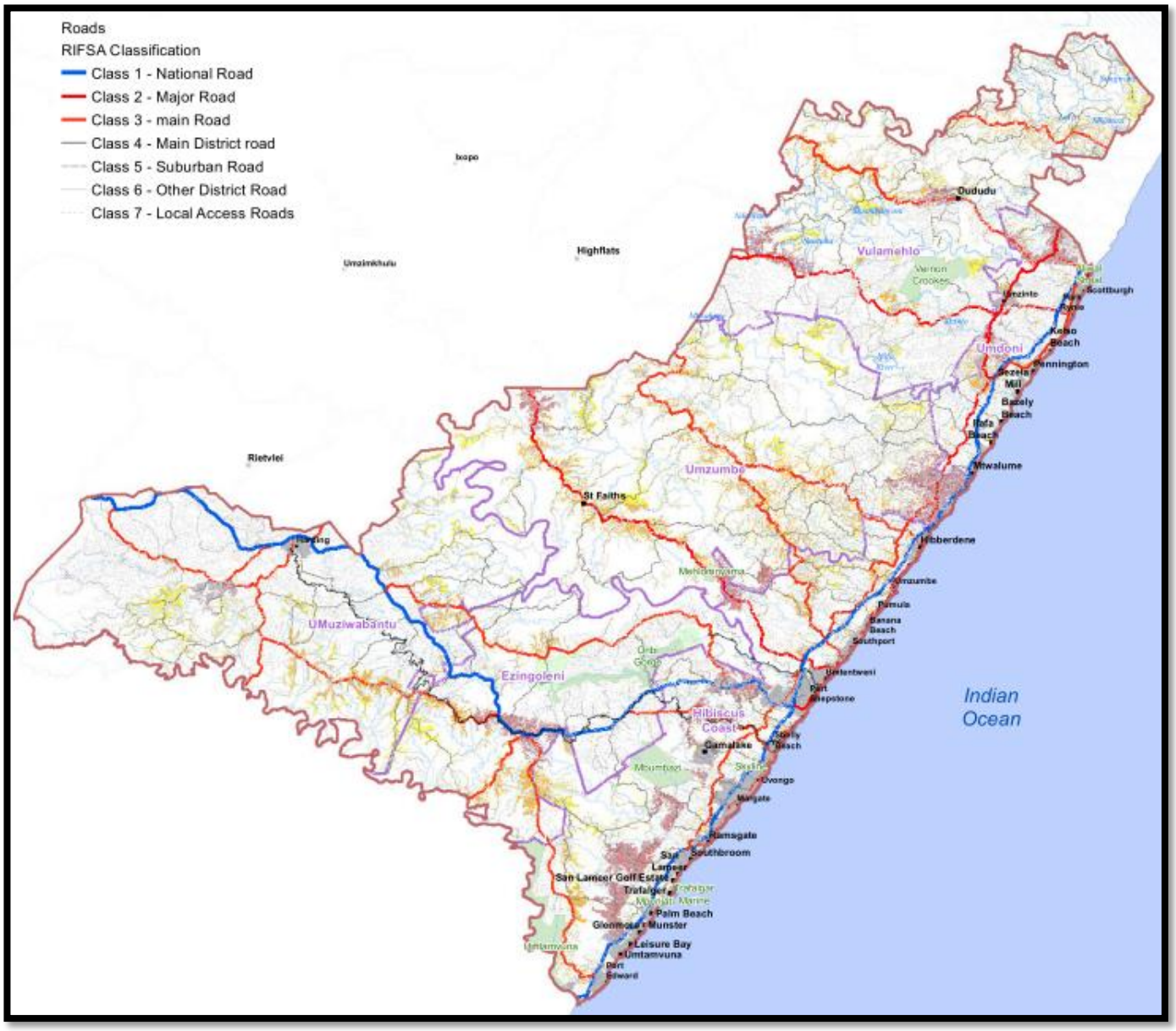

Figure 3.6.5.3.1: Ugu District Road and Rail Infrastructure
Source: Ugu District Municipality Sector Wide Infrastructure Audit, 2014

3.6.5.4. Air Transport

Given the fairly recent relocation of the Durban International Airport to the site of the King Shaka International Airport and Dube Tradeport along the KZN North Coast, the South Coast is largely unserviced in terms of both passenger and cargo air transportation. As a result, the South Coast is much less accessible to tourists than previously with the international airport now favouring the North Coast of KZN. The cost of doing business within Ugu has increased due to longer travel times and greater traffic congestion. The potential exists to increase the capacity of the existing Margate Airport to handle low-cost airlines to make it more attractive within the market. Additionally, the airport could accommodate small cargo planes to ensure that the agricultural sector is able to remain competitive and transport perishable goods.

The upgrade of Margate Airport will make it easier for tourists to access the district once they are in the province, as well as making it significantly easier and simpler for the tourists to remain in the

province for longer periods, due to the expanded range of tourism products in keeping with the tourists' needs. In addition, the area around Margate airport presents substantial potential for future industrial development. The Department of Cooperative Governance and Traditional Affairs financed to the tune of R10m for the upgrade of the Margate Airport and the project bore fruit in November 2013 when the first airplane landed. It is a commercial airliner and will be operating between OR Tambo and Margate respectively until more lines are opened. The municipality has been engaged on this process for the last ±3 years. The Provincial Treasury has a project to revitalize all the regional airports.

3.6.5.5. Integrated Transport Plan (ITP)

Ugu's Integrated Transport Plan was completed in the 2006/2007 financial year. There was funding provided by the Department of Transport (KZNDoT) and in the past we experienced challenges in terms of implementing the ITP as well as sourcing funding to review the study. The project is currently under review.

3.6.5.6. Ugu DGDS on transportation Infrastructure

The DGDS identifies the recent relocation of the Durban International Airport to the site of the King Shaka International Airport and Dube Tradeport along the KZN North Coast, as leaving the South Coast largely un-serviced in terms of both passenger and cargo air transportation, thus the South Coast left much less accessible to tourists than previously and the cost of doing business within Ugu increasing due to longer travel times and greater traffic congestion. It therefore advocates for an increased need to develop Margate Airport to address these challenges.

It further identifies the potential of the coastline to drive development through harbours, sea transport and other maritime sector investments, which is largely unexplored by both the public and private sectors. Included within this sub-sector are small-craft harbours, which have the potential to enhance tourism, and create a waterfront node within the Ugu District. The development of both Margate Airport and Small Craft Harbour are key interventions identified as part of this strategic objective in order to address these challenges and opportunities.

3.6.6. Electricity

Eskom is the sole supplier of electricity in all of the Ugu District with the exception of the urban areas of Port Shepstone and Harding. Major capacity problems that affected most of Ugu District were addressed some ten years ago through the construction of major infrastructure, mostly in the Harding area.

Following from this, capacity problems are of a more localised nature as a result of the "Electrification for All" programme and major developments that have occurred over this time. In addition, future developments and electrification backlog programmes will require localised infrastructure upgrades such as the proposed new Kenterton Substation which is being built to accommodate electrification backlog requirements.

Generically, commercial developments will not have infrastructure built for them until such time as the relevant developer makes a financial commitment. The proposed new Margate Airport will be a case in point where purpose-built infrastructure will almost certainly be required.

Power quality information is not made available by Eskom so it is not possible to assess problems that may be experienced throughout the Ugu District due to ageing or inadequate infrastructure. However, Eskom keeps extensive records regarding power line performance which heavily influences their annual budgets for refurbishment and maintenance.

Eskom electrification delivery depends on the level of the National Treasury MTEF funding normally projected over a three-year period.

3.6.6.1. Electricity delivery Standards

During the development of the standards it was recommended that households within a distance of 5 km of existing electrical grid infrastructure and with a density of greater than 50 households per square kilometre be treated as households that can receive grid electricity. It was also recommended that households more than 5km from grid and with densities less than 50 households per square kilometre be treated as future “non-grid” customers.

However, in reality, very few households are really more than 5 km from existing grid infrastructure. In addition, Eskom’s approach to cost per connection targets has had to be adjusted upwards as they are still committed to electrifying all households and, after years of electrifying the most viable (lower cost per connection) households, they are now left with mainly “expensive” connections to do. This is generally assisted through the Department of Minerals and Energy (DME) run Integrated National Electrification Programme (INEP).

However, cost per connection motivators will still influence an area’s electrification priority which means that “customer” projects (i.e. to build a power line to a pump stations, Tribal Court, etc.) will reduce the cost per connection of the electrification project if the bulk feeder line no longer needs to be built.

For the backlog analysis, all households greater than 4km from the network and in settlements of less than 50 households per square (50hh/km2) kilometre can theoretically not be supplied by the existing network.

3.6.6.2. Access to Electricity

In terms of access to electricity Vulamehlo and Umzumbe remain the darkest municipalities in the Ugu District area of jurisdiction both having an access to electricity of less than 50% as reflected in figure 3.6.5.2.1. The municipalities with urban centres like Hibiscus Coast, Umdoni and Umuziwabantu still enjoy high levels of access to electricity, Ezinqoleni being the only rural municipality with high access of 80%. Overall there has been an improvement in the access to electricity across all municipalities from 1996 to 2011.

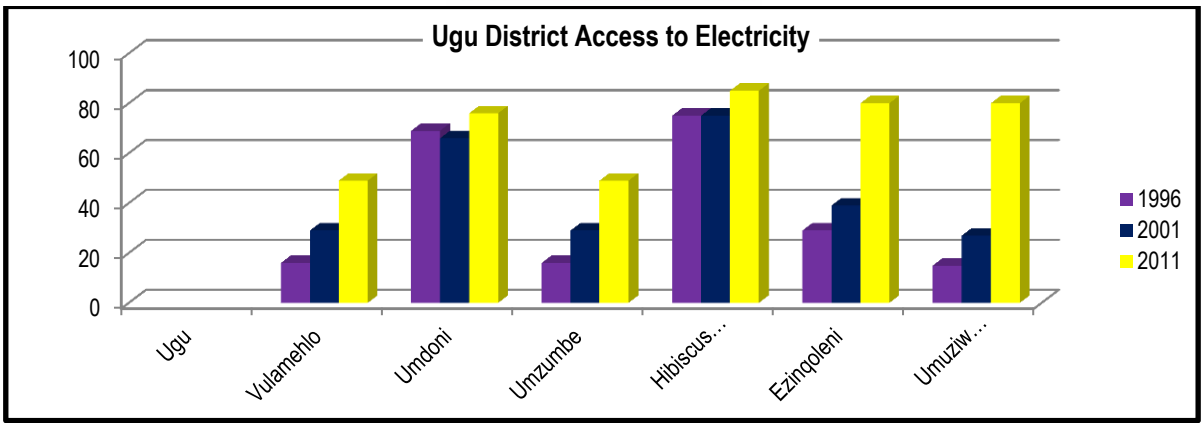

Figure 3.6.5.2.1: Ugu District Access to Electricity
Source: Statics SA, Census 2011

The backlog in many municipalities is attributed to the lack of bulk infrastructure as indicated below. The Department of Energy (DoE) is responsible for the funding of all prepaid electrification which is mainly in Eskom rural areas of supply.

In terms of commercial development, it was stated in the Ugu Infrastructure Audit that generically, a commercial development "will not have infrastructure built for them until such time as the relevant developer makes a financial commitment. This indicates that current electricity infrastructure is not sufficient to support future commercial development within the Ugu District, and will require financial commitment from the investor themselves.

3.6.6.3. Alternative Energy

With regards to alternative energy, it is clear from the census 2011 data that there is still very minimal use of alternative energy within the households with electricity being the preferred energy. Candles are the most used after electricity in terms lighting, whilst wood is the second preferred energy source for cooking and heating.

Many strides have been taken to promote the use of sustainable alternative source of energy. One of those have been sustainable solar lighting packages are offered to rural households and schools without access to the formal electricity grid within the Ugu region. A basic package costed at a once-off payment of R 2 500.00 which includes two lights and cell phone charging. A more comprehensive package costed at R 14 000.00 includes energy for a TV, fridge, radio, cell phone charging and three lights. The products are German-made and the installation company has received no come-backs. The main obstacle to roll-out is financing as cash is required upfront. Capitec is the only bank open to financing this market and willing to attend community engagement sessions. Such a product is a serious option for service delivery to scattered rural communities within the district.

Table 3.6.5.3.1: Energy per Domestic Use
Source: Statics SA, Census 2011

Cooking	No.	%	Heating	No.	%	Lighting	No.	%
Electricity	103747	**58**	**Electricity**	80230	**45**	**Electricity**	128977	**72**
Gas	7477	**4**	**Gas**	3350	**2**	**Gas**	765	**0**
Paraffin	16889	**9**	**Paraffin**	6751	**4**	**Candles**	44780	**25**

Cooking	No.	%	Heating	No.	%	Lighting	No.	%
Solar	339	**0**	**Wood**	57599	**32**	**Paraffin**	3218	**2**
Wood	49667	**28**	**Coal**	1717	**1**	**Solar**	552	**0**
Coal	423	**0**	**Dung**	366	**0**	**None**	1136	**1**
Dung	144	**0**	**Solar**	485	**0**			
Other	311	**0**	**None**	28910	**16**			
None	437	**0**	**Other**	22	**0**			

3.6.6.4. Current and Proposed Electricity Infrastructure and Capacity

The current Eskom infrastructure footprint, the current supply, planned projects and network status and capacity constraints are reflected in Figure 3.6.5.4.1 to 3.6.5.4.2.

As part of the annual planning, Eskom delineates and modifies planning project footprints and associates these footprints with a planned year and costing. These footprints are reviewed on an annual basis and the current planning footprints are included in the electricity maps. These project footprints provide an indication of community level planned infrastructure.

In addition to these community level projects and regional level infrastructure development planning are also reviewed on an annual basis. This process highlights projects that will not only facilitate these community level projects but also serve to improve the existing network capacity.

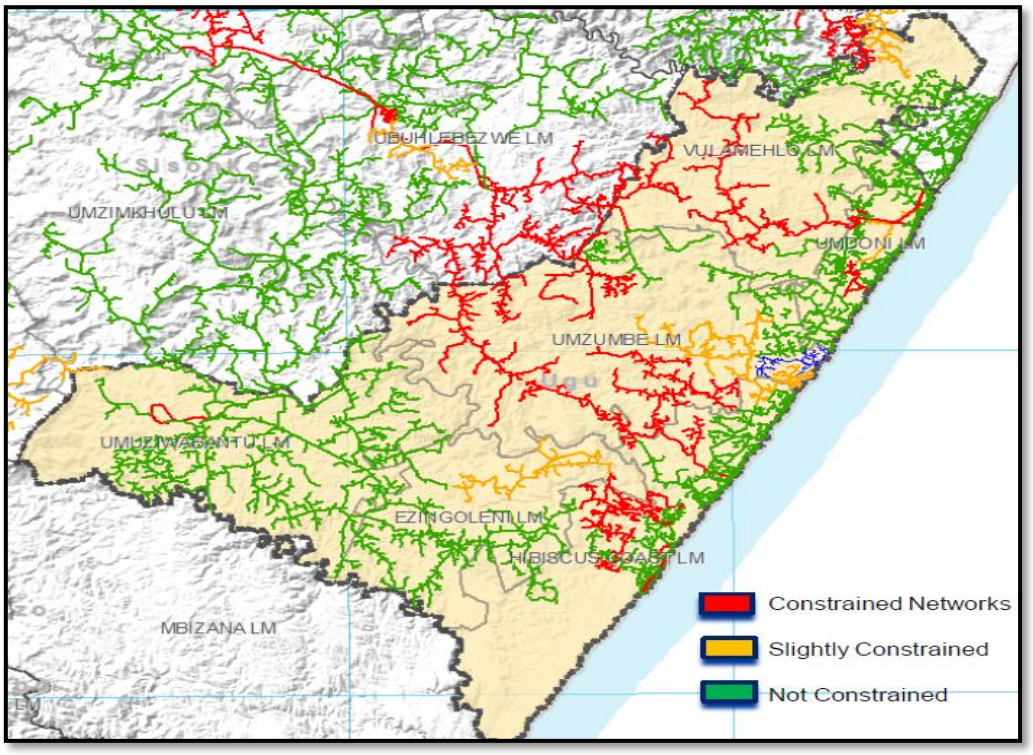

Figure 3.6.5.4.1: Ugu District Electricity Capacity Constraint 2014
Source: Ugu IDP District IDP Rep Forum, 2015

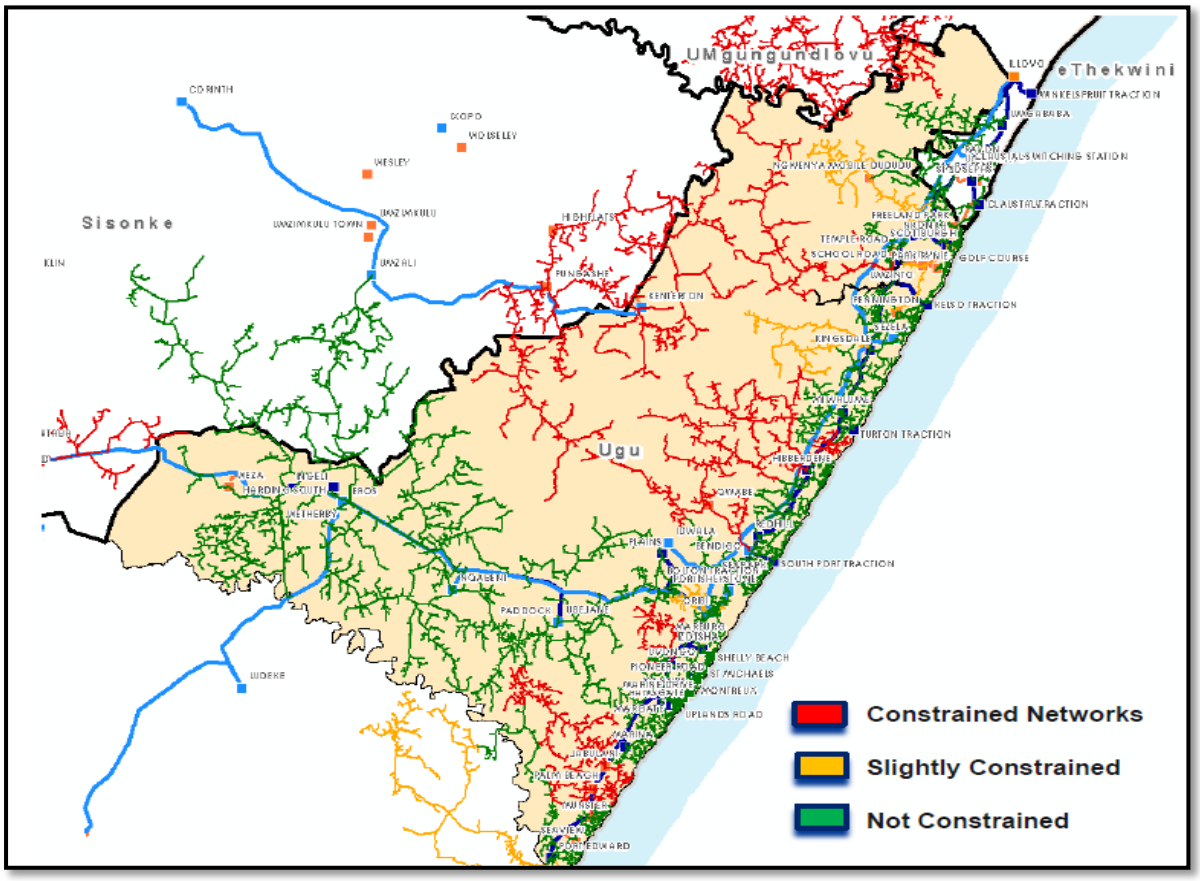

Figure 3.6.5.4.2: Ugu District Electricity Capacity Constraint 2015
Source: Ugu IDP District IDP Rep Forum, 2015

Regional Planning

In order to meet the backlog as well as improve the network, regional projects have been identified. The following list highlights these regional projects and their progress to date. Figure 3.6.5.4.3 illustrates these projects spatially.

Table 3.6.5.4.1: Proposed and Existing Electricity Infrastructure
Source: Ugu District Municipality IDP Rep Forum, 2015

No.	Project Name	Form Status
1	Oslo SS 132/11 kV 20 MVA Establish	CRA
2	Munster 88/22/11 kV SS	DRA
3	Marina SS 88/22 kV 7 88/11 kV Trfr Upgarde	ERA
4	Zwelethu 132/22 kV 2 x 20 MVA SS	ERA
5	Ramsgate Substation upgrade	CRA
6	Pont - Port Edward 132 kV cable	CRA
7	Umgababa 132/22/11 kV SS est.	CRA
8	Sezela Substation Upgrade	DRA
9	Pungashe NB41 upgrade - to be supplied from Kenterton. Via a proposed 2.5 22/11 Mobile	ERA
10	Widenham 88/11 kV 20 MVA establishment	DRA

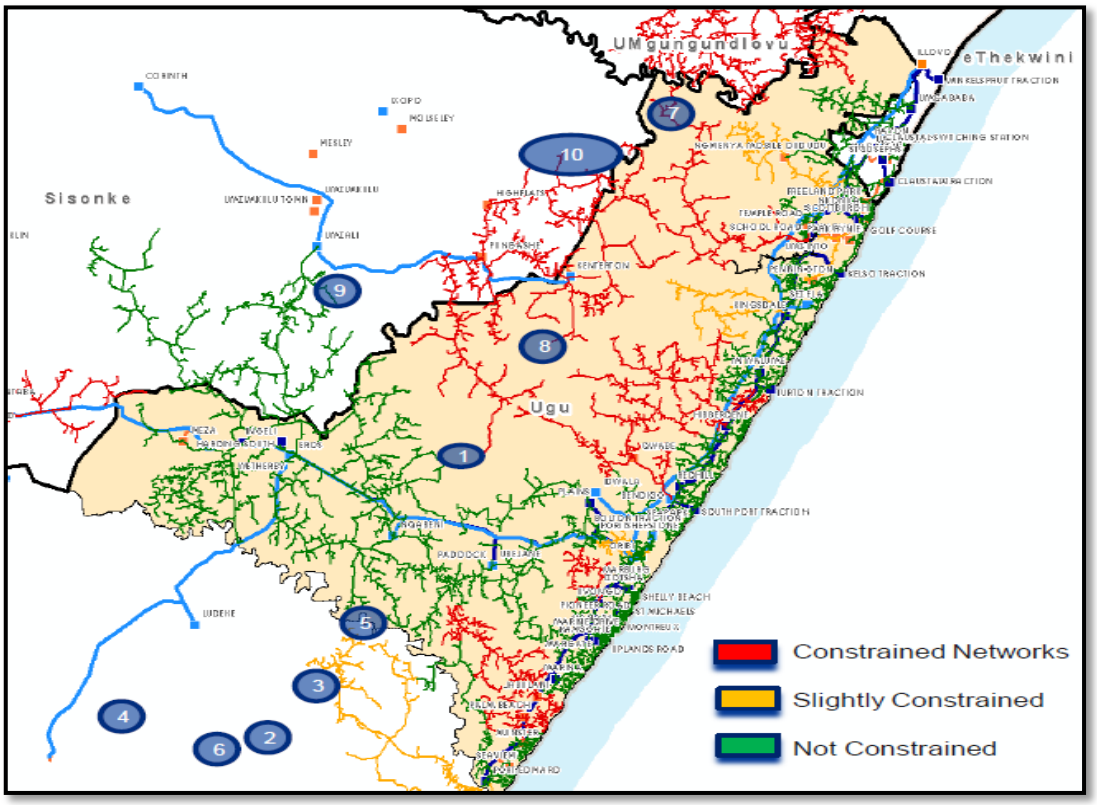

Figure 3.6.5.4.2: Ugu District Electricity Capacity Constraint 2015
Source: Ugu IDP District IDP Rep Forum, 2015

3.6.7. Telecommunications

Telecommunications data is not easily accessible for the district especially regarding the infrastructure on the ground. Whilst no detailed indication of fixed line or broadband services was available, it has been noted that broadband services are limited and only available in major centres. In response to this need, the Ugu DM has initiated a broadband project for the region. Table 3.6.6.1 reflects the household's accessibility to telecommunications services as captured in the 2011 Statistics SA census.

Table 3.6.6.1: Ugu District Access to Telecommunications
Source: Statics SA, Census 2011

Municipality	Urban area		% with access	Tribal or Traditional area		% with access	Farm		% with access
	Yes	No		Yes	No		Yes	No	
Access to Cell phone									
Ugu	40239	4077	**91**	99261	24591	**80**	8952	2319	**79**
Umzumbe	-	-	**0**	26505	8472	**21**	147	48	**1**
Umuziwabantu	2607	372	**6**	13908	3051	**11**	1446	237	**13**
Ezinqoleni	-	-	**0**	8829	1818	**7**	663	165	**6**
Hibiscus Coast	27930	2454	**63**	30471	5406	**25**	4632	1287	**41**
Vulamehlo	-	-	**0**	10485	3837	**9**	1371	441	**12**
Umdoni	9702	1254	**22**	9072	2004	**7**	696	147	**6**
Access to Landline / Telephone									

Municipality	Urban area		% with access	Tribal or Traditional area		% with access	Farm		% with access
	Yes	No		Yes	No		Yes	No	
Ugu	17886	26433	**40**	4749	119103	**4**	750	10521	**7**
Umzumbe	-	-	**0**	1224	33756	**1**	6	189	**0**
Umuziwabantu	273	2706	**1**	564	16392	**1**	96	1590	**1**
Ezinqoleni	-	-	**0**	312	10332	**0**	84	744	**0.5**
Hibiscus Coast	13056	17328	**29**	1611	34266	**1**	405	5511	**4**
Vulamehlo	-	-	**0**	477	13848	**0**	90	1725	**1**
Umdoni	4557	6399	**10**	561	10509	**1**	75	762	**0.5**
Access to Radio									
Ugu	31689	12630	**72**	75585	48267	**61**	5586	5685	**50**
Umzumbe	-	-	**0**	20184	14793	**16**	39	153	**0**
Umuziwabantu	1770	1206	**4**	9741	7215	**8**	789	894	**7**
Ezinqoleni	-	-	**0**	7134	3513	**6**	462	363	**4**
Hibiscus Coast	22821	7563	**51**	23448	12426	**19**	3078	2841	**27**
Vulamehlo	-	-	**0**	7923	6402	**6**	882	930	**8**
Umdoni	7098	3861	**16**	7158	3918	**6**	339	501	**3**
Access to Television									
Ugu	34548	9771	**78**	70350	53502	**57**	4152	7119	**37**
Umzumbe	-	-		15432	19545	**12**	42	150	**0**
Umuziwabantu	1962	1017	**4**	10566	6393	**9**	519	1164	**5**
Ezinqoleni	-	-		7107	3540	**6**	336	492	**3**
Hibiscus Coast	24711	5673	**56**	24828	11046	**20**	2487	3432	**22**
Vulamehlo	-	-		5547	8778	**4**	504	1305	**4**
Umdoni	7875	3084	**18**	6873	4203	**6**	267	573	**2**

There is very high penetration of cell phones in the district. However the majority of households have access to GSM / Voice services only. As per the 2011 census more than 90% of the households have an access to a cell phone with only 41% having access to the landline / telephone. Figure 3.6.6.1 shows the accessibility per local municipality. The high access percentage is in the more urban municipalities and less on the more rural ones. This has to do mostly with affordability rather than network coverage.

Global System for Mobile Communications (GSM) coverage across the district is well covered and 99% of all households have theoretical access to GSM services, although some lower lying areas may have difficulty due to the nature of the terrain.

Furthermore, the district is also well covered with respect to both radio and television services. Lower lying areas do have difficulty in accessing these services. Regards to households' access to these services as reflected in Table 3.6.6.1 and Figure 3.6.6.2, the urban areas still have greater access. An average of 75% of households have access to radio and / or television with the average declining as you go further rural. The Hibiscus Coast Municipality enjoys a greater share of access to all the telecommunication services being the economic hub of the district.

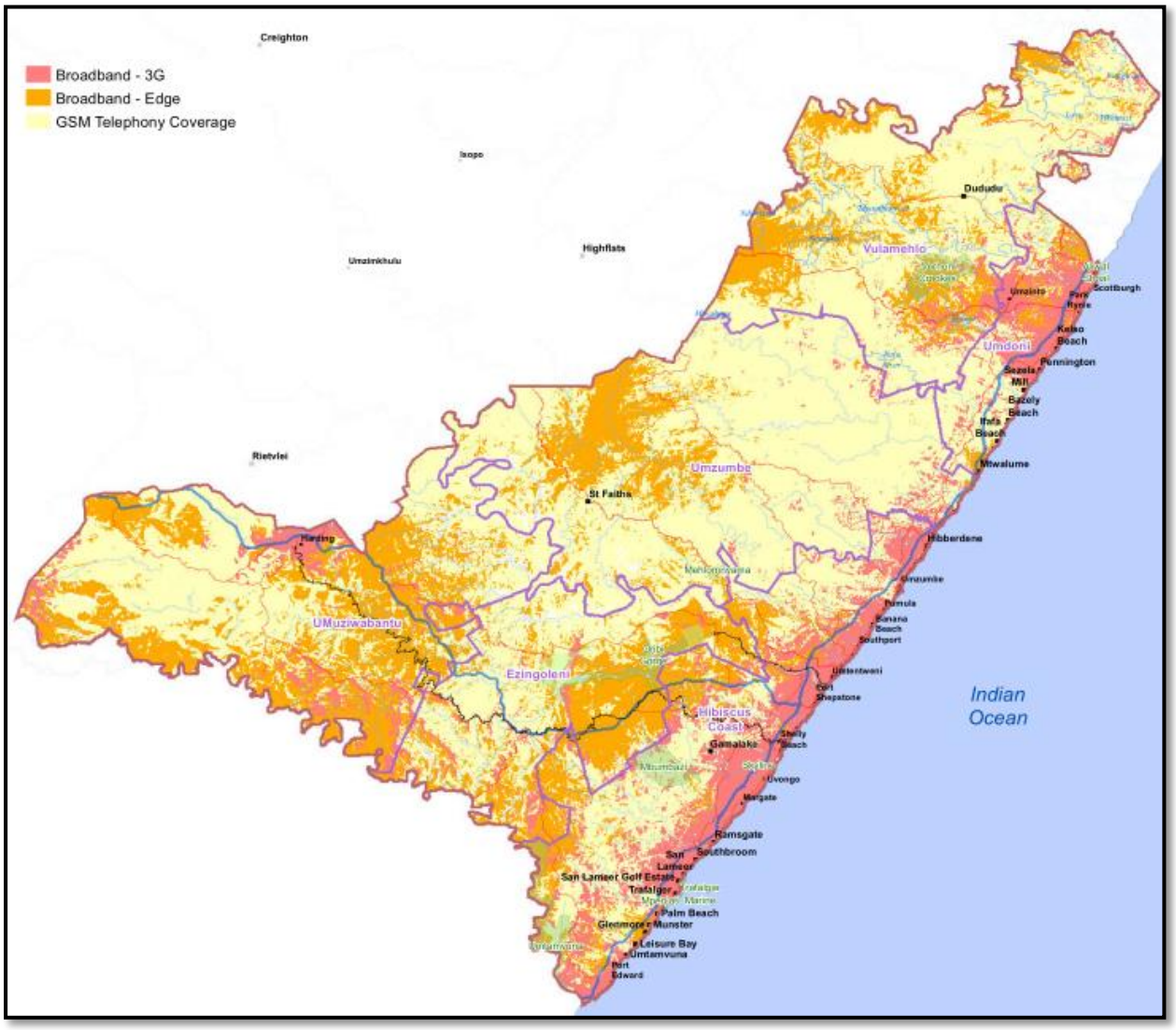

Figure 3.6.6.1: Ugu District Cellular Coverage
Source: Ugu District Municipality Sector Wide Infrastructure Audit, 2014

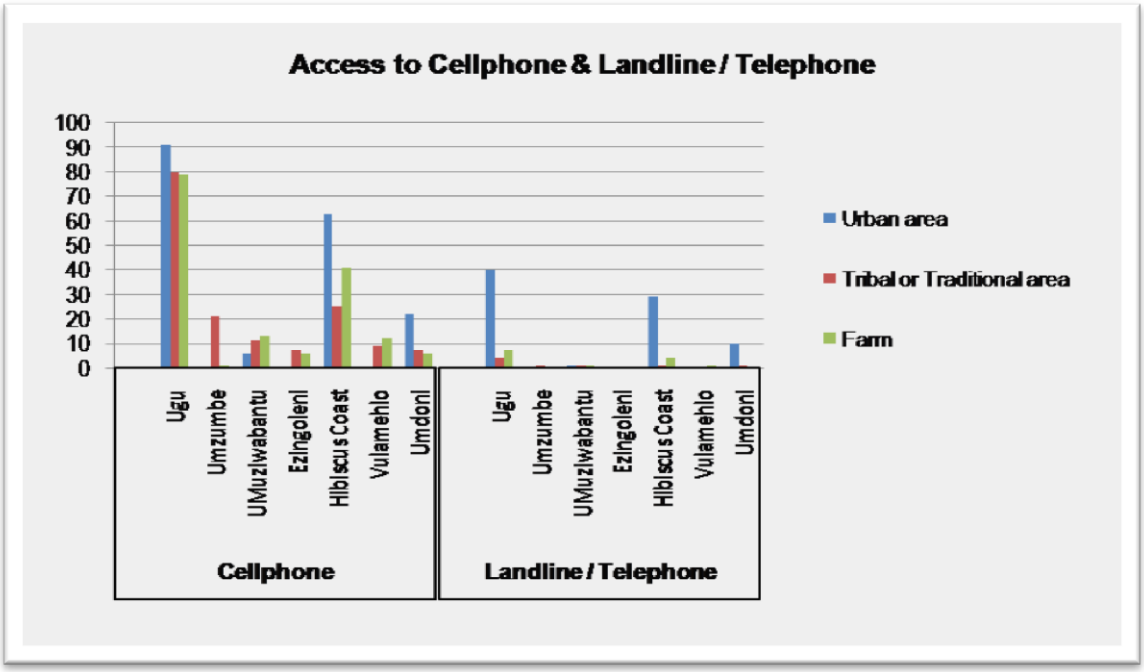

Figure 3.6.6.1: Ugu District Access to Cell phone & Landline / Telephone
Source: Statistics SA, Census 2011

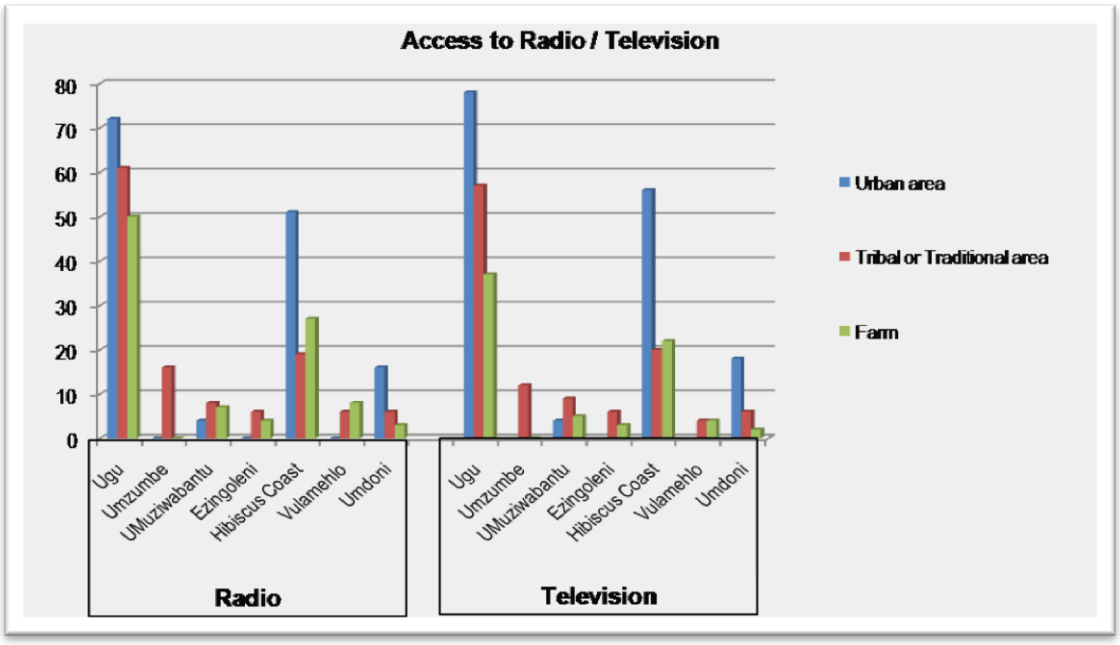

Figure 3.6.6.2: Ugu District Access to Radio / Television
Source: Statistics SA, Census 2011

With regards to internet only 28% of the households have access. Of the 49 827 households that have access to internet, 59% of them access it through cell phones. Furthermore it is worth noting that the shift from the highest concentration of households with access to the internet being in the urban areas (41%) to it being in the rural areas (55%). Further investigation should be made to determine which age group dominates the 55%.

Table 3.6.6.2.: Ugu District Households Access to Telecommunications Services
Source: Statics SA, Census 2011

	From home	From cell phone	From work	From elsewhere	No access	Total
Urban area	8715	7617	2214	1650	24120	44316
Tribal or Traditional area	2106	18297	1692	5496	96255	123846
Farm	495	1008	282	255	9234	11274
Grand Total	11316	26922	4188	7401	129609	179436
% with access	**6**	**15**	**3**	**4**	**72**	**100**

Due to the limited availability of information regarding telecommunications, it is rather difficult to establish whether the low levels of accessibility in the rural areas are as a result of limited infrastructure or affordability. This requires further interrogation and must be analysed together with poverty indicators as they are interlinked to a certain degree.