Map 24: Rudimentary Rollout 2012-2016

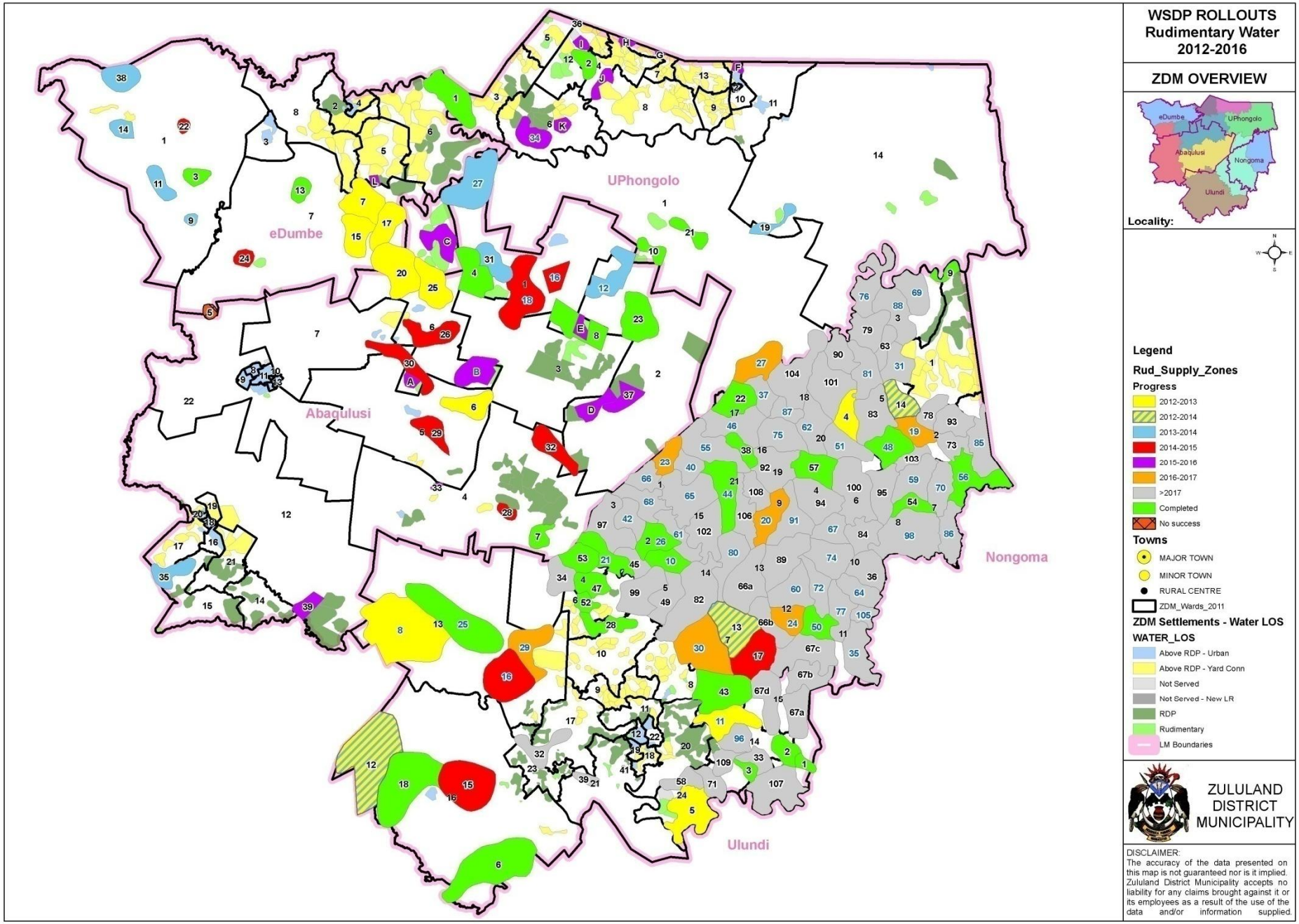


Table 45: Sources of Capital Income: Water

WATER	Expected Funding	2012/13	2013/14	2014/15	2015/2016	2016/2017	>2017
MIG	R 1,104,528,000	R 220,905,600	R 220,905,600	R 220,905,600	R 220,905,600	R 220,905,600	unknown
DWAF	R 142,700,000	R 72,700,000	R 70,000,000	R -	R -	R -	unknown
Housing	R -	R -	R -	R -	R -	R -	unknown
Other grant funding	R -	R -	R -	R -	R -	R -	unknown
Loans	R -	R -	R -	R -	R -	R -	
TOTAL	**R 1,247,228,000**	**R 293,605,600**	**R 290,905,600**	**R 220,905,600**	**R 220,905,600**	**R 220,905,600**	
Capital requirements	R 2,963,254,485						
Shortfall	**R -1,716,026,485**						

Source: WSDP 2012

Table 46: Sources of Capital Income: Sanitation

SANITATION	Expected Funding	2012/13	2013/14	2014/15	2015/2016	2016/2017	>2017
MIG	R 276,132,000	R 55,226,400	R 55,226,400	R 55,226,400	R 55,226,400	R 55,226,400	unknown
DWAF	R -	R -	R -	R -	R -	R -	unknown
Housing	R -	R -	R -	R -	R -	R -	unknown
Other grant funding	R -	R -	R -	R -	R -	R -	unknown
Loans	R -	R -	R -	R -	R -	R -	
TOTAL	**R 276,132,000**	**R 55,226,400**	**R 55,226,400**	**R 55,226,400**	**R 55,226,400**	**R 55,226,400**	
Capital requirements	R 315,820,000						
Shortfall	**R -39,688,000**						

Source: WSDP 2012

8.1.2 OPERATION AND MAINTENANCE

The Technical Department is divided into three main divisions, namely:

- Project Management Unit (PMU)
- Bulk Water and Wastewater Management
- Rural and Urban Reticulation

The strategic objective for the Technical Services Department is to progressively provide cost effective, reliable water services of good quality to all potential consumers in the district.

The core functions of the Technical Department are therefore:

- To implement the new infrastructure (Water and Sanitation).
- Operation and Maintenance of the secondary bulk and reticulation.
- Management, Operation and Maintenance of Bulk Water and Waste Water Infrastructure.

The key issues faced by the Department are linked with the key performance indicators, which also happen to be linked with the National Key Performance Indicators, to ensure that the relevant aspects of service delivery are addressed, measured and improved. Please refer to the OPMS section.

Project Management Unit

The Project Management Unit is responsible for the implementation of all the capital projects in the district. The unit has a total of 6 technical officers, two Institutional Social Development Officers (ISDO) and a Senior Project Administrator.

The current total Business Plans approved by the Municipal Infrastructure Grant (MIG) is in excess of R 1,541,959,888.40 and this makes Zululand District Municipality to be at least having committed projects for more than eight (8) years ahead, considering the current rate of MIG fund allocation which is approximately R180,000,000.

A large amount of money is currently spent in the development of bulk infrastructure and as the bulk line passes communities, reticulation networks are installed. Where the communities are experiencing acute shortage of water, the rudimentary programme is in place to bring relief and where there are no reliable sources, water tankering is taking place.

Zululand District Municipality, for sustainable water supply, is divided into ten (10) regional schemes with reliable water sources.

Rural and Urban Reticulation

This division deals with the reticulation of water from bulk services, attending to all operation and maintenance of the water infrastructure in both urban and rural areas. It also manages the emergency water/drought relief programme.

Currently all urban areas are serviced with water and sanitation. They are mostly metered and also receive the 6 kilolitre Free Basic Water.

Water Control and Management

In the financial year 2008/9, utility meters were introduced so that water required by the consumer could be measured either on daily or monthly quantities as preferred by the consumer. Those who want to be limited to FBW can also be provided on daily or monthly basis.

The schemes in the rural areas are not metered as they are considered to be consuming water less than the FBW. Zone meters have been installed to monitor the above situation and if the consumption indicate viability of metering water, that will be considered in the due course.

There are six reaction teams managed via a roster of service providers to provide emergency repairs to infrastructure.

8.1.3 BULK WATER SUPPLY AND WASTEWATER MANAGEMENT

The core function for Water Services Provision Bulk is to ensure that water and wastewater infrastructure is managed properly in order to produce a cost effective and class one (1) quality of water that meets stringent compliance while adequately addressing communities. It also addresses Operation and Maintenance of Bulk Infrastructure in order to minimize down time.

The above is carried out in all Local Municipalities with the exception of Abaqulusi Municipality's urban water and waste infrastructure.

8.2 SOLID WASTE

The 2001 Census reported that more than half the households in Zululand dispose of waste in their own dumps. Only 20 % have access to a formal waste disposal system, and these will be in urban areas. Please see the table hereunder:

Table 47: Method of Waste Disposal

Method of disposal	% households
Municipal weekly	29,959
Municipal less often	2,034
Communal dump	975
Own dump	87,104
No disposal	30,918

Source: 2001 Census

The District has commissioned and completed the preparation of a Waste Management Strategy.

New facilities were proposed and the following issues addressed:

- Positioning of facilities
- Sizing of facilities (numbers and land requirement)
- Timing and priorities
- Tariffs
- Management: Local Municipalities or District Municipality
- Legal Responsibilities (Environmental and Water Acts)
- Rural - Cultural Practices
- Groundwater Pollution control
- Health Aspects
- Cost estimates were done on the CAPEX for infrastructure as well as the operational and maintenance cost of facilities.

Recommendations were made on the following:

- Procedures to be followed for the development of new Waste Disposal
- Site facilities and how to maintain the service at a satisfactory level at all times in line with the Minimum Requirements of DWAF (1998).
- Additional services required, e.g. geotechnical investigation, environmental impact assessment, etc.
- Cost recovery.
- Operational Control - local or district. Both alternatives to be evaluated and discussed.

8.3 CEMETERIES

Burial arrangements are closely bound with cultural and religious traditions. In most cases burial sites are needed in relatively close proximity to settlements. Accordingly to the Zululand Cemeteries Master Plan, approximately 700 ha of land will be required in the Zululand District Municipality by the year 2020 to accommodate approximately 800 000 cumulative deaths at that time. The table below shows the breakdown of the land requirements per Municipality for cemetery requirements:

Table 48: Estimated Cemetery Land Requirements (2020)

Municipality	Projected Population	Cumulative Deaths up to 2020	Recommended Land Required (ha)
EDumbe (KZ 261)	67 583	52 723	46
UPongolo (KZ 262)	113 149	88 274	78
Abaqulusi (KZ 263)	230 191	179 558	156
Nongoma (KZ 265)	253 114	197 479	171
Ulundi (KZ 266)	366 677	286 044	249
ZDM	**1 030 714**	**804 078**	**700**

Source: Cemetery Master Plan

The Districts Cemetery Plan (2003) provides the following information:

- In the urban centres, cemeteries are provided by the Municipalities, who provide gravesites at specified tariffs and keep records of burials.
- Cemeteries are provided and maintained by some religious congregations like the Anglican Church, Catholic Church and Lutheran Church.
- Where land is set aside for cemeteries on tribal land, the cost of burial sites are included in the general fees payable to the tribal authority.
- In selected rural areas with a low population density, burials are allowed near family homesteads.
- On some commercial farms, burial sites are provided for staff, but these provisions are now resisted by farmers as a result of the promulgation of the Extension of Security of Tenure Act.
- Because of the low demand for cremations, there are at present no crematoria in the Zululand District. The nearest crematoria are situated in Newcastle and Eshowe.

8.4 MUNICIPAL ROADS & PUBLIC TRANSPORTATION

Transport infrastructure includes road, rail, and air. Transport infrastructure in the District has an urban bias, such that the urban areas are accessible whilst the rural areas face problems of inaccessibility and poor infrastructure maintenance. With respect to transport infrastructure, the following district responsibilities have to be noted:

- Public transport infrastructure provision; and
- Public transport planning

Road Infrastructure

Road infrastructure is under pressure particularly from heavy vehicles. The responsibility between Local and District municipalities as well as the Department of Transport (DOT) for road provision and maintenance still needs to be finalized and has been flagged as a key development issue.

There are a number of roads in order of priority that are of strategic importance to the Municipality, and that should receive priority as far as the Municipality is concerned.

1. **Nongoma uPhongola link road**: A section of this road between Nongoma and uPhongola (about 35km) need to be upgraded to blacktop**.**
2. **Nongoma Vryheid link road:** There is a portion of road between Nongoma and Vryheid, from Nongoma to Vryheid that need to be upgraded to blacktop standard.
3. **Ceza R66 road:** A section of the road need to be upgraded to blacktop.

The National Roads Agency together with the Department of Transport provides funding for roads infrastructure development. This funding is however not channeled through the Municipality, but is directly channeled down from Provincial level to implementation in the different Municipalities.

The priorities from Municipalities as identified in the IDP are however taken into account in the funding process.

In addition to the strategic roads listed above (that are also reflected in some way in the SDF) the ZDM has drafted a Public Transport Plan (PTP). The PTP has as its primary objective to provide an appraisal of the public transport system (based on the results of the CPTR) that should assist decision makers in their efforts to improve the public transport system.

The following 2 maps have been derived from the PTP that depict:

- Vehicle Trips
- Vehicle Volumes

The significance, in terms of vehicle trips and volumes of a number of routes become clear, notably the Vryheid - Emondlo route from the following maps.

The backlog determination methodology referred at the start of this section has been applied to determine backlogs to roads and outlined in the table hereunder and also mapped at overleaf:

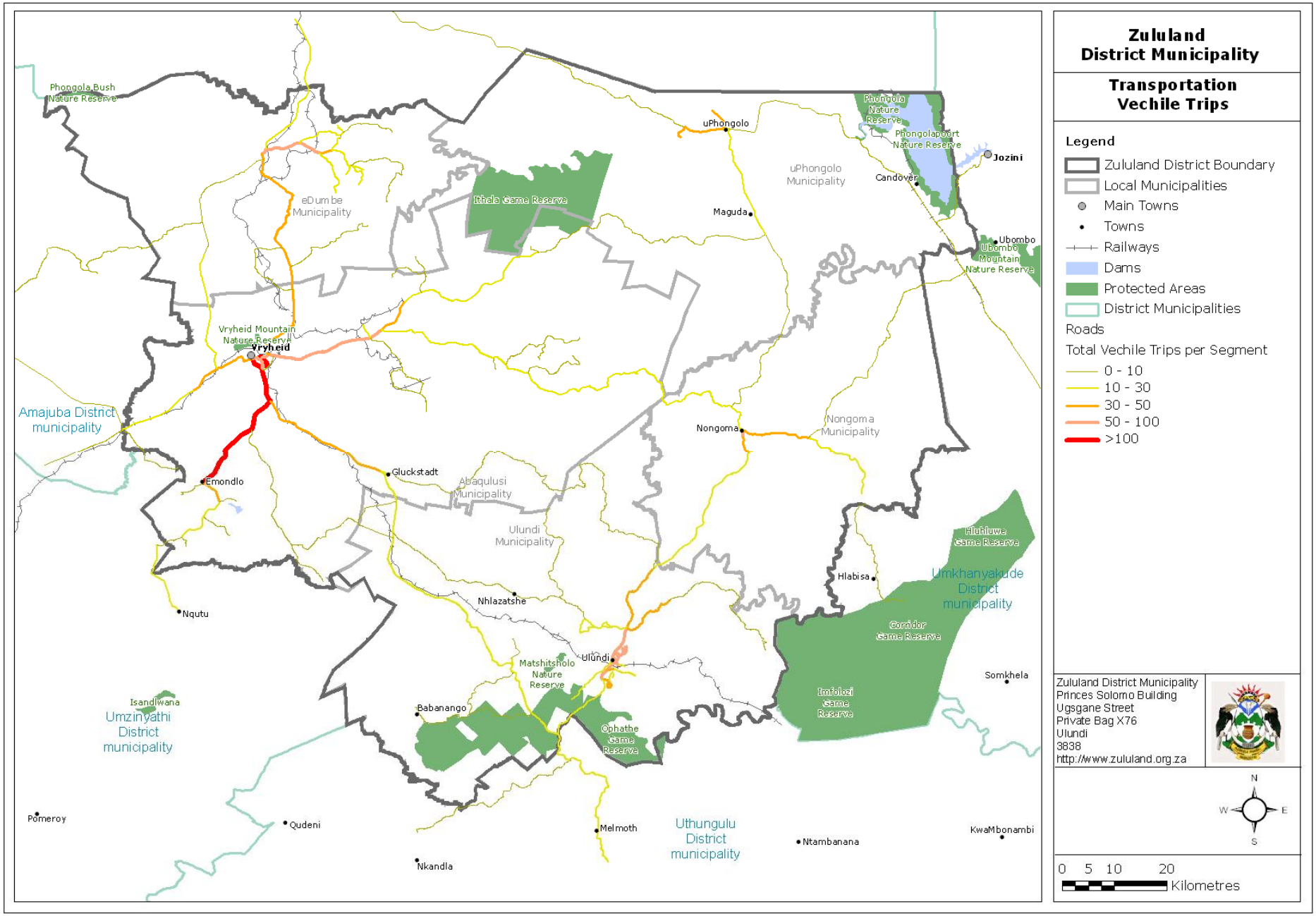
Table 49: Road Access Backlog Determination

	< 1km		
Local Municipality	**Households**	**Population**	**Percentage**
Abaqulusi Municipality	30645	207252	95%
eDumbe Municipality	12124	81995	89%
Nongoma Municipality	30726	207800	99%
Ulundi Municipality	28166	190487	94%
uPhongolo Municipality	20056	135639	95%

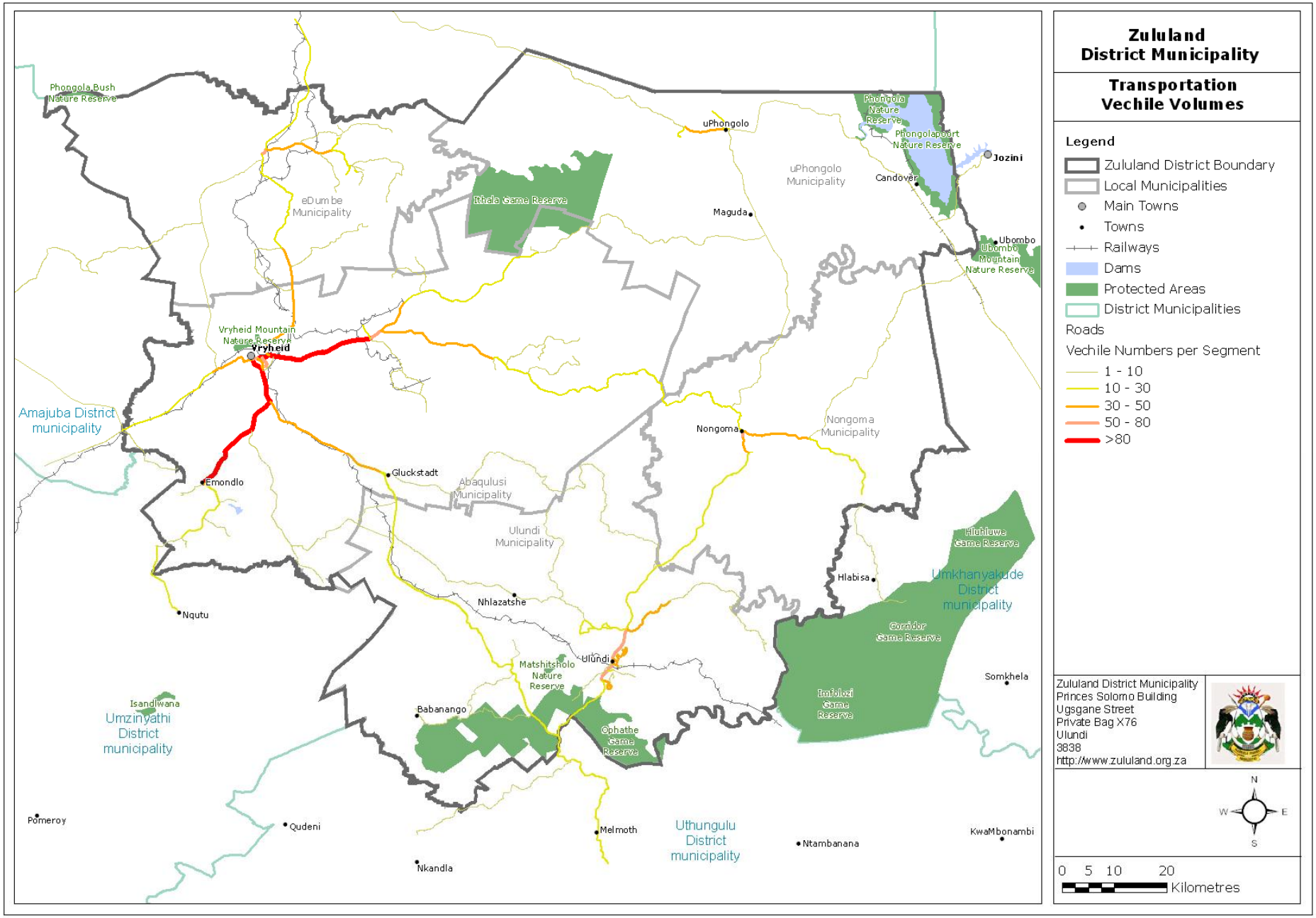
	1km - 2.5km		
Local Municipality	**Households**	**Population**	**Percentage**
Abaqulusi Municipality	173	1170	1%
eDumbe Municipality	1121	7581	8%
Nongoma Municipality	114	771	0%
Ulundi Municipality	379	2563	1%
uPhongolo Municipality	541	3659	3%

	>2.5km		
Local Municipality	**Households**	**Population**	**Percentage**
Abaqulusi Municipality	1484	10036	5%
eDumbe Municipality	333	2252	2%
Nongoma Municipality	174	1177	1%
Ulundi Municipality	1392	9414	5%
uPhongolo Municipality	412	2786	2%

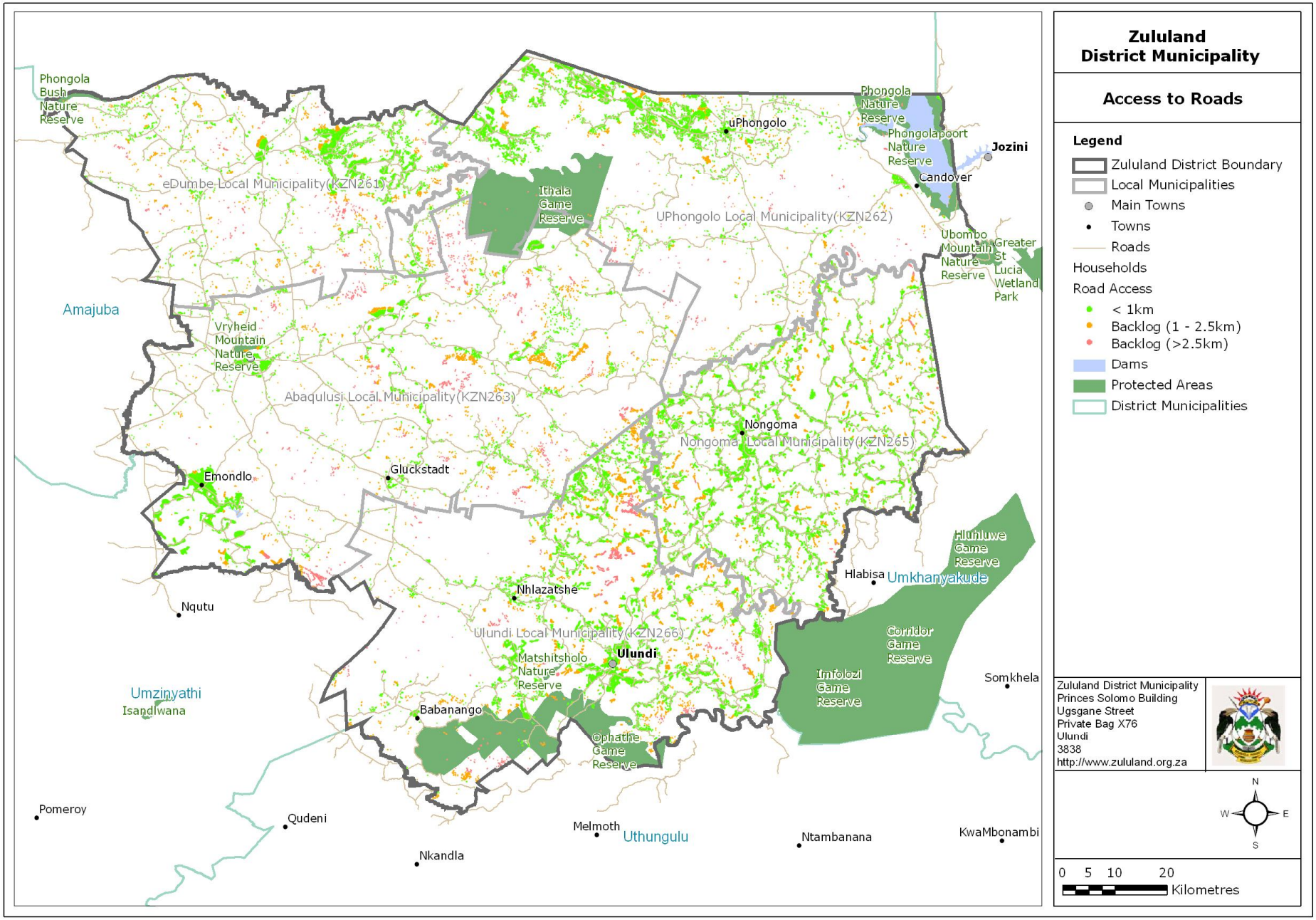
Map 25: Transportation Vehicle Trips



Map 26: Transportation Vehicle Volumes



Map 27: Access to Roads



The following transport related issues should be noted:

- Zululand District Municipality will be required to plan a co-ordination role in the provision and maintenance of roads within the District. The responsibility of roads (excluding Municipal roads) within the district remains the responsibility of the Department of Transport. The planning responsibility is with the district.
- An identification of the road network within the district and their classification has been undertaken based on the Districts GIS information. The classification includes:
  - National and Provincial Roads
  - District Roads
  - Municipal Roads
  - Roads in the Ingonyama Trust area
  - Roads on State land
- Rural Access roads have the most important impact for future development of the district. It is thus essential that the District be given opportunity to provide input into the Department of Transport planning for the District.
- The Provincial department utilizes the Rural Road Transportation Forums (RRTF) and Community Road Safety Committee (CRSC) to determine the road priorities.

Rail Infrastructure

The most important **rail** link is the coal line from Mpumalanga Province through Vryheid to Richards Bay Coal Terminal from where the product is exported. However, railway traffic is generally on the decline, as is the case throughout the province and rest of South Africa.

"The Coal Line, which started operations in 1976, links 44 coal mines in Mpumalanga to the bulk export port of Richards Bay. The line runs from Witbank through Piet Retief, Paulpietersburg, Vryheid East, Ulundi to Richards Bay. Although initially designed to convey 21 million tons of coal exports per annum the route was upgraded in 1989 and in 1997 it conveyed 62 million tons of coal to Richards Bay (Robinson 1999). This was expected to increase to 70 million tons by the year 2000. Importantly, the Coal Line Study notes that the 200 truck dedicated coal trains (of which there are 23 per day) "do not stop at stations within the corridor except to changes crews. All these trains return empty".

Further to this it was found that there is approximately 17 general freight trains on the line, transporting 30 000 tons of goods to Richards Bay, including fero-chrome, granite, chrome, steel and timber. Although most of the freight is loaded north of Zululand substantial amounts of timber is loaded in the eDumbe and Vryheid areas. The trains are reported to return with approximately 10 000 tons of goods (Robinson 1999)."[5]

Air Transport Infrastructure

According to the Zululand Business Sector Plan (May 2006: pg 19), the District has two airports of note, viz. the Ulundi Airport and the Vryheid Airport.

The KZN Provincial Government resolved to transfer the management and ownership of the **Ulundi Airport** to the Zululand District Municipality and representative Joint Task Team was established to (1) facilitate the process and (2) to develop a strategy to ensure the future sustainable operation of the facility.

- The main objective is to make the airport a catalyst and key driver of the District's IDP and LED programmes. A Strategy document outlining strategies and objectives that need to be implemented to ensure viability of the airport was produced and it is the yardstick according to which progress and achievements made are measured.
- Airport operations are governed by the Civil Aviation Regulations of 1997 as amended from time to time. An Aerodrome Emergency Management System has been developed as per Regulation 139.02.6 and approved by

[5] ZDM Business Sector Plan, May 2006: pg 19

the South African Civil Aviation Authority (SACAA) as the legislating body monitoring operations of airports in South Africa. A Full-scale Emergency Exercise has also been performed successfully thereby convincing the SACAA Inspector that the airport is capable of responding to an emergency of that specific magnitude.

The following progress on Implementation of the Airport Strategic Objectives:

Airport Management

- An organizational chart has been drawn as the proposed Management structure which is yet to be approved by the council. The most critical post that is mandated by the SACAA regulations have been filled in compliance with ICAO Doc 9137-AN/898 PART 1 on Rescue and Fire Fighting i.e. the Chief Fire Officer.
- An operation Manual has been developed though still under SACAA scrutiny but staff members have started operationalising this document.
- Most staff members have attended a radio communication course i.e. PARTEK and two has already passed with others still having to do their practical examination. A Dangerous Goods Course has also been presented to most airport staff members.
- A Full scale Aerodrome Emergency Exercise has been performed successfully with all stake holders. The SACAA Inspector was impressed by the enthusiasm shown by participants who diligently illustrated different scenarios and thoroughness of Nkonjeni Hospital and EMRS as he found that the patient treatment was realistically simulated, to the point where patient cards were opened; treatments recorded and even some patients with X-Ray request forms, in wheelchairs.

Building and Maintenance

- The airport has deteriorated tremendously i.e. the infrastructure and buildings received minimal attention. Navigation equipment has been repaired while the DME and one NDB (SMH) that have been identified as obsolete are in the process of being replaced.
- Electrical and drainage systems are receiving minimal attention on ad hock bases also due to financial constrain, with the drainage system posing constant problems denoting a need for major overhaul.
- Local and Regional Tourism Development and Marketing
- Top management of an airline that is readily available to provide scheduled flights, has visited the District's airport and surrounding Tourists Attraction Venues with an aim of confirming viability of scheduled flights and a proposal is expected.
- A company specializing in the provision of flight schools has visited the airport with an aim of gathering information towards developing a proposal for presentation to the Zululand District Municipality.
- A marketing video has been prepared and shown to the senior management team of one of the prospective carriers who were hosted by the Zululand District Municipality at Umfolozi/ Hluhluwe Game Reserve.

The **Vryheid airport** is no longer licensed as scheduled flights to Vryheid were discontinued in the mid-1980s partly because of a change in the operating company and partly because of the closure of major coal mines in the Vryheid area. The municipal parks department maintains the airport.

8.5 ELECTRICITY / ENERGY

In the Zululand District Municipality electricity is provided by way of connections to the Eskom grid or by way of non-grid electricity. It is important to note that the **electricity network** in the southern portions of Zululand has very limited capacity and, as such, no new projects are being commissioned in this part of the District. In the northern portions of the district, notably Edumbe, Ulundi and Abaqulusi, a few projects are proposed.

The calculated backlog for the provision of electricity, in terms of planned grid and non-grid supply is as follow:

- 55237 still to be connected to grid supply – this equates to approximately 39% of the total households
- 13175 still to be connected to non-grid supply – this equates to approximately 9% of the total households

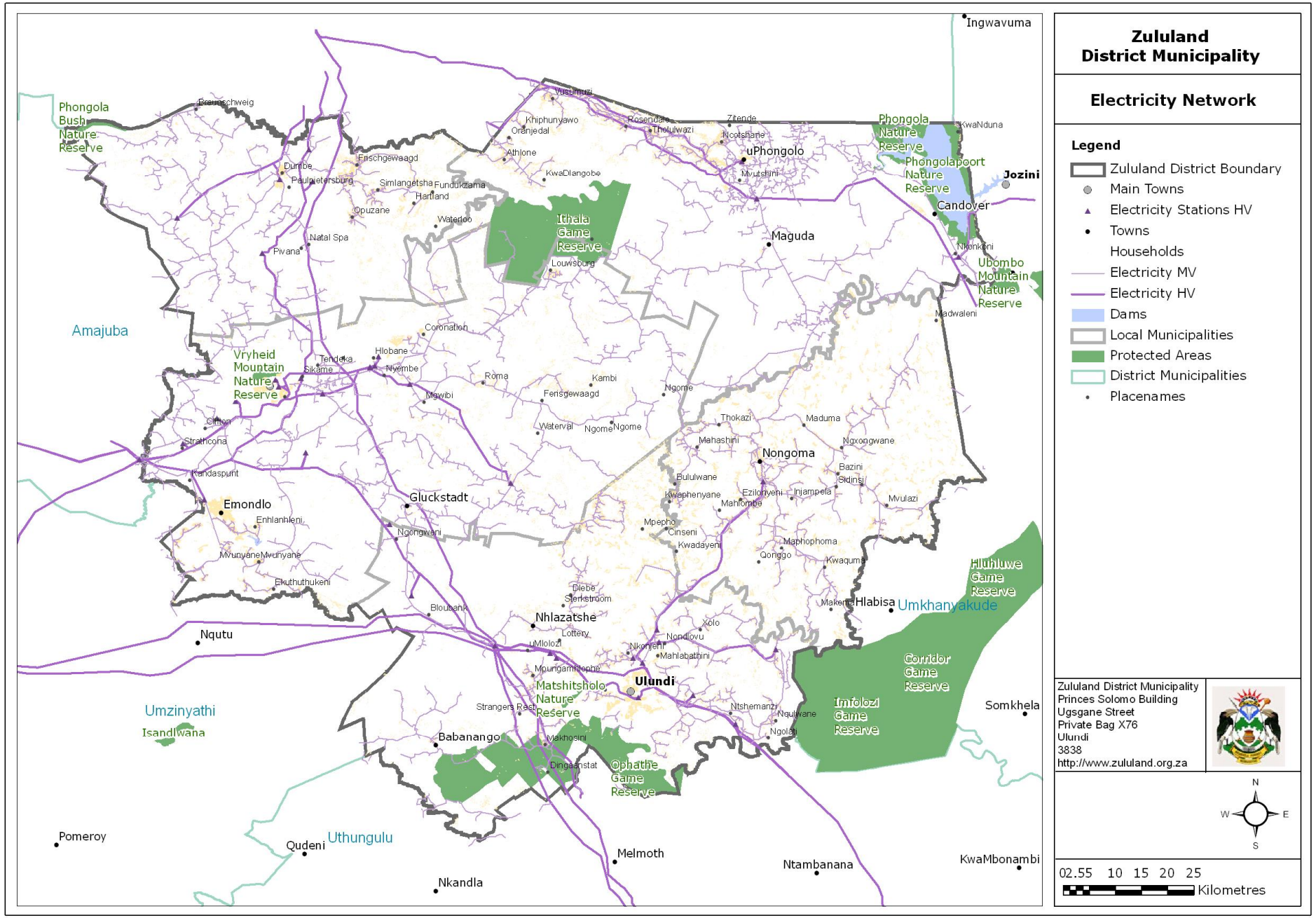
(Note: Updated figures to be provided when available)

More details on the electricity network and accessibility to it as shown in the following table and the maps at overleaf:

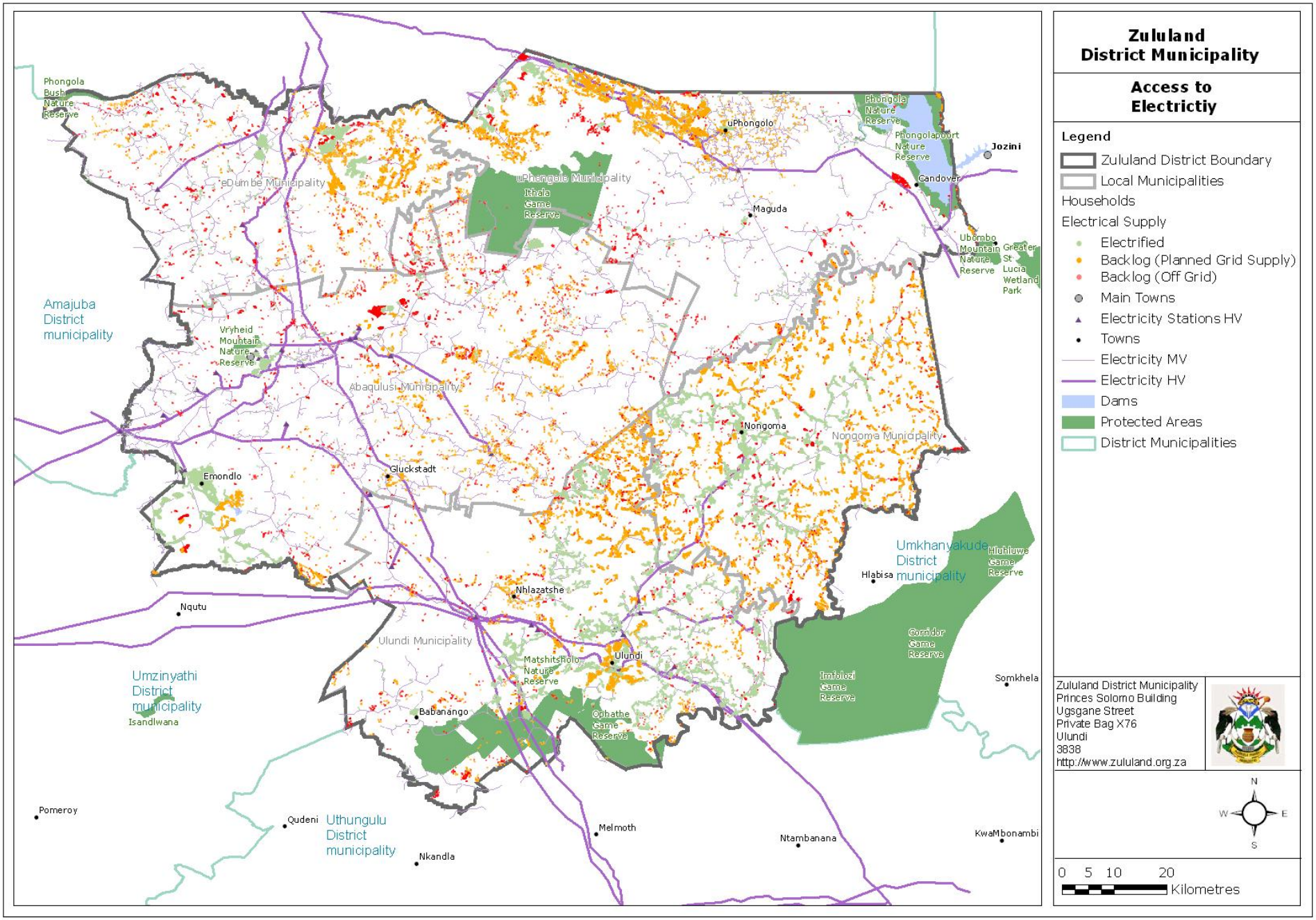
Table 50: Status of Electrification

	Electrified		
Local Municipality	**Households**	**Population**	**Percentage**
eDumbe Municipality	8596	58135	57%
uPhongolo Municipality	5306	35884	24%
Nongoma Municipality	25102	169765	70%
Abaqulusi Municipality	15308	103528	45%
Ulundi Municipality	19817	134022	56%
BACKLOG			
	Planned Grid Supply		
Local Municipality	**Households**	**Population**	**Percentage**
eDumbe Municipality	4492	30379	30%
uPhongolo Municipality	14127	95541	64%
Nongoma Municipality	6803	46009	19%
Abaqulusi Municipality	16366	110683	47%
Ulundi Municipality	13449	90956	38%
	Off Grid Supply		
Local Municipality	**Households**	**Population**	**Percentage**
eDumbe Municipality	1930	13053	13%
uPhongolo Municipality	2680	18125	12%
Nongoma Municipality	4131	27938	11%
Abaqulusi Municipality	2378	16082	7%
Ulundi Municipality	2056	13905	6%

Map 28: Electricity Network



Map 29: Access to Electricity



8.6 DISASTER MANAGEMENT

Disaster Management is governed by the following Acts, Regulations and Plan:

- Disaster Management Act No. 57 of 2000
- Disaster Management Regulations
- Disaster Management Framework
- Disaster Management Sector Plan
- Fire Brigade Services Act

The core function of Disaster Management Division is to attend to the following issues, namely:

- Conducting Disaster Awareness throughout the district
- Attending to all disaster incidents in the district,

Among the various types of disasters, common disasters that normally hit the people in the district are natural disasters such as storms and strong winds.

The following forums are in place to attend and align disaster management responses:

- Disaster Management, Health and Safety Portfolio Committee
- Disaster Management Advisory Forum
- Provincial Disaster Management Advisory Forum

Disaster Management operates on grant funds provided provincially and with funds allocated by the by Zululand District Municipality. Amongst others, the funds are utilized for the following purposes:

- Disaster Relief Equipment
- Tents
- Plastic sheeting
- Food parcels for victims
- Disaster Equipments
- Fire Trailers
- Fire fighting vehicles.

Given that Disaster Management responds to emergency situations, it is crucial that this department is prepared for emergency situations. The Disaster Management Centre has been commissioned and operates 24/7 and employs the following staff:

- Centre Manager
- Senior Admin Officer
- 10 Fire Fighters

The ZDM has finalized the preparation of its Disaster Management Plan and procurement processes are underway to ensure the implementation of the said plan.

8.7 INFRASTRUCTURE: SWOT ANALYSIS

8.7.1 STRENGTHS/OPPORTUNITIES

- The ZDM has an indigent policy in place.
- To measure consumption in unmetered zones, the municipality uses the water balance to determine consumption.
- The Zululand District Water Services Plan gives a clear indication as to where and when water infrastructure will be provided in the District. It provides a clear indication of what amount of water capital infrastructure will be provided when and at what cost and during which year. MIG business plans in excess of R1,5 billion have already been approved.
- The following forums are in place to attend and align disaster management responses:
- Disaster Management, Health and Safety Portfolio Committee
- Disaster Management Advisory Forum
- Provincial Disaster Management Advisory Forum