

2.7.3 ELECTRICITY

Emfuleni Local Municipality electricity is distributed to all categories of consumers which include residential, agricultural, business and industrial consumers. All consumers connected to the electricity network receive a full service at the applicable rates/tariffs as approved by National Energy Regulation of South Africa (NERSA) every year.

Free basic electricity (FBE) of 50kWh per month is made available to all the registered indigents. The study area has not been granted the indigents' status as most households are bonded and the owners can afford to pay rates and taxes hence free basic electricity does not cover it.

Electricity provision is made in the annual operating and capital budgets for the maintenance, refurbishment and/ or upgrading of the electricity network. The allocation to the maintenance funding for the Electricity Function is being increased gradually to achieve the requirement of 6% of the electricity sales on an annual basis as stipulated by NERSA in an effort to improve the preventative maintenance actions and ensure long term continuity of supply in the entire municipality. Maintenance on the electricity network is done on a continuous basis and use is made of multiyear maintenance contracts to achieve this. Maintenance on public lighting is done in accordance with a predetermined program.

The total (technical and non technical) electricity losses for 2012/13 were approximately 15.6% in the entire municipality; however, the process to reduce the losses through the replacement of faulty meters is being implemented on an on-going basis.

2.7.4 ROADS AND TRANSPORT

2.7.4.1 Road Network

Vanderbijlpark road system has been designed in a unique circular structure, which differs from the traditional grid design of most towns. The internal route structure is circular and intermittently punctuated by traffic circles modulating traffic flows and patterns. The transport route structure renders pedestrian navigation less fluid. However the circular route/road design provides clear boundaries of the different suburbs of the town and enables easy internal circulation throughout the study area by residents.

The study area is well connected externally into the Provincial road hierarchy to ensure effective mobility. The key mobility roads within the study area include Barrage Road (R42), Ascot on Vaal Road and R59 Freeway. R42/K174 carries significant west and east bound traffic volumes between Johannesburg conurbation to the north and Parys burgeoning development agglomeration to the south. Within the major Vanderbijlpark economic area, R42 distributes traffic volumes into major feeder road at its various intersections.

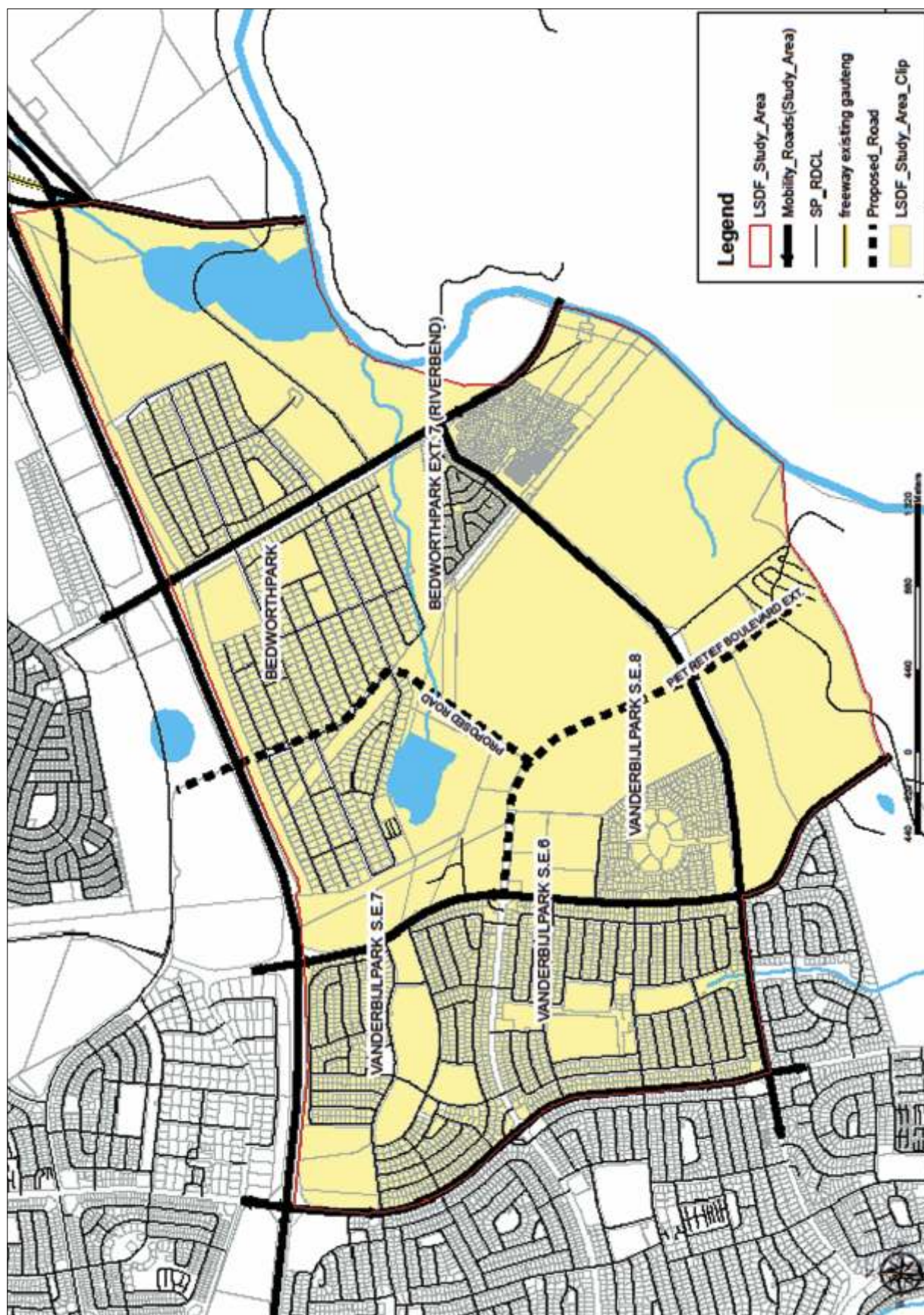


Figure 11: Mobility Map

2.7.4.2 Public Transportation

Bus Services:

Generally buses are the least used mode of transport in Emfuleni area and within the study area. Buses are used predominantly by students and their operational viability subsists on contractual symbiotic relationship with the two major tertiary institutions (VUT and NWU). Minibus taxis are the most dominant and flexible mode of transport. There are currently no government subsidized bus operators in the study area but only three bus operators namely: Mpembe, Nhlapo and Phadi which ferry passengers largely to and from the above mentioned tertiary institutions primarily during peak hours. The number of buses and trips operating within this study area per day are illustrated in the table below:

Table 5: Bus Services

NAMES OF BUSES OPERATING	NUMBER OF BUSES OPERATING PER DAY	NUMBER OF TRIPS PER DAY	TOTAL NUMBER OF DAILY COMMUTERS
Mpembe Transport,Nhlapo Buses,Phadi Transport	10	6	3900

Source: Spatial Planning Section, 2013

Taxi Services:

Taxis are the most commonly used mode of transport after private cars in the area. There are currently two taxi associations operating in the area, namely; *Get Ahead Association* and *Vaal Taxi Association*. Between the two associations 30 taxis operate in the study area, servicing more than 4800 commuters daily. There are no specifically designated pick and drop-off zone areas for buses and taxis in the study area. However, according to Emfuleni Municipality a parcel of land (approximately 5000m²) of park area adjoining General Gordon Street to the south has been alienated to accommodate temporary public transport holding facility (tax/bus rank). Number of taxis and trips operating within this study area per day are illustrated in the Table 6 below:

Table 6: Taxi Services

NAME OF TAXI ASSOCIATION	NUMBER OF TAXIS OPERATING PER DAY	NUMBER OF TRIPS PER DAY	TOTAL NUMBER OF COMMUTERS PER DAY
Get Ahead	20	6	1 800
Vaal	10	20	3 000

Source: Spatial Planning Section, 2013

2.7.4.3 Transport Mode for students in the Study Area

In a 2013 survey carried out by this department which targeted students from Northwest University and VUT, students were asked on what mode of transport they used to travel to and from university. The results are summarized in the table below.

Table 7: Main Modes of Transport

Mode of Transport	Number of Students	Percentage
Mini Bus (Taxis)	3786	15.9%
Bus	5500	23%
Car as a driver	24	0.1%
Car as a passenger	60	0.25 %
Train	0	0%
Metered Taxi	64	0,27%
Bicycle	20	0.8%
Walking	14 237	60%
TOTAL	23 691	100%

Source: Spatial Planning, 2013

The municipality took a local survey in 2013 around the study area and respondents in the survey were asked which of the trips they took daily may be regarded as the most frequent trip they make daily. This survey was restricted to respondents that are over-18 year olds which also excluded school trips. The results were as follows:

Table 8: Trips

Trip Purpose	Number of respondents	Percentage (%)
To go to work	410	11.7 %
To a place of study (University)	850	24.3%
To go shopping	374	10.7%
To library/libraries	450	12.8%
To place of leisure or entertainment	246	7.0%
Taking children to school	642	18.4%
Other purposes	523	14.9%
TOTAL	3495	100%

Source: Spatial Planning: 2013

SECTION **THREE**

DEVELOPMENT VISION

3.1 OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints have been identified in the study area:

3.1.1 OPPORTUNITIES

- Extensive road network
- Adequate land available for urban expansion
- Land is geo-technically suited for urban development
- Existing open space system
- Existing strong nodal structure

3.1.2 CONSTRAINTS

- Illegal Uses (Student accommodation), Illegal buildings, Illegal electrical connections.
- Squalid living conditions for students
- Conversion of residential houses for business purposes
- Existing engineering services under pressure
- Poor maintenance of existing parks and open spaces.
- Law enforcement undermined by prolonged legal processes and authorized punitive measures

3.2 DEVELOPMENT VISION

The vision for the Bedworthpark, Vanderbijlpark, S.E. 7 and Surrounding Areas Local Spatial Development Framework is to conform to the main vision of the ESDF. The vision is to address the challenges that the municipality has identified in a holistic manner, which can provide the basis for defining objectives and making proposal for this LSDF. The vision is defined as follows:

‘To develop Emfuleni into a world class river city that has an efficient urban form and municipal services infrastructure to support the economic and social needs of its community’

3.3 DEVELOPMENT OBJECTIVES

The LSDF proposals need to adhere to a set of objectives, which aim to address the strengths and opportunities relating to the Study Area. The following development objectives need to be met by LSDF proposals:

- *To formulate land development policy with a view to providing decent and affordable student accommodation environment.*
- *To ensure that the amenity and unique character of the study area is maintained.*
- *To protect the residential amenity of the study area*
- *To militate against disfigurement of physical appearance of buildings, as well as noise and safety concerns.*
- *To strengthen the existing non-residential uses*
- *To rehabilitate and protect public open space and parks*
- *To protect environmentally sensitive areas.*

- *To enhance pedestrian movements in the area and outside the Study area.*
- *To protect the mobility of existing Main Routes*

3.4 URBAN STRUCTURING ELEMENTS AND CONCEPTUAL URBAN FRAMEWORK

3.4.1 URBAN STRUCTURING ELEMENTS

Urban structuring elements are spatial tools and informants required to achieve specific development goals and objectives. Management and implementation intensity of these structuring elements are tools for redevelopment and development implementation. Structuring elements should operate at a variety of levels and scales from a Metropolitan to neighbourhood level.

The following structuring elements are relevant to the study area, supporting of the Conceptual Urban Framework:

- **Nodes**

Nodes are areas where a higher intensity of land uses and activities will be supported and promoted. Nodal development improves efficiency as it provides easy access and creates thresholds for a variety of uses and public transport services.

- **Corridors / Transport Structure**

Corridors are links between nodes, along which an increased intensity of development will naturally be attracted and should be encouraged to improve access to opportunities.

- **Infill and Densification**

Infill and densification, in addition to nodes and corridors is a tool to achieve spatial integration and increase population thresholds.

- **Protection**

Protection is aimed at protecting valuable natural, economic or heritage resources.

3.4.2 CONCEPTUAL URBAN FRAMEWORK

The development concept as indicated in **Figure 12** is informed by the status quo directives, opportunities and constraints, development goals objectives and structuring elements.

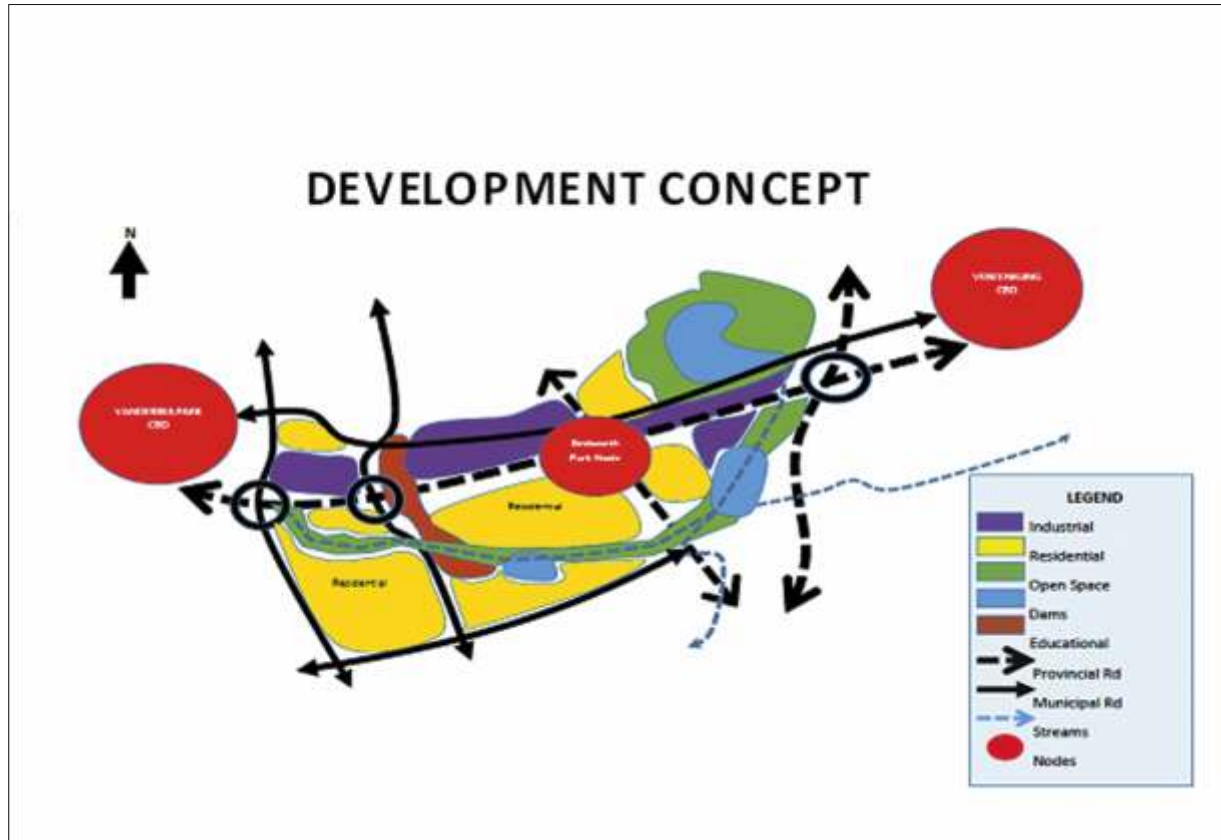


Figure12 : Development concept

SECTION **FOUR**

LOCAL SPATIAL DEVELOPMENT PROPOSALS

4.1 LOCAL SPATIAL DEVELOPMENT PROPOSALS

The Conceptual Urban Framework provided spatial proposals at a broad macro perspective level and has been informed by the development goals, objectives and urban structuring elements. In order to refine the Development Concept, more detailed spatial proposals for each of the Sub Areas within the study area combine to build the Local Spatial Development Framework proposals.

The Spatial Development Framework proposals comprise of the following key areas of intervention and management:

- **Land Use**
- **Transport and Movement**
- **Environmental Management**
- **Heritage Resource and Protection**

The study area comprises of the following geographically defined Sub Areas:

- **Sub Area 1:** Bedworthpark (Area bounded by Barrage Road to the North, Ascot-on-Vaal Road to the West and Mario Milan Road to the South and Green Belt to the East).
- **Sub Area 2:** Bedworthpark Township (Area bounded by Ascot-on-Vaal Road to the East, Barrage Road to the North, AndriesPotgieter Boulevard to the West and Green Belt to the South).
- **Sub Area 3:** Vanderbijlpark SE 7 (Area bounded by Barrage Road to the North, AndriesPotgieter Boulevard to the East, Colonel Gordon to the South and Green-Belt to the West).
- **Sub Area 4:** Vanderbijlpark SE 7 (Area bounded by Hans van Rensburg Street and Barrage Road to the North, Louis Trichardt Boulevard to the West, Piet Retief Boulevard to the South and AndriesPotgieter Boulevard to the East).
- **Sub Area 5:** Open Space System and Green Belt (Stretches from south of Barrage Road through SE 7, VUT, Bedworthpark to Leeuwkuil Dam And Vaal River)
- **Sub Area 6:** Vanderbijlpark SE 6 and SE 8 Proper
- **Sub Area 7:** Vanderbijlpark SE 8 Extension 1 & 2, Vanderbijlpark SE 9, Vanderbijlpark SE 10 and Riverbend Township

4.2 DEVELOPMENT PROPOSALS PER SUB AREA

4.2.1 SUB AREA 1: BEDWORTH PARK TOWNSHIP

- Sub Area 1 is bounded by Barrage Road and Ascot-on-Vaal Road.
- The dominant land use is residential (dwelling houses) with buildings in a good condition.
- Lack of community uses.
- The ruling erf/stand size is 1500m².

Development Objective 1:

To strengthen the existing non-residential uses and protect the residential amenity of the area

INTERVENTIONS	GUIDELINES
1. Protect the existing residential area from non-residential intrusion.	<ul style="list-style-type: none"> ■ Permissible land uses: Residential and related uses. ■ Student accommodation/Boarding House is only allowed as per Clause 31(1)(c) of the Vereeniging TPS 1992 (maximum of four persons or students) provided that compliance with the requirements contemplated in the Emfuleni Student Housing Norms and Standards are adhered to. ■ Encourage non-residential uses within the existing nodal area to ensure full utilisation of sites. ■ Densification: Medium Density (20-40 Du/Ha) ■ No free hold stand shall be less than 500sqm.
2. Investigate illegal land-uses	<ul style="list-style-type: none"> ■ Enforcement of Vereeniging Town Planning Scheme, 1992 and By-laws.
3. Provide appropriate “buffer” uses between the business zoned sites and the inner residential core.	<p>Buffer uses include:</p> <p>HOME ENTERPRISES Allowed in existing dwelling or for re-development.</p> <p>The following development controls shall apply:</p> <p>Zoning – Residential 1 (As per Scheme). Primary Rights – Professional Offices Height – Two (2) storeys.</p> <p>Subject to – Full Parking Provision (no monetary contribution in lieu of parking), a Site Development Plan and an architectural design which shall suite the character of the area.</p>

Development Objective 2:

To create a vibrant, sustainable mixed-use development

INTERVENTIONS	GUIDELINES
1. Support mixed land use development on intersection of Ascot-On-Vaal and Cassandra Street to stimulate economic activity.	<ul style="list-style-type: none"> ■ Encouraged land uses: retail, restaurants and offices