



EMALAHLENI



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LIST OF ABBREVIATIONS

AHI	Afrikaanse Handels Instituut
AMD	Acid mine draining
BEE	Black Economic Empowerment
CBD	Central business district
COGTA	Department of Cooperative Development and Traditional Affairs
CDE	Centre for Development and Enterprise
CSI	Corporate Social Investment
DA	Democratic Alliance
DC/DM	District Council/ District Municipality
EU	European Union
GDP	Gross Domestic Product
GVA/ GVA-R	Gross Value Added/ Gross Value Added by region
HDI	Human Development Index
IDP	Integrated development plan
LED	Local economic development
MDC	Maputo Development Corridor
ML	Megalitres
NDP	National Development Plan
NPC	National Planning Commission
NSDP	National Spatial Development Perspective
NUM	National Union of Mineworkers
SDF	Spatial Development Framework

SMMEs	Small Medium and Micro Enterprises
Stats SA	Statistics South Africa

Acknowledgements

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1. Introduction

Emalahleni, previously known as Witbank, has many of the attributes or features of a city of the industrial revolution. As with many of the cities that then emerged from small settlements, it largely owes its existence and fortunes to the presence of abundant coal reserves. In fact, the name “Emalahleni” means “place of coal”.

The city and its economy are growing rapidly based on coal mining and associated activities such as power generation and the metal industry which is attracting an inflow of migrants to the city. The rapid expansion of the local economy has led to the development of a range of business and social facilities, greatly reducing dependency on Gauteng for all but the most specialised goods and services.

As with the cities of the European industrial revolution, the growth in industry and population has far outpaced Emalahleni’s ability to absorb the population and to provide basic services and housing. In addition, the city suffers from water and air pollution problems. These troubles are compounded by the municipality’s current internal governance difficulties.

Figure 1: Location of Emalahleni



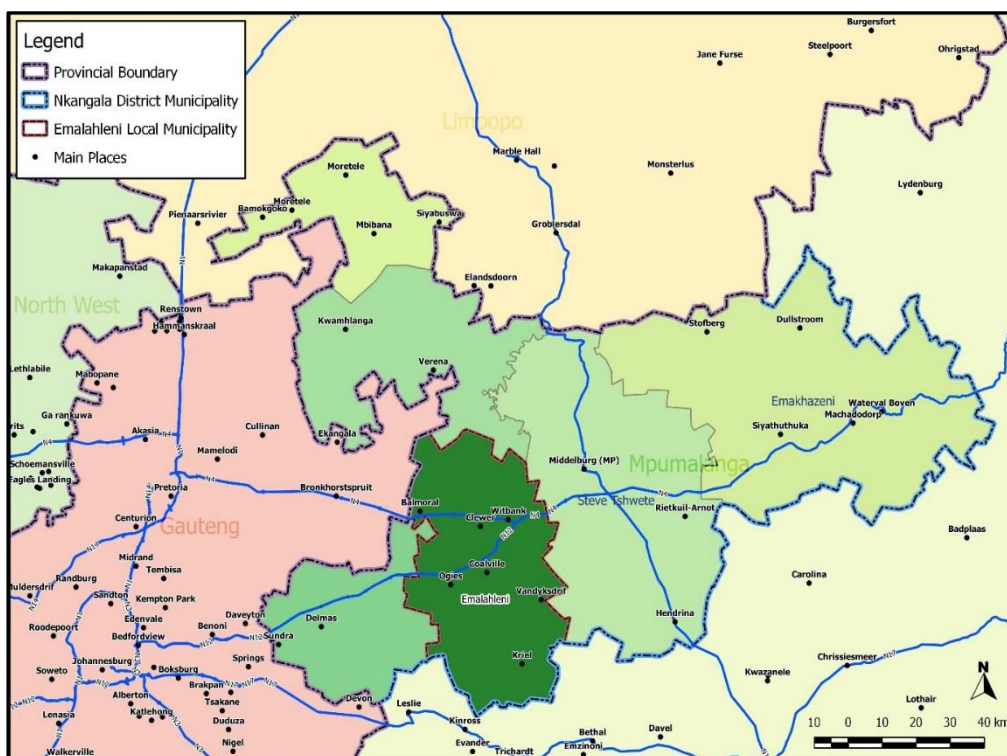
Witbank was established in 1903 declared a town in 1910 and achieved city status in 1994.¹ It was officially renamed Emalahleni on 3 March 2006.² The local municipality that includes Emalahleni, Kwa-Guqa, Ga-Nala, Kriel and Ogies is also named Emalahleni.³ Despite efforts by governing bodies to reinforce the new name many residents still call the city by its original name of Witbank.⁴

The Emalahleni Local Municipality is situated in jurisdictional area of the Nkangala District Municipality (DC31) (see Figure 2) of Mpumalanga Province.⁵ The district municipality is situated to the north-western side of the province and although it is the smallest district in Mpumalanga Province in terms of land mass (21%), covering an area of approximately 2677, 67 km², it has the second largest population concentration (35%) in the province.

Nkangala District Municipality consists of the following six local municipalities:

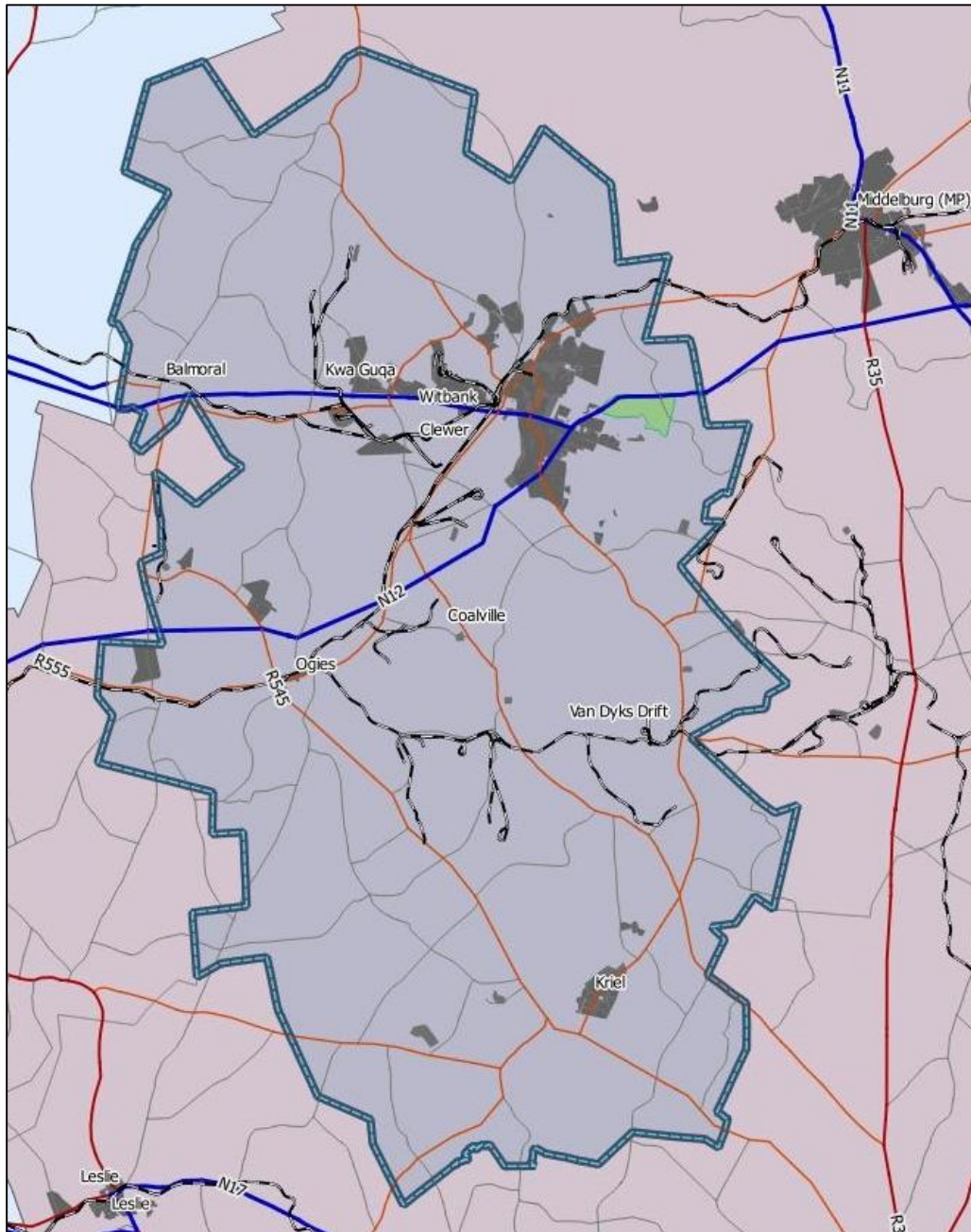
- Emakhazeni Local Municipality;
- Steve Tshwete Local Municipality;
- Thembisile Hani Local Municipality;
- Dr JS Moroka Local Municipality;
- Emalahleni Local Municipality; and
- Victor Khanye Local Municipality.⁶

Figure 2: Emalahleni within Nkangala District Municipality⁷



To the eastern side of Witbank (see Figure 3) is a former white area and to the western side of the city are former black areas⁸ of Vosman, Kwa-Guqa, Ackerville and Schoongesicht.⁹ These are home mainly to black residents. A neighbourhood on the north-western side of Witbank has been established at Pine Ridge, consisting mainly of Indian residents.¹⁰ Like other towns and cities in South Africa, Witbank is very fragmented. Such cities burden households and the economy with high transport and infrastructure costs. Since 1994, densities on a national level have increased in some urban areas, but little progress has been made in reversing apartheid geography.¹¹

Figure 3: Emalahleni Local Municipality

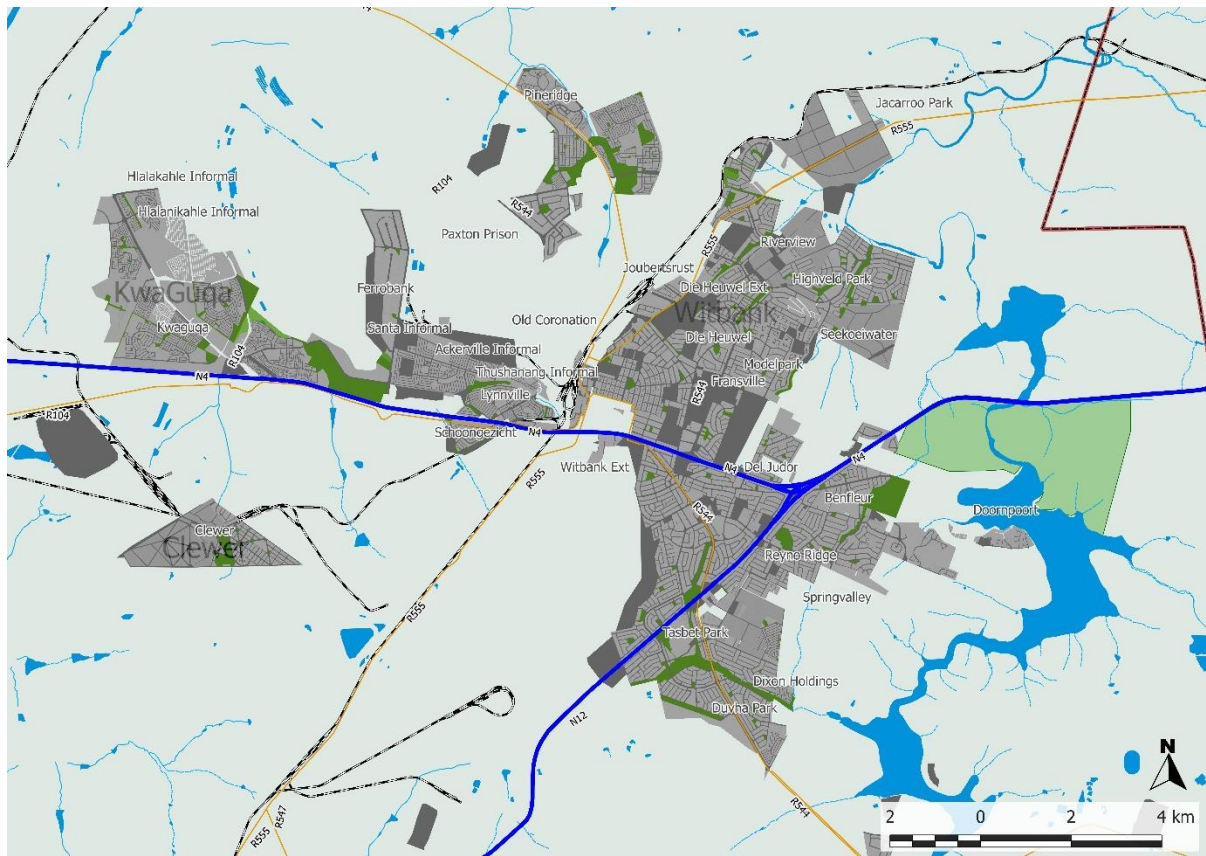


According to the Emalahleni Local Economic Development Strategic document (2011-2016) the following are settlements within Emalahleni Local Municipality:

- KwaMthunzi Vilakazi, which is a predominantly mining community with some agricultural holdings to the west. The Highveld Steel industrial complex is situated a few kilometres to the north thereof;
- The Wilge residential area which is privately owned and which was formerly part of the Wilge Power Station. At present this town has no economic base;

- The western part of the local municipality which is situated immediately to the north of the N12 accommodates the Phola residential area. This town also has a very limited economic base;
- The town of Ogies which is about the third largest centre of activity in the Emalahleni Municipal area and which mainly exists as a result of the railway network converging in the town. Although it has a relatively small residential component, Ogies holds a fairly large number of economic activities;
- Rietspruit which is a former mining town comprising approximately 900 residential units and which has a small retail node in the central part of the town;
- The town of Ga-Nala, which is the southernmost town in the Emalahleni Local Municipal area and mainly exists because of the Matla and Ga-Nala Power Stations, both of which are situated a few kilometres to the west of Ga-Nala. Apart from Witbank, this is the town with the strongest economic base in Emalahleni Local Municipality;
- The Thubelihle residential settlement which is situated about two kilometres to the north of Ga-Nala and which was historically developed as the black town of Ga-Nala;
- The TNC, Clydesdale, Van Dyksdrift, Douglas, Springbok and Wolwekrans complex of settlements, related to mining and railway activity, in the south-eastern part of the area;
- Balmoral situated on the N4 on the western edge of the jurisdictional area comprising a railway station and a few houses; and
- Witbank remains the highest order settlement in the Emalahleni area, both in terms of population and function. Approximately 90% of the population of Emalahleni resides here with only 10% of the population residing in the rural areas.¹²

Figure 4: Main residential areas of Witbank



Witbank was founded on the growing demand for coal¹³ and the Witbank landscape consists mainly of underground and open-cast coal mines. This area has the largest concentration of power stations in the country and the Kendal, Matla, Duvha and Ga-Nala power stations are located within the local municipality.¹⁴

One of the qualifying indicators of the National Development Plan (NDP) of the National Planning Commission (NPC) is to produce adequate energy to sustain industry at competitive prices, to ensure access for poor households, while cutting down on carbon emissions per unit of power by about one-third.¹⁵ This is especially applicable to Witbank as the Mpumalanga Highveld is mentioned in the NDP as an area contributing disproportionately to greenhouse gas emissions and air pollution in South Africa.¹⁶ However, regarding resource-critical areas the National Planning Commission realised that areas such as the Mpumalanga Highveld have natural resources that offer ecosystem support to all of South Africa and may necessitate explicit policies to guarantee sustainability. This includes areas of competition between development and environment, or between competing environmental uses.¹⁷ In 2007 the Emalahleni area was declared the second National Air Quality Priority Area in South Africa due to concern over air pollution from the coal mines, metal smelting and coal-fired power plants. The Emalahleni area has some of the world's highest levels of a list of metals and chemicals and scientists are running a second set of tests.¹⁸

On 23 April 2013 the Mpumalanga Provincial Executive Council put the Emalahleni Local Municipality under administration after the municipality did not deliver in terms of the constitutional mandate to ensure the provision of basic service. Some of the problems faced by the municipality include: inconsistent water and electrical supply; poor state of municipal infrastructure like roads, electricity and waste water treatment plants; allegations of a high level of engagement in corrupt activities by some officials; and high costs of doing business with external service providers.¹⁹ Emalahleni residents still complained early in September 2013 that the municipality failed to provide them with water and

electricity as a result of what is believed to be sabotage²⁰ provoked by the expelling of the previous municipal mayor. A municipal source said that factionalism between municipal officials was also hampering service delivery.²¹

These problems are driving both enterprises and residents away from the city to Middelburg or Tshwane, to the detriment of the local economy.²² According to the NDP the state must professionalise the public service, strengthen accountability, improve coordination and prosecute corruption.²³ These imperatives are all reflected to a greater and lesser extent in the strategic plan by the administrator of the municipality, namely to stabilise the situation and provide basic services; rectify the billing situation to establish a cash flow; provide an acceptable level of services; and then to provide the bulk services and rehabilitate the existing services (such as roads).²⁴

2. Existing research

There is substantial literature on the geology, geochemistry, sedimentology and petrography of the Karoo basin and the coal resources and some literature on the effects of the mining and industry on the environment²⁵ such as air²⁶ and water pollution²⁷, including acid mine drainage²⁸ and the incidence of underground fires.^{29 30} Other research identified pertains to the history, social or economic development of the area.

The gold industry required large quantities of cheap coal for deep-level mining while the demand for coal was also fuelled by the opening of the Delagoa Bay railway line to Pretoria in 1895. This line runs through Witbank and since the coal in Witbank was close to the surface it could be safely mined and supplied.³¹

The Witbank collieries initially relied mostly on Mozambican labour.³² These labourers were obtained by 'Wenela' (Witwatersrand Native Labour Association) and only Wenela was permitted to recruit mine workers from Portuguese territory. In 1908 Wenela provided the coal mines with 60 per cent of their workers, in 1911 the number increased to 80 per cent and in 1918 to 90 per cent only to be reduced again to 80 per cent in 1920.³³ In 1918 more than 85 per cent of all the mine workers on the Witbank coal fields were from Mozambique³⁴ while 36 per cent of the African mine labourers in the country was from Mozambique.³⁵ As these immigrants had families and friends in the Witwatersrand, they felt isolated in Witbank and wanted to be near their friends and family on the Rand, but Witbank received the excess immigrants from the crowded Gauteng.³⁶

Since the production of coal depended on a stable work force the immigrants that Wenela recruited were persuaded to settle close to the coal mines. Not only men migrated from Mozambique, but women were also allowed to live in the mine locations' to foster a stable workforce. By 1926 about 25 per cent of these workers were living in the "married quarters" and had established new homes close to their place of work. However, in 1927 the police began mass deportations of these Mozambican women.³⁷ One of these deported women had been living in Witbank for 20 years. Another significant occurrence in the period from 1914 to 1920 was the rise of labour unions³⁸ though none of the Witbank collieries with high numbers of settled workers underwent strikes between 1918 and 1926.³⁹

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A Centre for Development and Enterprise (CDE) study in Witbank on migrants and attitudes towards immigrants in Witbank shows that many South Africans think the country is flooded by illegal immigrants, mostly from our neighbouring countries. This is fuelled by the absence of reliable figures on immigrations, but the above mentioned study showed that there are not as many migrants as South Africans think. Although it is generally assumed that immigrants tend to favour large cities, immigrants to South Africa are not limited to metropolitan areas. This study shows that an intermediate city like Witbank can attract international migration, as in Witbank not only immigrants from southern African countries are to be found, but also immigrants from other African countries (20%), such as Nigeria, as well as Asian (10%) countries too. The highest percentage (44%) is younger than 30 years and the

immigrants were attracted to the prosperity of Witbank due to the mining of coal. Large percentages of these migrants were entrepreneurs and 24% were self-employed full-time.⁴¹

3. Historical perspective

3.1. Initial development of the town

From the outset the town was established around coal mining and the area has been at the heart of the South African coal industry for over a century. It began with small scale, subsistence coal mining transported by ox-wagon to local markets where it was sold at fifteen shillings a ton.⁴² The construction of the Delagoa Bay railway line connecting the goldfields and Pretoria with the port of Lorenzo Marques (now Maputo) was the catalyst for the establishment of the town^{43 4445,46} as it provided the means for transport of the coal to the market. The coal mines and the railway line also played a role in Winston Churchill's escape from the Boer's during one of the South African War. Initially he fled in a coal wagon, and later hid in coal mine in the Witbank area, before again using the railway line as a means of escape.^{47 48}

The town was established by the Witbank Colliery in 1903 on land initially owned by Jacob Taljaard who had subdivided part of his farm for the town and established a profitable colliery on the remainder.⁴⁹ (The name 'Witbank' refers to a prominent white quartz outcrop once visible from afar.) The first buildings were a shop and hotel erected by a Samuel Stanford.⁵⁰ In 1910 the first village council was elected. Among the early buildings were a bank (now Barclays) built in 1907, a public school (1908), a hotel, a wood and iron building and later a more permanent structure⁵¹ (The name 'Witbank' refers to a prominent white quartz outcrop once visible from afar.) The first buildings were a shop and hotel erected by a Samuel Stanford⁵². In 1910 the first village council was elected. Among the early buildings were a bank (now Barclays) built in 1907, a public school (1908), a hotel, a wood and iron building and later more permanent structures for the Methodist Church (1923), the Catholic Church (1921) and later the Witbank Club.^{53 54}

Initially the town grew slowly – largely due to a lack of water and in 1920 had a population of less than 2000. Eighteen years later the population had grown to almost 9500 residents once the water shortages were addressed by the construction of the Doornpoort Dam by Eskom in 1926 to service its first power station in the town.^{55 56} Later a new water supply problem then arose as a result of pollution and the growing population; so another municipal dam, the Witbank dam, was built along the Olifants River.⁵⁷ Construction commenced in 1954 and the dam wall was heighten twice thereafter in 1956 and again in 1973, making it the largest municipal dam in South Africa and one that used to be a successful resort for camping and water-sports.⁵⁸

Along with coal mining, power generation was an early component of the Witbank economy. By 1920 the Witbank Colliery had acquired a ten-year license to generate electricity for the town. Eskom, the Electricity Supply Commission (now Eskom), established an office in Witbank in 1923, and commenced with the Witbank power station in 1925.⁵⁹

Initially most of the collieries were individually and locally owned with competition between them. However, with the formation of the Transvaal Coal Owners Association, production quotas and prices were fixed. With the sale of Lewis and Marks's interests in collieries to Anglo American in 1945, the latter "became the biggest player in South African coal mining, a position that it holds to this day."⁶⁰ ⁶¹ The tonnage of the Highveld collieries centred on Witbank increased rapidly between 1920 and 1939 from 11,5 million tons to 27,6 million tons per annum. In the 1920s 16% of output was exported via Delagoa Bay, while 23,8% went directly to the gold mines and another 15,5% for the generation of electricity (much of which was used by the gold mining industry).⁶²

In the early 1960s the town was fairly small and provided few services – it did not even have a supermarket.⁶³ The mines and Eskom generally had a small white workforce, usually housed by the company near the facility. While under the Apartheid regime black people (low skilled) workers were viewed as temporary and were thus migrant workers housed in single quarters such as hostels. Consequently, these workers did not initially contribute significantly to the city.⁶⁴

3.2. Coal mining and labour

As with the gold mining industry, there was a marked division of labour on the coal mines, usually associated with race. White people were employed as ‘staff’ with a salary or ‘men’ paid wages on an hourly basis. The latter were either miners (i.e. supervisors of a ‘gang’ of miners) or skilled workers ‘mechanics’ while Black people were confined by law to labourers.^{65 66} Recruitment of labour from Mozambique was undertaken by the Witwatersrand Native labour Association (Wenela). Between 45% and 60% of labour on the Transvaal collieries was provided in this fashion. Initially labour conditions on the collieries were poor, but after a mutiny by migrant Mozambicans an agreement on minimum conditions of employment was accepted by the coal industry in 1914. Workers were also permitted to settle near the mines and the “the number of women who had a permit to live on a colliery in the Witbank district was nearly 25% the number of African workers in the area.”⁶⁷ It appears that the collieries generally had far larger proportions of settled and urbanised labour than the gold mines. Land was set aside for “Native gardens” in Witbank.⁶⁸

With the implementation of Apartheid, there were strict limits on the percentage of black workers (3%) that could be accommodated in “family housing” but this increased over time, particularly with the collieries (4,4% in 1984). The widespread strike by the national Mineworkers Union (NUM) in 1987 was part of the impetus to dismantle the hostel (single quarters) system for mine workers and the conversion of former hostels into family housing is now firmly entrenched government policy.^{69 70}

Although mining in South Africa had largely used a migrant labour system based on short contracts, this had begun to change by the 1980s. By the 1990s many mine workers were South African miners (rather than e.g. Mozambicans) were commuting from ‘homelands.’⁷¹ However, it appears South Africans constituted a declining proportion of the labour in coal mines with the percentage of Mozambicans and Lesotho miners increasing from 25,5% and 8,6%, respectively, in 1991 to 37,4% and 40,4%, respectively, in 2002.⁷² This can possibly be attributed to the decline in the gold mining industry.

Strikes within the coal mining industry have been common. Among the first on record were the strikes of 1913 and 1914 with further strikes in 1922 (largely by white South African miners). Black miners also went on strike frequently, with 62 strikes on the Highveld coal mines between 1918 and 1949. These were usually with respect to pay and working hours, assaults to miners or other grievances. However, settled (non migrant) labour was less likely to strike than migrant labour when such labourers provided their own housing it was cheaper for the mines, not more expensive than migrant labour.⁷³

3.3. The growing industrial base

In addition to the collieries, marketing the town through the establishment of a local newspaper, the *Witbank News*, created awareness of the area as a regional industrial centre⁷⁴ and attracted residents and industries. By 1938 the town was also home to several large industries such as Rand Carbide Corporation (established in the 1920s to serve the mining industry⁷⁵), Witbank Engineering (Pty) Limited and SA Cyanamid as well as a power station, creating an initial industrial base.⁷⁶ Several large power stations, constructed as part of the Eskom grid, were operating within the coalfields by 1927.⁷⁷

During World War II the demand for coal rapidly increased and so did the output from the mines. In order to meet the demand old mine workings were re-opened and as much coal as possible was removed from the coal pillars (“robbing”) that had been left to support the mine shafts, greatly increasing the risk of shaft collapse. This led to both surface subsidence and a higher risk of underground fires. These fires and those of burning mine dumps added to the already severe water and air pollution in the area⁷⁸.

The development of Highveld Steel began in 1957 with the establishment of a plant by the Mineral Engineering of Colorado to produce vanadium pentoxide. Later the Anglo American company built an integrated iron and steel works in Witbank (constructed from 1964) that was a major catalyst for development.⁷⁹ It was, according to Harry Oppenheimer’s opening speech in 1968, “an act of faith”.⁸⁰ The site was chosen due to its proximity to the railway line as well as the presence of water, coal and power. From the outset the development included a railway line from the Mapochs vanadium mine to the steel mill – a line that is still used today.⁸¹

Other developments followed such as Ferrometals’ ferro-silicon producing furnace that was one of the biggest of its kind at the time of its installation in the 1970s and Afrox’s acetylene purification plant (1972).⁸² There has thus been a substantial investment in industry, particularly heavy industry, in the region as a result of the coal resources.⁸³ These industries including the power stations, the Columbus stainless steel plant (situated in Middelburg) along with the demands of the mines have led to the development of numerous small and medium sized industries – particularly engineering works in both Middelburg and Witbank/Emalaheni.^{84 85} This has in turn resulted in numerous service industries. One estimate of the jobs created by investment in mining and energy is three secondary jobs for each job created in the mining and heavy steel industries and a further ten jobs in small enterprises in the service economy.⁸⁶

3.4. Linkages to and within the region

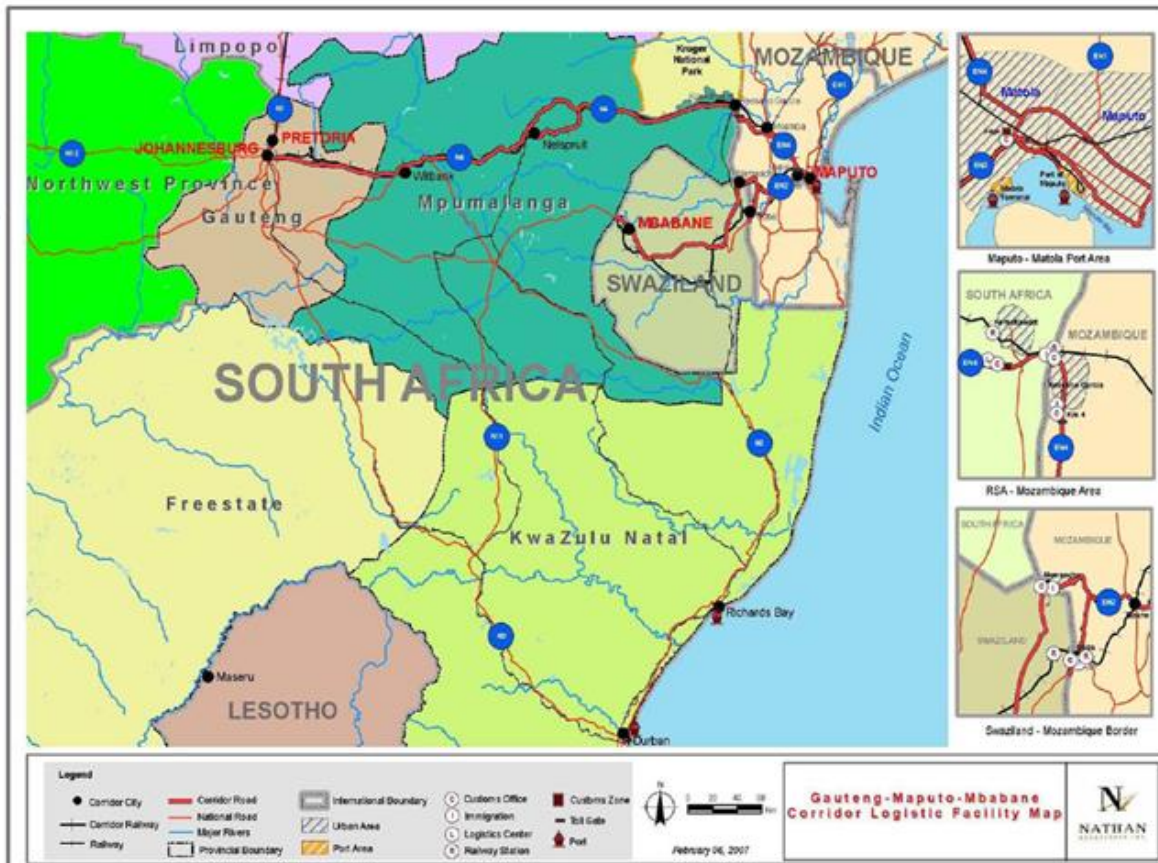
From the outset Witbank was linked through the markets for coal and power to the larger South African economy and even the export market through the Maputo railway line. While small equipment and supplies may be sourced locally, all heavy-duty equipment was imported from, or via the Witwatersrand.⁸⁷ Many large engineering suppliers still have offices (agents) in the city. Many of the collieries and larger industrial plants are owned by foreign companies such as Anglo American, BHP Billiton, Evraz, Eskom, Exxaro, Joy, Komatsu, the Renova Group, SAB-Miller, SAMANCOR, Shanduka Beverages, Xstrata and Zenith Inc.⁸⁸ Although much of the coal produced is used locally, there are exports of lower grade thermal coal with low ash and sulphur content to India, China and the EU.⁸⁹ There are also many smaller mining companies, both BEE and foreign-owned that mine the smaller mines, or those whose profit margins are too low for the big companies.⁹⁰

Witbank has always had close links with Middelburg in the Steve Tshwete Municipality, which is only about 20km to the east along the N4. Inter-urban commuting has taken place for many years and with the recent problems in service delivery, many enterprises and residents have chosen to move to Middelburg.^{91 92} Furthermore, Witbank lies on the N4 Maputo Development Corridor linking South Africa to Mozambique and Namibia.

The Maputo Development Corridor (MDC), along the N4-road that stretches 630km from Pretoria in Gauteng through the Mpumalanga Province to Maputo in Mozambique (see Figure 3), is one of the most ambitious and exciting initiatives undertaken within the Southern African region. The vision is to rehabilitate the core infrastructure, i.e. road; port and dredging; electricity; and the border post within the Corridor through public-private partnerships. Thereby re-establishing key linkages and opening up inherent under-utilized economic development opportunities. Underlying the vision is the desire to see this initiative contributing to other key policy areas – notably regional economic integration, international competitiveness and a broadening of the ownership base in the economy of the corridor.

In order to facilitate the implementation of the project in partnership with the private sector, protocols were signed between Governments of South Africa and Mozambique.

Figure 5: Maputo Development Corridor⁹³



A study on the impact of the MDC on wealth creation within the region it serves confirmed the dominance of Nelspruit, Witbank, Middelburg and Highveld Ridge as major employment centres. It is also notable that these areas are all located on the N4-road. The study showed that towns and cities close to the MDC corridor grew at a higher rate than those located further from the corridor. Regarding the individual sectors of the economy this pattern is less pronounced in the case of agriculture and mining since these sectors are resource-dependent and thus less dependent on an intervention such as a transport corridor. The study also showed that the growth in sectors other than agriculture and mining was higher.

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the road and rail network connecting Witbank to the Richards Bay and Maputo harbours, offer export opportunities for the coal reserves and steel products.^{96 97}

4. Current status and planning

While the local economy is booming with a commensurate increase in local employment, the city is faced with a number of severe problems. The municipality is under administration with financial and service delivery troubles. Basic services such as water, electricity and the local roads are under strain with frequent water shortages and power outages. As a result of massive population growth and in-migration there are over 30 000 households in informal settlements, with limited access to basic services.⁹⁸ Environmental degradation, as a result of mining and industry, is a major threat to not only the local coal mining region but also the entire watershed.⁹⁹

Thus there is a city that is growing, but in that growth are potential seeds of destruction that need to be addressed in order to avoid the detrimental consequences of almost unfettered growth and development over the past century. While sustainable development demands a balance between economic growth (jobs), social development (justice) and ecological and environmental integrity,¹⁰⁰ it is clear that Emalahleni has concentrated on economic development and all but ignored the latter components.¹⁰¹

The economic development in the region has had the following consequences. Firstly, there has been rapid population growth with the estimated population exceeding 500 000 people, an estimate that exceeds the estimates from the 2011 census.¹⁰² Secondly, as the city was unable to pro-actively provide for the dramatic population increase it was unable to provide sufficient bulk water, sewerage or electricity services and the reticulation services are seriously overloaded. As a result these services are fragile and unreliable.¹⁰³ Thirdly, there is insufficient housing. Although the municipality has been providing some subsidised housing (about 5300 units) there is still a demand for over 40 000 units to accommodate households in informal settlements (30 000 households), backyard shacks, hostels and farms.¹⁰⁴ Furthermore, there is an extensive demand for rental units within the formal part of the city that is expressed as guest houses and rooms.¹⁰⁵ According to the Administrator of the city, up to 99% of these are illegal. He cites one instance of a street with about 16 erven designed for single dwellings where some 200 rooms have been erected.¹⁰⁶ Fourthly, the quality of the water has diminished as a result of pollution from mining, industry and power generation.^{107, 108} Fifthly, the roads are in poor condition and the volumes of heavy vehicles using the roads only exacerbate the problem.¹⁰⁹

The following discussion will look at the city's current status with an overview of the economic; social and environmental aspects; municipal governance; and strategic planning.

4.1 Demographic and population change

Both Mpumalanga province and Emalahleni have experienced population growth over the past two decades. In the case of Emalahleni much of this growth has been attributed to in-migration to the area by people in search of economic opportunities¹¹⁰ arising from the coal mining industry, the construction of power stations such as Kusile, the steel manufacturing industry and the growth of secondary and tertiary industries servicing the main economic drivers.¹¹¹

The population size increased noticeably in Mpumalanga Province from 3 123 869 in the 1996 census to 3 365 554 in the 2001 census and to 4 039 939 in the 2011 census. This represents a 22,7% increase that is 1,1% higher than the national population increase of 21, 6% over the same period namely from 40 583 573 to 51 770 560.¹¹² The percentage of Mpumalanga province's share of the national population decreased from 7,7% in the 1996 census to 7,5% in the 2001 census, but then again increased from 7,5% in the 2007 community survey to 7,8% in 2011.¹¹³ The net migration of people from other provinces to Mpumalanga and vice versa between October 2001 and March 2011

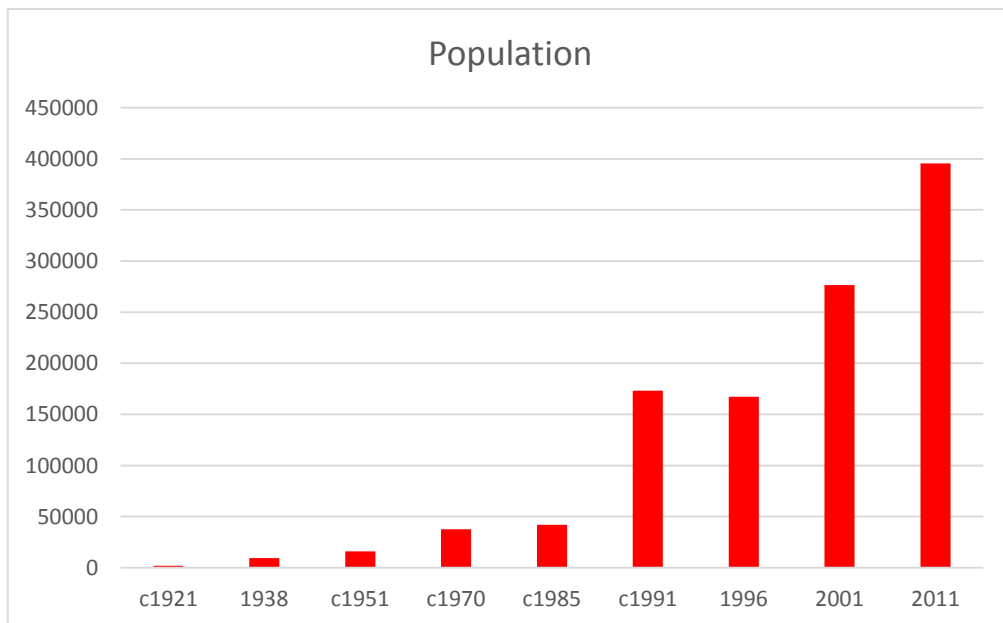
was 52 845.¹¹⁴ It is estimated that 2,6% of the Mpumalanga population is not South African citizens while the citizenship of 0,6% is unspecified.¹¹⁵

The population growth in Emalahleni increased from 3,16% between 1996 and 2001 to 3,58% from 276 413 in 2001 to 395 466 in 2011.¹¹⁶ The document prepared for the South African Cities Network, The Presidency and Department of Local and Provincial Government by the CSIR, Built Environment also revealed that noteworthy population concentrations are located in Witbank.^{117, 118} According to the Emalahleni IDP, the population increased by over 43% between 2001 and 2011,¹¹⁹ while according to Mr van Vuuren the population growth is much higher and the current population is in the region of 500 000 people¹²⁰ which represents a tripling of the population since 1996.¹²¹

As previously mentioned, this population growth has resulted in a demand for housing evidenced in the growth of informal settlements¹²², illegal “guest houses” and rental housing^{123,124} and a property boom.¹²⁵ The increased population has also put pressure on already precarious municipal services: while water provision “*hang aan ’n draad*” the electricity reticulation system “*hang op ’n draadjie*” with frequent outages.¹²⁶

The exponential growth of the population, even with the amalgamation of local authorities in December 2000 is illustrated in Figure 6 below.

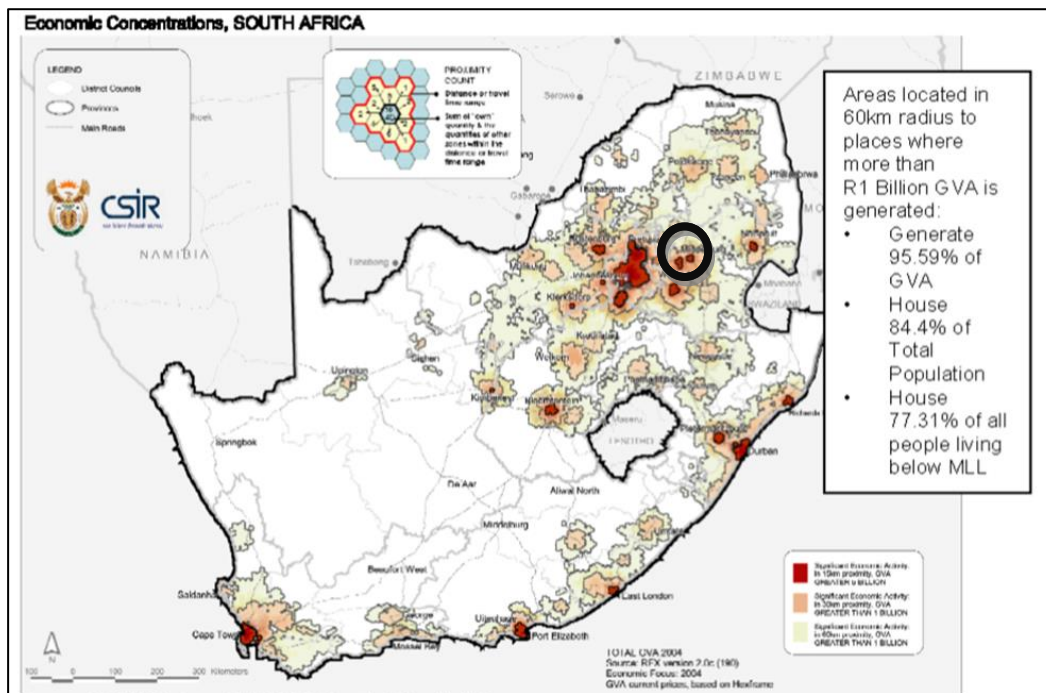
Figure 6: Growth in population 1921-2011¹²⁷



4.2 The economy

When distinguishing between different economic activities the 2006 National Spatial Development Perspective (NSDP) listed Witbank as an example of a mass-produced and specialised economic concentration as is illustrated in Figure 7 below. The NSDP proposed that these areas of national economic significance should be specifically targeted for public policy interventions.¹²⁸ The National Development Plan also identifies areas such as Emalahleni for intervention as it is an area experiencing rapid growth (but will also face decline as coal reserves dwindle), it is located on a trans-national corridor (the MDC) and it is an area of competing interests: mining, water and the environment.¹²⁹ The economic importance of the region has also prompted the Mpumalanga Provincial Government to investigate the potential development of a steel and metal fabrication hub in the area.

Figure 7: Emalahleni: an important economic node¹³⁰



The presence of abundant coal has attracted coal mining in the region since the mid nineteenth century and later became a prime location for the electricity generating industry.¹³¹ The presence of water, transport routes, power and coal then attracted the steel industry and the development of large plants such as Highveld Steel (now Evraz Highveld Steel and Vanadium) and Ferrometals.¹³²

4.2.1 Economic profile

Overview

Witbank has over 22 collieries ensuring a steady flow of business and a significant number of jobs. The city has expanded rapidly and international companies such as Anglo American, BHP Billiton, Evraz, Eskom, Exxaro, Joy, Komatsu, the Renova Group, SAB-Miller, SAMANCOR, Shanduka Beverages, Xstrata and Zenith Inc. are among the strategic players.¹³³ There are also a number of power stations, such as the Duvha Power Station and steel mills namely Evraz Highveld Steel and Vanadium Limited which require coal.¹³⁴

In a 2006 report by the centre for Development and Enterprise (CDE) Witbank was already described as both a mining and service centre for the surrounding region, in part due to the location on the Maputo Development Corridor and its proximity to Gauteng – the industrial hub of the country.¹³⁵

This [location] gives it a more diverse local economy and urban structure than many other regional service centres. Mining, wholesale and retail trade as well as social and personal services feature strongly in Witbank's economy, supported by a number of factors including demand from a relatively large proportion of people formally employed in the industrial sector, and through-traffic on the adjacent highway between Johannesburg and Pretoria and Maputo. Other supporting features are regional strengths in agriculture, animal husbandry, coal and gold mining, tourism and power generation, as well as the relative proximity of former 'homeland' areas established during the apartheid era.¹³⁶

According to data from Global Insight¹³⁷ formal employment in the Witbank area has risen by about 29% from 73 437 jobs in 1996 to just over 105 000 jobs in 2011 (see Table 1), while informal employment has tripled from 7190 jobs in 1996 to nearly 23 000 jobs in 2011 (see table 2). According to the Emalahleni IDP, the unemployment rate has decreased from 38,4% to 27,3%.¹³⁸

Table 1: Employment figures for the formal sector¹³⁹

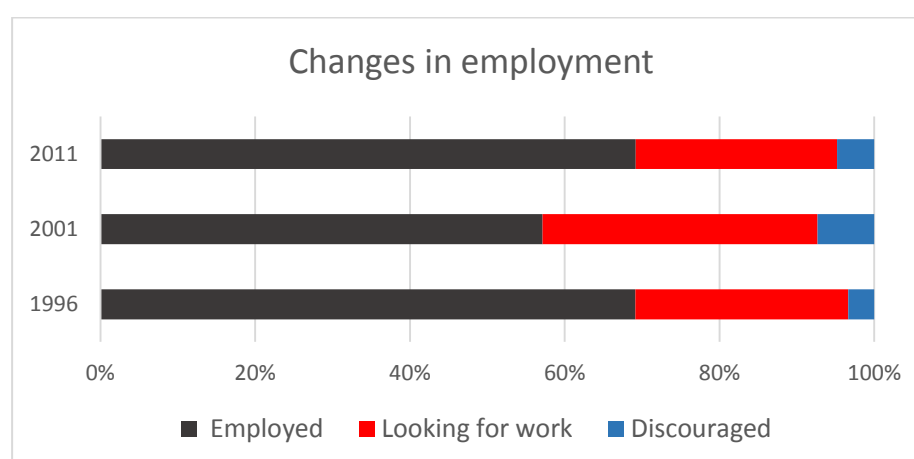
Census Year	1996	2001	2011
National total	8 208 455	8 520 863	10 594 638
Mpumalanga Province	603 825	629 566	740 077
Emalahleni	73 486	74 840	105 017

Table 2: Employment figures for the informal sector¹⁴⁰

Sectors	Manufacturing	Construction	Trade	Transport
National Total	112 522	148 906	346 371	74 436
Mpumalanga Province	16 411	13 529	40 789	4669
Emalahleni	885	1036	3806	479

The relative growth in employment compared to unemployment is illustrated in Figure 8 below. As can be seen from the graph, the level of unemployment has declined in the past ten years.

Figure 8: Changes in employment, 1996-2011¹⁴¹



Employment growth has been greater in some sectors than others. Table 3 illustrates the changes in employment per standard industrial classification sector (SIC) between 1996 and 2011.¹⁴² All sectors, other than agriculture have grown – the decline in the energy sector may be an anomaly given this sector's contribution to GVA. While the mining and manufacturing sectors have grown substantially, the trade and hospitality sector has almost doubled as has the business and finance sector. Employment in the public services (public service, education and health) has also increased

significantly. This increase in employment is not only indicative of a growing economy, but one that on the surface appears to be fairly balanced and not solely dependent on mining.¹⁴³ However, as detailed data on the value chains within the economy were not available, it the extent to which forms the basis of the retail, hospitality and business sectors of the economy could and thus the extent which the decline of this industry could affect suppliers of products to the collieries and hence the entire local economy not be determined.

Table 3: Formal Employment per SIC, 1996-2011¹⁴⁴

Sector	1996		2001		2011	
	Jobs	Percentage	Jobs	Percentage	Jobs	Percentage
Agriculture/forestry	3390	4,62	3552	4,75	2864	2,73
Mining	17 120	23,21	15 985	21,38	25 318	24,11
Manufacturing	14 388	19,59	12 383	16,56	17 591	16,75
Energy	4336	5,90	4142	5,54	3981	3,79
Construction	3267	4,45	3381	4,52	5678	5,41
Trade and hospitality	7857	10,7	9725	13,0	14 512	13,82
Transport/ communication	3934	5,36	3772	5,04	4844	4,61
Finance / real estate	3399	4,63	4566	6,11	7893	7,52
Public services	7590	10,34	9341	12,49	12 810	12,2
Other services/ households	8156	11,17	7933	10,61	9528	9,07
Total	73 437	100	74 780	100	105 019	100

Table 4 summarises the Gross Value Add (GVA) from 1996 to 2011 for South Africa, Mpumalanga and Emalahleni. Even accounting for inflation, it is clear that the contribution of Emalahleni has grown over the years and stood at 17,9% of the Mpumalanga GVA and 45,2% of the Nkangala District GVA.¹⁴⁵¹⁴⁶

Table 4: Economic Gross Value Added by Region (GVA-R)¹⁴⁷ 1996-2011¹⁴⁸

Census Year	1996		2001		2011	
	Rands 000s	Percentage of National	Rands 000s	Percentage of National	Rands 000s	Percentage of National
National total	565 474 030		928 215 600		2 621 378 690	
Mpumalanga Province	40 166 216	7,10	68 728 277	7,4	190 938 474	7,28
Emalahleni	7 085 521	1,25	12 727 936	1,37	39 346 724	1,5

Table 5: Emalahleni contribution to national and provincial GVA¹⁴⁹

Census year	1996	2001	2011
Percentage of national GVA	1,25%	1,37%	1,50%
Percentage of provincial GVA	17,6%	18,52%	20,61%

When the GVA of the various industries is compared to the employment, some interesting differences are evident^{150,151}.

- The proportional contribution of the energy sector to GVA is far higher than is the employment contribution and this is consistent from 1996 to 2011. Although the GVA contribution of the energy sector declined from 215 to 15% between 1996 and 2011, this is still higher than the proportional contribution to employment which also decreased from 5,9% to 3,78%.
- While employment in agriculture has decreased by some 40%, the GVA contribution has dwindled from just over 1% to a little more than 0,4%. (However, the Emalahleni IDP indicates that the agriculture sector has one of the highest labour intensity rates (4,26)¹⁵²) (However, the Emalahleni IDP indicates that the agriculture sector has one of the highest labour intensity rates (4,26)¹⁵³).
- The relative GVA contribution of manufacturing halved from 7% to just over 3% while employment decreased from just under 20% to 16,75% although there was an absolute increase in of roughly 3500 jobs.
- The contribution of mining to the city's GVA increased from 34% to 47% from 1996 to 2011, while employment has fluctuated between 21% and 24% of all employment in the area. This is indicative of dependency on this sector both in terms of employment and GVA. In the light of increasing concerns regarding the extent of coal reserves,¹⁵⁴ the high dependency of the economy on coal demands a post-coal development strategy.

Table 6: Comparison of percentage contribution to employment and labour of various economic sectors, 1996, 2001 and 2011¹⁵⁵

	1996 GVA	1996 Employment	2001 GVA	2001 Employment	2011 GVA	2011 Employment
Agriculture/ forestry	1,11%	4,62%	0,83%	4,75%	0,41%	2,73%
Mining	34,34%	23,31%	45,22%	21,38%	47,34%	24,11%
Manufacturing	7,34%	19,59%	5,45%	16,56%	3,23%	16,75%
Energy and Water	21,25%	5,90%	14,75%	5,54%	15,09%	3,79%
Construction	2,21%	4,45%	1,39%	4,52%	3,15%	5,41%
Trade and hospitality	8,03%	10,70%	7,59%	13,00%	8,18%	13,82%
Transport/ communication	7,62%	5,36%	7,54%	5,04%	5,61%	4,61%
Finance/real estate	8,27%	4,63%	8,33%	6,11%	7,93%	7,52%
Public services, health, education	8,02%	10,34%	7,16%	12,49%	7,56%	12,20%
Other services & households	1,81%	11,11%	1,74%	10,61%	1,50%	9,07%

Table 7 below illustrates the changes in contribution to GVA and employment from the baseline of 1996 to 2011. Transport and construction have shown the greatest growth followed by trade finance.

Table 7: Changes in GVA and employment, 1996-2011¹⁵⁶

	Employment			GVA			Employment growth per annum			GVA growth per annum		
	1996	2001	2011	1996	2001	2011	1996-2001	2001-2011	1996-2011	1996-2001	2001-2011	1996-2011
Agriculture	3,390	3,552	2,864	96,151	92,503	107,703	0.9	-2.1	-1.1	-0.8	1.5	0.8
Mining	17,120	15,985	25,318	5,002,077	6,252,665	7,027,325	-1.4	4.7	2.6	4.6	1.2	2.3
Manufacturing	14,438	12,383	17,591	833,495	814,857	1,154,421	-3.0	3.6	1.3	-0.5	3.5	2.2
Utilities	4,336	4,142	3,981	2,296,976	2,224,996	2,693,581	-0.9	-0.4	-0.6	-0.6	1.9	1.1
Construction	3,267	3,381	5,678	231,811	218,327	489,075	0.7	5.3	3.8	-1.2	8.4	5.1
Trade	7,857	9,725	14,512	961,726	1,212,882	1,843,537	4.4	4.1	4.2	4.7	4.3	4.4
Transport	3,934	3,772	4,844	780,121	1,064,966	1,979,458	-0.8	2.5	1.4	6.4	6.4	6.4
Finance	3,399	4,566	7,893	1,130,805	1,352,818	2,100,760	6.1	5.6	5.8	3.7	4.5	4.2
Services	8,598	10,500	14,422	1,393,756	1,536,798	2,033,411	4.1	3.2	3.5	2.0	2.8	2.6
Household	7,148	6,834	7,915				-0.9	1.5	0.7			
Total	73,486	74,840	105,017	12,726,918	14,770,811	19,429,272	0.4	3.4	2.4	3.0	2.8	2.9

Conflicting demands on the environment: agriculture, mining and industry

Agriculture is the largest employer in the province¹⁵⁷ and since 1996 Mpumalanga has contributed roughly 12% of national employment in the agricultural sector.¹⁵⁸ However, in Emalahleni agriculture has shown a persistent decline in terms of GVA and employment. As far back as the 1920s the coal mining industry has taken precedence over agriculture, environmental or other concerns.¹⁵⁹ Currently much of the farmland in the municipality that has not been mined is held by the mining companies and leased to farmers.¹⁶⁰ In the competition for land between agriculture, and other uses, it is clear that agriculture and food security have not received preferential treatment. Of the 872 000ha Class II agricultural land within Mpumalanga, only 2% has currently been transformed, but there are prospecting applications and rights on a further 86% of this land. A similar trend applies to Class III land. Of the 2 million ha, 2% have been removed from agricultural production, but there are prospecting application and rights on 68% implying that 70% of the land may be removed from agricultural production.¹⁶¹ Almost the entire municipal area is subject to mining, prospecting or applications therefor.¹⁶²

Main economic sectors

Among the main economic sectors in terms of employment are coal mining, steel manufacturing, energy generation and the retail, wholesale and hospitality sectors. The following section gives a brief overview of the first three, while the latter will be discussed in section 4.2.2.

Coal

Coal mining is the largest industry in Emalahleni, and one of the oldest. Between them the Emalahleni and Highveld coalfields produce about 80% of the country's coal.¹⁶³ As the seams are relatively shallow,¹⁶⁴ much coal extraction in the area takes place through open cast mining methods, although underground "bord-and-pillar" and other processes are also used.¹⁶⁵ However, the 'pillar-and-bord' methods leave up to half the coal seam in place.¹⁶⁶

A number of large international companies operate mines in the area, including Anglo-American, Exxaro, Sasol, BHP Billiton and Xstrata¹⁶⁷ who are among the biggest producers in South Africa¹⁶⁸ accounting for 80% of coal production in South Africa¹⁶⁹ along with several smaller companies. Many of the latter are BEE enterprises that mine the older mines that have been abandoned by the biggest companies as unprofitable.^{170 171}

For the first few decades o production up to 33% of production was exported, but this dropped to about 2% between 1950 and 1970 due to state restriction on exports and price controls.¹⁷² This resulted in low profitability and thus low investment and consequently, inefficiencies in production with low mechanisation rates linked to cheap labour.

From 1970s changes in labour costs and new demands for coal for industry, power and the SASOL synthetic fuel led to rapid increasing production; by the end of the century output had increased fourfold while exports had been facilitated by the Richards bay coal terminal and the abolition of export permits in 1991.¹⁷³

About 75% of local production is used domestically, with the bulk of that used by Eskom, while exports constituted 27,2% of production. In 2011 these exports were worth R50,5 million in foreign revenue.¹⁷⁴ Exports, largely to the EU, China and India,¹⁷⁵ fluctuate between 58 million and 63 million tons annually. Most of these exports pass through the dedicated coal terminal at Richard Bay port.¹⁷⁶

One of the constraints on exports is the quality of service provided by Transnet. "There remains a high degree of dissatisfaction by private coal miners and exporters with the rail bottlenecks. Derailments are not uncommon, blocking the line and reducing export potential. Alternative business models have

been proposed by coal mining companies, including possible private ownership and operation of rolling stock.”¹⁷⁷

Despite South Africa’s high dependence on coal for energy, there is no specific coal policy that will deal with greenhouse gas emissions, the declining coal reserves in the Highveld basin and providing adequate energy to meet the nation’s long term needs.¹⁷⁸

Within the industry there are growing concerns regarding the future of coal mining, particularly within the Emalahleni region as the reserves are dwindling.¹⁷⁹ While there are other reserves, the extent of these is being revised downwards with some estimates indicating a peak in about 2020.¹⁸⁰ Decommissioning old coal-fired power stations in response to declining reserves and commitments to decrease greenhouse gas emissions will also influence development in Emalahleni.¹⁸¹ The potential for exports is dependent on infrastructure investments.¹⁸² Although the advent of the closure of the mines is not imminent and there is time to make appropriate plans, the Emalahleni economy must begin to consider a post-coal mining future.¹⁸³

The mining industry in South Africa has a history of serious environmental impacts, ranging from spontaneous combustion of mines and tailings, to air and water pollution, including acid mine drainage,¹⁸⁴ that will be discussed later in this document. According to one respondent, the perceived threat of nationalisation of mining has created a short term focus for the mines with an attitude of “get as much as you can now.”¹⁸⁵

Steel and iron

The South African steel industry, the largest in Africa,¹⁸⁶ made significant contributions to the economy in 2008, contributing R12.7 billion in GDP (0,6%) and R4.0 billion to the fiscus. The steel industry lost approximately 5000 jobs between 2002 and 2008, from having directly employed approximately 12 800 people in 2008, down from 18 400 people in 2002.^{187 188} There is now excess production capacity in the South African steel industry¹⁸⁹ that is partially due to flat demand for products internationally¹⁹⁰ and the limited range of products produced by the South African steel industry.¹⁹¹ Other problems faced by the steel industry are competition from foreign importers, a lack of innovation or research and development and an acute skills shortage.¹⁹² Most of the steel produced in the Witbank area comprises primary and semi- finished products in the form of slabs (used for manufacturing heavy equipment), hot and cold rolled coils (used for light manufacturing e.g. “white appliances”) and heavy sections (such as I-beams’).¹⁹³

Evrax Highveld Steel and Vanadium formed the basis of the steel industry in the area and has been producing steel since 1957. It produced approximately 0,8MT of steel products in 2008¹⁹⁴ which appears to have fallen to 600 000 tons in 2011.¹⁹⁵ The company’s facilities in Witbank are optimised to adapt to iron ore with high vanadium content from the Mapochs mine, and produces both vanadium and steel. While their annual reports¹⁹⁶ paint the company in glowing pictures, local commentators are more critical of the company’s lack of engagement with the community, weak adherence to pollution control standards and poor quality of products, describing the management as “a bunch of cowboys”¹⁹⁷

Another large steel plant in the city is Ferrometals, owned by SAMANCOR. When it was established in 1959 it was one of the largest chrome producing sites in the world and still employed over 500 people in 2008.¹⁹⁸

In order to address the problems – and the potential – of the steel and iron industry in the region, the Mpumalanga Provincial Government together with the South African Iron and Steel Institute is investigating a Steel and Metals Fabrication Hub between Witbank/ Emalahleni and Middelburg. The intended benefits are the development of emerging producers in the industry; training of entrepreneurs, newly established and existing small businesses, with support services to increase

their survival rates and profitability; and generating a greater return on investment in existing manufacturing and road infrastructure.¹⁹⁹

Energy

According to Global Insight data, employment in the electricity sector accounted for just under 4000 jobs, but 15% of the GVA in 2011²⁰⁰ (and this excludes the employment in the construction industry arising from the construction of the nearby Kusile power station). Most of South Africa's power (over 70%) is derived from coal-burning power stations operated by Eskom which supplies over 84% of the electricity in the country²⁰¹. Of the 224 million tons of coal produced each year, some 53% is used for electricity generation.²⁰² Consequently, the electricity generation industry is inextricably linked to the coal mining industry in Emalahleni and also to the environmental impacts of mining in addition to the impacts created through the burning of coal.²⁰³ Most of South Africa's power (over 70%) is derived from coal-burning power stations operated by Eskom which supplies over 84% of the electricity in the country²⁰⁴. Of the 224 million tons of coal produced each year, some 53% is used for electricity generation.²⁰⁵ Consequently, the electricity generation industry is inextricably linked to the coal mining industry in Emalahleni and also to the environmental impacts of mining in addition to the impacts created through the burning of coal.²⁰⁶

4.2.2 Business overview

Middelburg and Witbank's economies have always been tied together and form the economic hub of Western Mpumalanga. Depending on the source, Emalahleni contributes 17%²⁰⁷ or 20%²⁰⁸ of the GVA of the province. Over the past century Witbank has developed a balanced economy: "Having proven effectively recession-proof, the burgeoning town of eMalahleni is poised to experience further rapid growth."²⁰⁹ The real estate sector has grown in response to the demand for housing.²¹⁰ The number of single residential units has grown on average by 5% and the number of medium density units has increased by 14%.²¹¹

There is a fairly even contribution to GVA between the retail, wholesale and hospitality; transport and communication; and business, finance and real estate sectors that varies between 5% and 8, 2%. Of these sectors, the trade and hospitality sector has grown the most with a 3% increase in employment (see Table 6 above).²¹²

These statistics were corroborated by respondents to the interviews who stated that the local economy provides them with almost all the services they require, with the exception of specialised medical services and some university programmes (such as medical, science and engineering).²¹³ There is thus a good representation of the major retail chains (including a Makro) and vehicle dealerships in the city.²¹⁴ The community has a variety of health facilities including a provincial hospital (linked to the University of Pretoria), a private hospital, a day clinic and an eye hospital²¹⁵ in addition to a number of clinics and four community health centres.²¹⁶ However, the range of specialist medical consultants is limited.

There are a range of educational facilities. In addition to public and private schools there is a University of Pretoria Campus as well as a campus of the Technical University of Tshwane (TUT).²¹⁷ Had the city become the capital of Mpumalanga instead of Mbombela (Nelspruit.) it would have had its own university.²¹⁸

While the city provides most of the citizen's immediate needs, there are strong business linkages with Gauteng in respect of the mining and manufacturing sectors. Whereas many routine supplies and services are purchased locally, any specialised goods and services or large, heavy duty machinery is imported via Gauteng.^{219 220} Many of the large suppliers have regional offices in Emalahleni to service their large mining or industrial clients.²²¹

Although the local economy does provide almost all the services required by the local communities, it is apparent from remarks by an official in the development and planning directorate that these largely occur in the previously “white” parts of the city rather than in the ‘townships’.²²² As a result of the government investment in upgrading and particularly the construction of the new Kusile power station, there is some procurement from BEE companies. However, from the remarks by the chairperson of the Black Management Forum, these appear to be half hearted rather than a genuine attempt for social development and upliftment.²²³ He was equally dismissive of corporate social investment by the large enterprises in the region, an opinion confirmed by a DA Councillor.²²⁴

4.2.3 Business - local government relations

According to the Chief Internal Auditor of Emalahleni “business and the community have not worked together”²²⁵ while the Administrator stated that the relationships with some of the large companies “are not bad, just not constructive”.²²⁶ The Administrator is working hard on improving relationships with the broader community.^{227 228} From interviews with respondents it is apparent that the large mines and industries have a limited interaction with the municipality²²⁹ and only interact when necessary and furthermore, “they are not ploughing back into the town as much as they are supposed to”.²³⁰ Besides the apparent reluctance of the mines and large industries (such as Evraz) to engage with the municipalities, many businesses are corrupt, stealing services from the municipality, and illegally disposing of wastes.^{231 232}

On the other hand, when the municipality has had service delivery crises, the larger private sector companies have been called on to assist:

[T]he municipality need[s] the industrials and the mining industry cause (*sic*) every time the municipality runs out of money, someone else is paying. Like for instance, when there was money allocated to build the power station, the money went missing and Exxaro finished the power station. We had numerous water problems, filthy water, they did not have the skilled people to rectify the problem, they did not have money to buy the new pump which was necessary and Highveld Steel helped out there. Then the transformer down the road blew up, was a mess, there was no electricity here, [...] Technologies bought a new transformer because the municipality didn’t have the funds to do so.²³³

According to another respondent the big corporations and the municipality do sit together on the Emalahleni Local Economic Forum; together with organisations such as the Black Management Forum to address the issues on the IDP. The big corporations are collaborating and work together on many Corporate Social Investment (CSI) projects partnering to build schools and clinics, only because they want something in return from the municipality.²³⁴ However, this perspective was challenged by a member of the Chamber of Commerce who was of the opinion that the corporates would rather leave the municipal government out of CSI projects due to the high levels of corruption and the procurement provisions of the Municipal Finance Management Act, (56 of 2003).²³⁵

Among the few public-private partnerships is a partnership between the municipality, Absa and the Shoprite group is building a mall in Kwa-Guqa. The group bought the land from the municipality through a bid with an intention of developing a shopping complex. The complex will benefit people of KwaGuqa in terms of employment and convenience as it is close to the former black areas to the western side of Witbank.²³⁶ Historically the business sector and the municipality have not worked together and there exists no structured, inclusive and integrated interaction.²³⁷

One example of CSI is the assistance provided by Zimele, Anglo American’s enterprise development unit to small firms, providing them with loans and integrating them into Anglo American’s supply chain. One local Emalahleni beneficiary of this assistance is Dezzo trading.²³⁸ Another partnership is the

Spring Valley Housing Project in Duvha Park that is intended to provide housing to lower and middle income employees. The project is funded by the International Housing Solutions' SA Work Force Housing Fund with contributors including Citibank, the Development Bank of SA, the Public Investment Corporation and the Overseas Private Investment Corporation (OPIC). Anglo American has partnered with the developers with the intention of enabling its employees to buy into the development through its home ownership scheme.²³⁹

While the municipal officials have been critical of business commitment to development, the business community also has its complaints, such as those of Engen in Witbank. According to the Engen depot manager, Engen is using the municipality's railway line from the Transnet plant through to their plant. As the line is the property of the local municipality, the municipality has to do the maintenance of the line, to keep it in good order, but that is not happening. Therefore Engen has got huge problems as their permit is not in place, their line is not safe and that is also placing restrictions on the companies in the Ferrobank area that are also using the line.²⁴⁰

4.3 Social issues

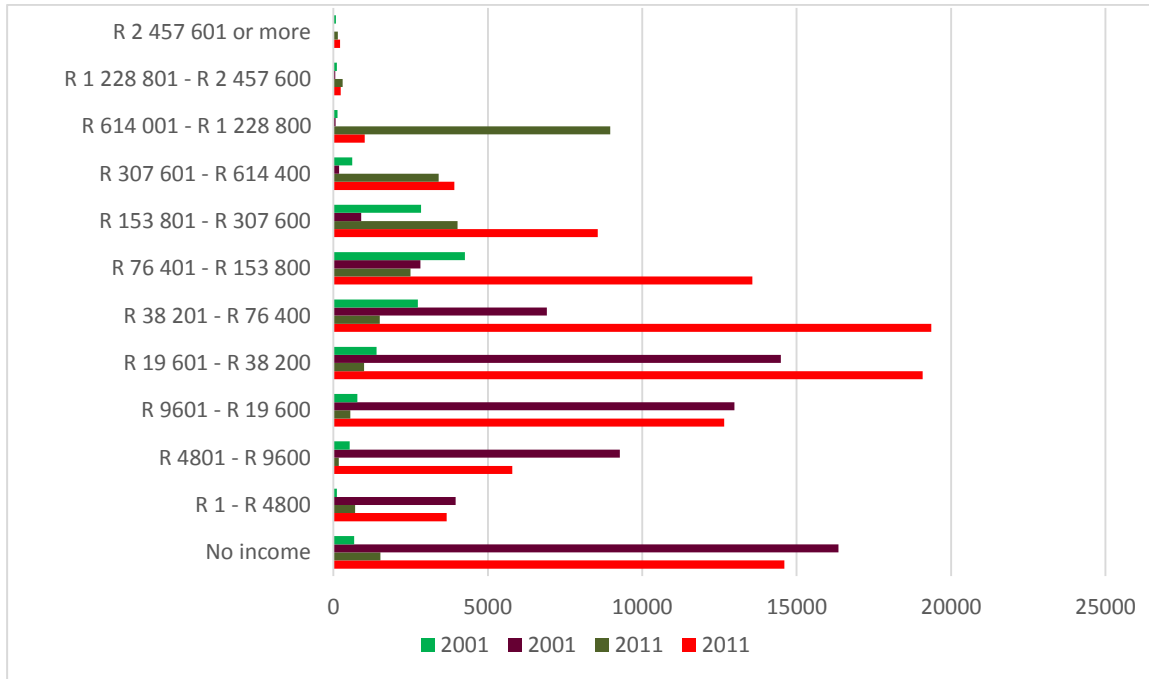
4.3.1 Overview

The social issues in the city must be viewed in the light of its history as a mining and industrial centre and also the Apartheid laws which shaped the spatial structure and contributed towards the need for affordable housing.^{241, 242} Recently sustained economic growth, the construction of the Kusile power station and the related demand for a dedicated coal supply²⁴³ have attracted migrants to the area, swelling the population two-fold²⁴⁴ to three-fold²⁴⁵ in less than two decades. Service delivery has not been able to keep pace and an acute housing shortage has arisen that is reflected as informal settlements, illegal guest houses and rental rooms throughout the city.²⁴⁶

On the positive side, there are indications that the economic growth has had benefits. The poverty rate has decreased to 26,2%²⁴⁷ (from 34,6% in 2007)²⁴⁸ while the unemployment rate has also shown a decrease from 29,9% (2007)²⁴⁹ to 27,9% (2011)²⁵⁰ despite the increase in the population. The Human Development Index (HDI) has consistently been higher than the national average and has increased from 0,63 in 1996 to 0,71 in 2011²⁵¹ There has been an increase in the level of education with a decrease in the number of people with no schooling.²⁵²

While the GINI²⁵³ co-efficient has unfortunately increased from 0,52 (1996) to 0,61 (2011)²⁵⁴ indicating growing inequalities in the area, there are indications that incomes are increasing (see Figure 9).

Figure 9: Percentage households per income group and race ²⁵⁵



4.3.2 Composition of population

While the white population has declined from 20% to just under 16% between 1996 and 2001, and the coloured and Asian populations have grown marginally, the Black population grew from just over 77% in 1996 to 82% in 2001 and has remained constant since then.²⁵⁶

The black population grew from just over 77% in 1996 to 82% in 2001 and has remained constant since then.²⁵⁷

Table 8 Changing composition of Witbank population 1996 - 2011²⁵⁸

	Black	Coloured	Asian	White
1996	77%	2%	1%	20%
2001	82%	1%	0%	16%
2011	82%	2%	1%	16%

The gender balance had remained fairly constant from 1996 to 2001 with slightly more males (51%) to females (49%) but this changed in 2011 to reflect a growing dominance of males (53%) to females (47%).²⁵⁹ This can be attributed to the growth in employment on the mines and in construction sectors that traditionally have attracted more males than females. The population has aged slightly with a decrease in the proportion of children and a marginal increase in persons 36 years of age and older.²⁶⁰

Table 9: Percentage population per age category, 1996 to 2011²⁶¹

Year	0-14	15-35	36-64	65+
1996	29%	42%	26%	3%
2001	28%	40%	29%	3%
2011	25%	42%	29%	4%

The average annual household income in Mpumalanga increased from R31 186 as reported in the 2001 census to R77 609 in the 2011 census. Households in Mpumalanga Province had the largest increase of 148, 9% in comparison to the other eight provinces.²⁶² A similar trend is evident in Emalahleni where household incomes have increased between 2001 and 2011. The percentage of households with no income dropped from 20,7% (2001) to 13,5% (2011) while the percentage of households earning less than R38 000 per annum decreased from 73% to 50%.²⁶³

The growth in the area has attracted both local and international immigrants, both legal and illegal. Many foreign immigrants bring some skills, but importantly, they bring an entrepreneurial attitude and approach sorely needed in South Africa. An estimate in 2006 placed the percentage of immigrants in the Witbank community at about 5% but noted that this is a conservative estimate. Many immigrants are from neighbouring countries and in particular, Mozambique; but also Nigeria; South-East and East Asia such as China; and East Africa. Most of the migrants in a study, conducted in 2006 in Witbank, were self-employed and the unemployment rate was far lower than that of the local community.²⁶⁴

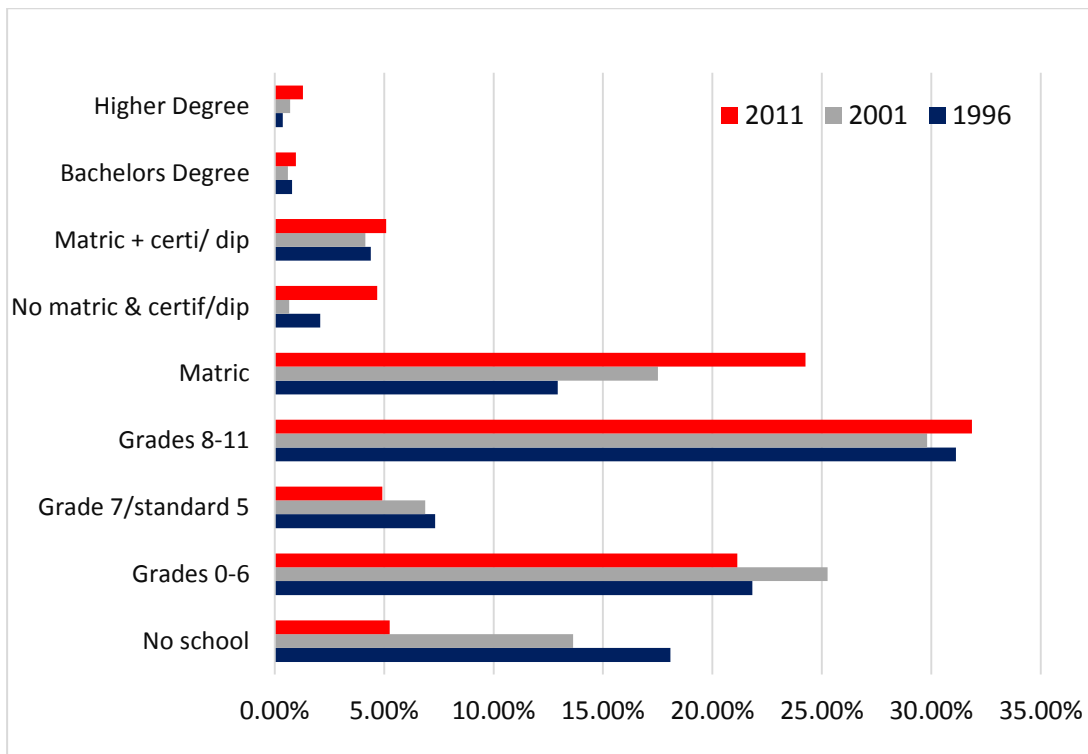
Although the average household size in Mpumalanga decreased from 4,7 in the 1996 census to 4,3 in the 2001 census to 3,9 in the 2007 Community survey to 3,8 in the 2011 census it is still bigger than the national averages of 4,5 in 1996 and 3,6 in 2011.²⁶⁵ The percentage distribution of households by tenure status for the 2011 census showed that 52% of the Mpumalanga households owned fully paid off houses in comparison to the national average of 41, 3%.²⁶⁶ The percentage distribution of households by tenure status for the 2011 census showed that 52% of the Mpumalanga households owned fully paid-off houses in comparison to the national average of 41,3%.²⁶⁷ The households who owned fully paid off houses are highest in Limpopo (52, 7%) and Mpumalanga (52, 0%).²⁶⁸ Only 20, 3% of the Mpumalanga households rent accommodation in comparison to the 25% national average.²⁶⁹

The HIV prevalence rate among pregnant women is 36,1% (and increasing) and 22,5% among the rest of the population.²⁷⁰ The leading causes of death in the municipality are pulmonary diseases such as influenza and pneumonia followed by tuberculosis²⁷¹ that is in line with the South African trends.²⁷² Despite the long term health effects of mining (some have developed chronic illnesses such as sinus, chest and lung infections) long term residents have a sentimental attachment to the place and see themselves spending the rest of their lives in Emalahleni.

Substance abuse is a growing concern in Emalahleni with 42% of all reported cases in Mpumalanga occurring in the municipal area. This is placing pressure on the rehabilitation centres.²⁷³ The youth in particular experience high use of the drug called Whoonga (also known as *Nyaope* or *wunga*) that is a street drug that has allegedly come into widespread use in South Africa since 2010, mostly in the impoverished townships of Durban but has since spread to other parts of South Africa, including Emalahleni. It allegedly contains antiretroviral drugs for HIV, but its exact ingredients are subject to many urban legends²⁷⁴. *Nyaope* is a cocktail of, among other things, rat poison, dagga, heroin and antiretroviral medication. It is mainly used by teenagers²⁷⁵.

Persons aged 5-24 years attending a public educational institution decreased from 96,2% in the 2001 census to 94,2% in the 2011 census while the attendance of private institutions increased from 8,8% in the 2001 census to 5,8% in the 2011 census. There was a general increase in private school attendance across all provinces.²⁷⁶ The percentage of persons aged 15 years and older with no schooling or a highest level of education less than grade 7 in Mpumalanga decreased significantly from 40,9% in the 1996 census to 39,9% in the 2001 census and to 23,1% in the 2011 census.²⁷⁷

Figure 10: Percentage of population per education level, 1996-2011²⁷⁸



Crime statistics²⁷⁹ showed that murder cases in Witbank increased slightly from 34 cases annually in 2003-2004 to 36 cases in 2011-2012 with fewer cases namely 21 reported in 2004-2005 and a sharp increase to 55 in 2008-2009. In comparison murder cases decreased from 58 in 2003-2004 in Vosman to 33 in 2011-2012 with lower cases namely 29 cases reported in 2008-2009 and 74 reported in 2005-2006. Other serious crimes such as theft decreased in Witbank from 3768 in 2003-2004 to 2344 in 2011-2012 while in Vosman theft decreased 1846 in 2003-2004 to 697 in 2011-2012.²⁸⁰

The statistics above – despite the increased incidence of murder and substance abuse – paint a picture of an increasingly prosperous community with lower unemployment and poverty rates, higher incomes and improved education. Furthermore, the 2011 census data²⁸¹ indicates that 80% of homes had piped water and 71% had a flush toilet which is a dramatic increase from the 45,7% with access to piped water in the home and 57,8% with a flush toilet in 2007.²⁸² However, these statistics appear to be belie a serious problem of availability and reliability of basic services in the city.

From the interviews with community members it appears that issues of service delivery – particularly reliable supplies of portable water – have affected all residents and have received priority over other issues of racial parity and social cohesion. Although integration and economic development opportunities are concerns of municipal officials and the Black Management Forum²⁸³ service delivery issues have dominated the debate.²⁸⁴

4.3.3 Mining and housing

From the outset labour in gold and coal mines was viewed as temporary and labourers to be housed in single sex compounds or hostels. While some family housing was permitted, the general view of government was to discourage it. Consequently the vast majority of mineworkers lived in single-sex hostels by the end of 1980s. As Apartheid began to be dismantled, more options emerged for mine workers: the hostels (that still accommodated at least 50% of workers); a rent subsidy; family units in hostels; and bond subsidies. The mix of housing options varies between minerals mined as well as the location of the mines (e.g. Gauteng or Mpumalanga). Living out allowances appears to be the most common form of housing assistance in the coal mining industry.²⁸⁵

In a survey of mine workers on housing conditions, the responses indicated that housing conditions has an influence on safety at work; with those in single sex and family unit hostels less concerned than those with rental or bond subsidies. In all cases security and violence were major concerns, while transportation (and time spent commuting) was another concern of those living off the mines' premises.²⁸⁶

While the post 1994 housing policy has concentrated on family housing including the conversion of hotels into family units, the mining industry does not appear to have a plan for mine housing.²⁸⁷ There are partnerships regarding housing provision but in many cases it is the municipalities' responsibility to provide housing and basic services.

4.3.4 Residents' attitudes to the city

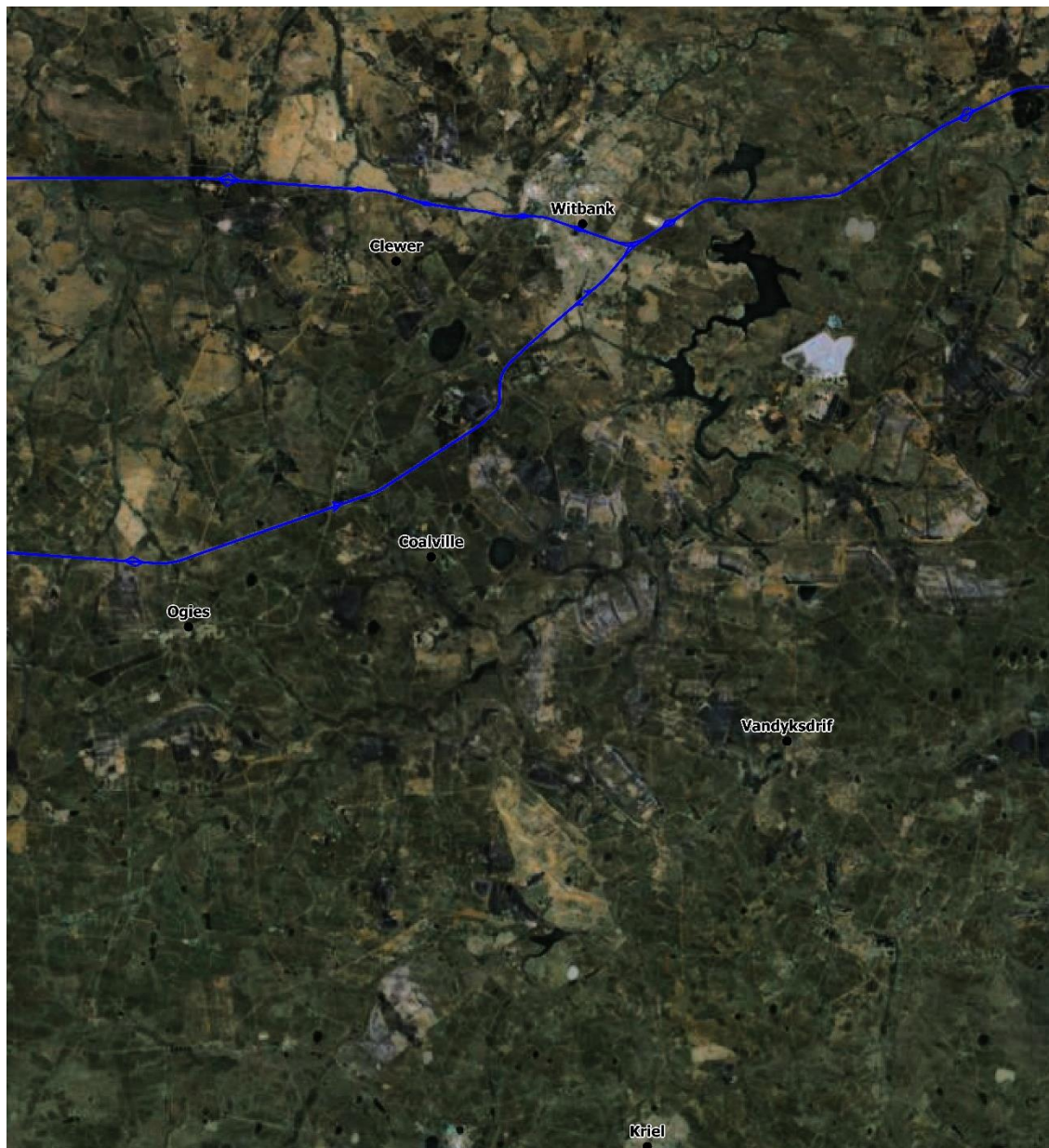
There is a sense of community in Emalahleni. However, the older generation is concerned about the kind of life the youth is living – the view is that they spend their money socialising, drinking and partying and not saving or embarking on business as have some middle aged residents (who are around 50-65 years old). Some older residents resigned from the previous employers and used their retirement funds to do business. Farming (stock and crops) seems to be one of the more popular ventures.

For many Emalahleni has a promising future. More mines are mushrooming in Emalahleni and the view is that they provide jobs including skilled employment. The people of Emalahleni stated that the fact that new power stations and malls are being built is an indication that there are long term opportunities.

4.4 Natural resources and the environment

“The impact of coal mining has been severe in the region, as a result of the neglect of the environmental cost of coal extraction and combustion by the coal industry.”²⁸⁸ The extent of coal mining can be seen in the Google Earth image (Figure 11) of the areas surrounding Emalahleni. The scale and extent of mining activities around the urban areas, is clearly visible, particularly to the south of the city.

Figure 11: Google Earth image showing extent of mining in south of Emalahleni²⁸⁹



4.4.1 Background

The major industries in the region: coal mining, steel production and energy generation have all had a serious impact on the environment. Water pollution, including acid mine draining (AMD); air pollution; soil contamination and deformation due to subsidence; and the spontaneous combustion of both mines and tailings dumps are legacies of the growth of the area²⁹⁰ that will have long term consequences for future development of not only Witbank, but a far wider region, including the entire Olifants River Catchment. Some of these issues are discussed in more detail below.

4.4.2 Acid mine water drainage

The mining of coal in Witbank started in 1894 to supply the gold- and diamond mines. Although several mines in the Witbank area lie deserted today most of these mines are draining acid water. This result in the continuous increase in the salinity and sulphate concentration of the water from the Witbank dam. One of the consequences is that the recommended sulphate concentration of 200mg/L

level for domestic use is regularly exceeded.²⁹¹ Many residents of the city do not drink piped municipal water but prefer to purchase bottled water or water from the Anglo-American water purification plant.²⁹² Even Eskom has found the quality of the water in Witbank to poor for use in their power stations and is importing water.²⁹³

In 2010 the coal fields in the Mpumalanga province were identified as one of the priority areas that required speedy intervention to address acid mine drainage as the contamination of fresh water sources is a life-threatening concern.²⁹⁴ Polluted water can be desalinated by means of a reverse osmosis process, but the costs are phenomenal.²⁹⁵ A distinguished group of experts appointed to advise an inter-ministerial committee warned against a “one size fits all” approach to address acid mine drainage. Instead detailed recommendations were made to manage the resulting risks regarding the prevention of decanting, the flooding rate reduction and the management of water quality.²⁹⁶

4.4.3 Spontaneous combustion of coal

Self-sustaining coal fires have been part of the Witbank environment for many years. These have occurred as underground fires and in the 1940s as burning mine dumps.²⁹⁷ These fires are caused by the spontaneous combustion of coal and results in exposure to hazardous elements that has detrimental health consequences.²⁹⁸ There is an ever existing risk in Witbank of underground fires caused by the entrance of oxygen into the underground mines which contributes to the spontaneously combusted coal.²⁹⁹ Research at the Witbank coalfields on the spontaneous combustion in coal found toxic chemical elements and compounds such as arsenic and mercury as well as concentrations of toluene, benzene and xylene. The latter is known to possess carcinogenic properties. In addition, other heavy elements were found in the coal-fire gas minerals such as lead, zinc, and copper.³⁰⁰ Therefore, appropriate measures have to be adopted to minimise the risk of underground fires causing fatalities in communities living above the mined out areas.³⁰¹ As several informal settlements are located on or near underground coal fires this is already a serious constraint to development.³⁰² Parts of Jackaroo³⁰³ and Ogies³⁰⁴ are apparently affected by subterranean fires.

4.4.4 Air pollution

Air pollution has been documented and debated in Witbank for many years.³⁰⁵ However, with increasing concerns of both global warming and human health, action is being taken. In 2007 the Minister of Environmental Affairs and Tourism proclaimed the greater Emalahleni region as a national air pollution hotspot called the Highveld Priority Area (HPA) in terms of the National Environmental Management: Air Quality Act (39 of 2004). In terms of this declaration the national government is responsible for monitoring, managing and mitigating air pollution, in conjunction with local and provincial governments.³⁰⁶

Past studies have found significant correlations between the toxic mix of gasses associated with outdoor air pollution and detrimental health effects.³⁰⁷ Various studies have identified very high levels of nitrogen dioxide (NO₂) and sulphur dioxide (SO₂) as well as benzene (C₆H₆), toluene (C₇H₈), ethylbenzene (C₆H₅CH₂CH₃) and ozone (O₃) over Witbank. These pollutants can cause damage to vegetation and contribute to asthma and bronchitis.³⁰⁸ Other pollutants found in high concentrations are chromium (Cr) and barium (Ba).³⁰⁹

4.4.5 Undermining, subsidence and soil pollution

Undermined land is restricting development within the city. In some areas subsidence occurs; particularly where the large pillars of coal, left to support the mines shafts were later excavated leading to collapse of the tunnels,³¹⁰ leaving the land derelict and unusable.³¹¹ These collapses also create vents (‘crown holes’) for oxygen to enter the shafts and contribute to spontaneous combustion.³¹² As mining fractures the rock, it can change the ground water regime and the integrity of aquifers resulting in low quality ground water and borehole water that is unsuitable for domestic or agricultural purposes.³¹³ Acid mine drainage can also sterilise the soil, damage plants, kill fish and reduce biodiversity.³¹⁴

4.4.6 Implementation of legislation

South Africa has excellent environmental legislation (i.e. the national Environmental Management Acts) and the Mineral and Petroleum Resources Development Act (28 of 2002) also has environmental management provisions. It appears that the larger mines and particularly the exporters do adhere to a greater or lesser extent to the provisions of the legislation. The declaration of the area as a national priority hot spot³¹⁵ is indicative of concerns by national government of the extent of air pollution on the health of the community and the environment, as is the research into acid mine drainage.³¹⁶ The environmental problems arising from the coal, steel and energy industries are likely to be exacerbated by the recent spurt in growth of Emalahleni.

However, it also appears from interviews that many businesses simply do not adhere to the legislation.³¹⁷ Furthermore, the municipality has little capacity to police the legislation.³¹⁸ Some large enterprises are “not willing to build relationships with the municipality because they are huge polluters.”³¹⁹

Even if the current industrialists and mines were to strictly adhere to the legislation, there is still the legacy of abandoned mines with the impending threat of extensive groundwater and surface water pollution as a result of acid mine drainage; burning mines; undermining and associated collapses; and the residue of mining to contend with. Given the extent of the mining activities in the area, the magnitude of the possible impacts has probably not been calculated yet. On top of this are the global impacts of CO₂ emissions from the coal fired power stations and their influence on climate change. These environmental impacts may well plague us in future.

4.5 Municipal governance

This section will briefly examine the following aspects: governance and management, and municipal finances and infrastructure and service delivery.

4.5.1 Overview: Municipal governance and management

As a result of mismanagement, corruption and lack of service delivery, the Emalahleni municipality is under administration. It was a municipality already identified as being in financial distress in the 2009 COGTA State of Local Government report.³²⁰ The following comments on municipal governance are apposite: “The lack of values, principles or ethics in these cases indicates that there are officials and public representatives for whom public service is not a concern, but accruing wealth at the expense of poor communities is their priority” and communities are frustrated “over poor institutionalisation of systems, poor service delivery and poor political governance. A culture of patronage and nepotism is now so widespread in many municipalities that the formal municipal accountability system is ineffective and inaccessible to many citizens.”³²¹

Mr. Theo van Vuuren was appointed as Administrator in April 2013.³²² Within a month of his appointment he had assessed the situation and prepared a draft turn-around strategy.³²³ Within a month of his appointment he had assessed the situation and prepared a draft turn-around strategy. The problems he faced include:

- High levels of corruption by councillors and staff alike; “*wat ‘n ryk munisipaliteit bankrot gesteel het*” (who robbed a rich municipality to bankruptcy)^{324,325}
- Excessive charges and payments for goods and services³²⁶
- A militant union that was controlling the municipality³²⁷ and whose members were reluctant to work³²⁸
- A militant union that was controlling the municipality³²⁹ and whose members were reluctant to work.³³⁰

- Acute financial problems including an audit disclaimer;³³¹
- An inefficient and ineffective administration who did not plan for the growth in development and population;³³²
- An unresponsive council that has little effective community engagement;³³³
- The near collapse of service delivery with frequent complaints by residents and businesses, pushing firms and residents who can afford to do so, to move to Middleburg with the resultant loss of (potential) revenue for the city.³³⁴
- Middelburg with the resultant loss of (potential) revenue for the city.³³⁵
- Lack of capacity in bulk services.

There is a staff establishment of 1853 posts, with the governance and administration, waste management, environmental management and health functions together constituting 54% of all posts. Of all these posts 72% are filled and only 14,7% unfunded vacancies, the municipality appears to have capacity. Half of the top management posts (posts reporting directly to the Municipal Manager, that is the 'Section 57' employees) were vacant during 2010/2011. Furthermore, only 1,1 % of all the staff had at least an undergraduate degree (i.e. are considered professional).³³⁶ According to the Auditor General's report of 2012 there was both an Acting Municipal Manager and a Chief Financial Officer (CFO) for over 9 months.³³⁷

The Local Economic Development function constitutes 0,2% of the staff while 50% of the posts are vacant. Development and planning comprises 0,8% of all staff. Although there are two registered planners, there are no building inspectors, and 37,5% of the posts are vacant. The lack of capacity in this function is reflected in the time taken to approve building plans, namely 90³³⁸ days while Section 7 (1) of the National Building Standards and Regulations Act, 3 of 1977 requires a decision within 30 and 60 days for buildings less than and over 500m² respectively.

As the population of the municipality is currently between 400 000 and 500 000³³⁹ people, it means that the population has more than doubled in less than 20 years. This has put extreme pressure on a service infrastructure that has not significantly expanded since 1994. Not only have the bulk sewerage purification works not expanded to keep up with demand, but they have also not been maintained, and the same applies to the city's electrical reticulation. The municipal water purification works are operating at capacity and cannot meet the demand. However, Anglo American has developed a water purification system for its own purposes and the city is buying water from them to meet the demand from residents. (The Emalahleni water reclamation plant was developed by Anglo American Thermal Coal and BHP Billiton to purify water to potable quality. It supplies 16ML of water of the 25ML every day to the Emalahleni local municipality.³⁴⁰)

Another serious problem is the losses in the system due to illegal water and electricity connections (or absolutely no meters at all) and the lack of maintenance leading to leaking pipes etc. Pressure is also being put on the system by the growth of illegal structures throughout the city. The majority of the guest houses in the city are illegal; a symptom of widespread lawlessness in the city³⁴¹ and a demand for temporary housing.³⁴² Thus, on the one hand there is the combination of economic growth and illegalities in the former "white" parts of the city and then in the lower income areas there are the rapidly expanding informal settlements. There are some 69 informal settlements representing at least 30 000 households. These cannot be formalised at present due to the lack of bulk services and a dearth of finances to build those bulk services.³⁴³

In order to be able to generate the funds needed to repair and maintain the infrastructure the municipality must ensure that it has a cash flow by collecting the money it is owed and preventing losses in the system. Just by doing this, it could collect R500 million per annum.³⁴⁴

The essence of the turn-around strategy is a three-phased approach based on firstly, stabilising the situation, secondly laying the foundation for rebuilding the administration and basic service delivery and thirdly, a long term capital development programme. Phase one comprises the following:

- Stabilising the situation with a focus on “the internal municipal environment”.
- Promotion of efficient governance with the establishment of multi-party *Section 80* committees (in terms of the Local Government: Municipal Structures Act, 117 of 1998).
- Improved communication with the public through various media including Facebook.
- Creating systems for efficient service delivery.
- Improving the state of municipal services and infrastructure.
- Implementing financial controls.³⁴⁵

Progress has been made.³⁴⁶ A Chief Financial Officer has been appointed³⁴⁷ as well as a City Engineer.³⁴⁸ Other areas of progress are agreements with the unions,³⁴⁹ improved response times to water and electricity outages and better public communication. These efforts have been acknowledged³⁵⁰ even by opposition parties!³⁵¹

4.5.2 Municipal finance

According to the South African Cities Network report of 2011, Emalahleni is capable of generating 70% of its own revenue (a decline from 85% of own revenue in 2004/2005).³⁵² However, by April 2013, the city was deeply in debt and was owed millions by debtors. It received a qualified audit in 2010 /2011 and a disclaimer of audit opinion on its 2011/12.³⁵³ Already in 2008/2009 it had been noted as a municipality in distress with a negative of cash flow in November 2011.³⁵⁴ It has thus been placed under administration in terms of Section 139(1)(b) of the Constitution of the Republic of South Africa, 1996.

Audit opinions in Mpumalanga are generally poor according to the Auditor General’s report with only two municipalities receiving clean audits and most of the remainder regressing. Among the reasons given are: the poor quality of the financial statements; lack of supply chain management systems; and weak internal controls. (Emalahleni was not included in the report because the financial statements were submitted too late).³⁵⁵

According to the Financial Recovery Plan 2013, the municipality:

...is in a non-functional state with no controls, no procedures and no processes in place. Managers are not in control of their processes and managed on a dysfunctional basis due to the fact that all controls have been collapsed to cater for extreme illegal and unlawful expenditure to cope with corruption. Managers reporting to the Chief Financial Officer are not fully capacitated and all their delegations are very limited. This area is the breeding place for corruption and bribes. There is no system in place for internal controls and decisions are made at various levels opening further gaps for corruption. Overspending has occurred with little concern from finance staff....³⁵⁶

In April 2013 some R346 million in creditor payments was owing, while debtors owed R981 million. There was a negative cash flow in the region of R93,7 million with a total debt in the order of R439,8 million.³⁵⁷ Over half a billion Rands had to be written off due to bad debt in the past financial year.³⁵⁸ These financial woes are compounded by the budgets required to repair, maintain and expand the bulk and reticulation infrastructure to restore service delivery; provide for the 30 000 to 40 000 households in informal dwellings and settlements; and allow for future development.³⁵⁹

The estimates for the provision of sufficient bulk services to meet the immediate or short term needs are substantial. At least R450 million is required for water, and R65 million immediately while in the long term R1 billion is needed for the electricity network³⁶⁰ and R8 billion for rehabilitation and R3 billion for the expansion of the services.³⁶¹ Because the city is technically bankrupt it cannot borrow the capital and will have to depend on grant funding at present.³⁶²

The 2012/2013 budget is summarised in Tables 10 and 11 below.

The operating budget is based on cash flow available and the budgeted expenditure on the previous financial year. Of this budget, 21,82% is for remuneration and 34,41% for bulk purchases of electricity from Eskom. R160 000 000 or 8,48% is allocated for bad debt and only 4,47% or R86 215 000 for repairs and maintenance.

Table 10: Operating budget, 2013/14³⁶³

Description	R'000s
Operating budget	1 895 831
Less grants allocated to indigents	530
Capital expenditure conditional grants	7 900
TOTAL	1 887 401

The capital budget is largely financed by grants with no contributions from own funding (as there are no funds³⁶⁴ and no loans can be made at present).³⁶⁵ There are also increased allocations from the National Government and the District Council.³⁶⁶ Much of this funding is for emergency upgrades of services such as the Ga-Nala (Ogies)/Thubeihle bulk outfall sewerage works.³⁶⁷

Table 11: Capital budget 2013/2014³⁶⁸

Source of Funding	R '000s
Nkangala District Municipality	36 719
Municipal Infrastructure Grant (MIG)	98 944
INEP (Eskom)	1 170
Regional Bulk Infrastructure Grant	27 800
TOTAL CAPITAL PROGRAMME	164 633

With the city's remarkable growth, and the proper metering and billing systems in place, the city has the potential to recover. Mr. van Vuuren was of the opinion that it will take 18 months to get the financial system back on track. Among the actions being taken is improved law enforcement (e.g. the traffic police are now functioning³⁶⁹ after months of 'invisibility'³⁷⁰), repairs of leaks; and managing illegal connections or the lack of connections that has cost the municipality up to 40% of its revenue.³⁷¹ Enhanced revenue collection of at least R40 million per month and the reduction of monthly expenditure by R5 million per month, by better asset management and supply chain management, are part of the turn-around strategy.³⁷²³⁷³

4.5.3 Planning and financing of engineering services

Emalahleni has a service delivery crisis and its engineering services are collapsing.³⁷⁴

On the face of it, the provision of basic services looks good. In July 2013 the status regarding access to services was as follows: about 98% of the population have access to piped water, 88% of the population have access to a basic level of sanitation, 69% have flush toilets and 70% have access to electricity.³⁷⁵ However, the reality is different. Several billion Rands worth of investment is required to rectify the current situation and provide for growth. In addition to the finances, the municipality experiences a shortage of skills, equipment and vehicles necessary to rectify the situation.

Table 12: Access to basic services³⁷⁶

	Piped water	Flush/ pit latrine	Municipal refuse removal
1996	77,4%	73,4%	66,89%
2001	73,3%	72,7%	68,27%
2011	80,3%	70,8%	69,19%

Mpumalanga province, while endowed with water resources has the country's lowest water quality and water risk management capabilities in terms of "Blue Drop" scores (60,9).³⁷⁷ However Emalahleni's score is extremely low and decreased from 46,9 in 2011 to only 367,5 in 2011.³⁷⁸ In the Mpumalanga Blue Drop Report the comment on the water treatment works (WTW) was critical of the state of affairs in Emalahleni.

The overall impression of the WTW was poor as the grass was not cut and there was no access control. There is a kitchen and a shower for process controllers but the lights were not working on the day of the site inspection.

Acknowledgement is given for the visible safety signs and MSD sheets on site. However the lack of adequate housekeeping and routine operational monitoring must be addressed as a matter of urgency as these issues have also been highlighted in the previous Blue Drop report.³⁷⁹

The "Green Drop" scores that measure the ability to identify and mitigate health and environmental risks emanating from wastewater, indicate similar trends with the Provincial score falling from 72,6% to 69,2%. Emalahleni was identified as a high risk waste services municipality with one plant as a critical risk facility and was subsequently "placed under regulatory surveillance."³⁸⁰ However, despite the lack

of capacity of the waste water treatment plants, Emalahleni improved its “Green Drop” score from 72,5 in 2011 to 78,4 in 2012.³⁸¹

There is a shortage of bulk services. The sewerage works have the same capacity as they did in 1994, but the population has at least doubled since then. There have been major effluent spills in the past³⁸² but emergency repairs have been done to the sewerage purification plants to prevent further accidents.³⁸³ However, as the technology is old, upgrading is essential. R58 million has been set aside on the 2013/14 budget for provision of sanitation to schools; the construction of outfall mains and another 8km sewers; and upgrading of the sewer purification works.³⁸⁴

There has been little or no investment in the power network, and at least R1 billion is required to repair and expand it.³⁸⁵ The infrastructure is old as is the technology. Besides struggling to cope with demand, there are also incidences of cable theft and vandalism.³⁸⁶

Without the purchase of water from the Anglo-American water purification works (see section 4.5.1) the city would not be able to supply its residents with water.³⁸⁷ According to a media report the demand for water (130ML/day) exceeds the design capacity of the purification works when fully functional and working at full capacity (100ML/day).³⁸⁸ The municipal water storage capacity is minimal as the reservoirs require maintenance and cleaning. This implies that there are no reserves. According to Van Vuuren, “as the [water supply] system is operating to capacity, any problem can severely impact on supply at any given moment. We have little margins for any mistakes or problems, and until we can significantly improve the system operation and capacity, we are always at risk.”³⁸⁹

Although the Mpumalanga Provincial government is rebuilding and repairing the provincial roads, local roads are at capacity and in a poor condition. These problems are aggravated by the volumes of heavy traffic using local roads^{390 391} As will be discussed later in the section on spatial planning, managing this problem will require a land use and transport strategy to address not only the problems emanating from heavy mining vehicles on local roads, but accessibility problems as well.

In addition to the lack of bulk services, the municipal reticulation services are also breaking under the strain. Among the causes cited for these problems are the growth of the population, illegal connection (and absence of metered connections) and lack of investment and maintenance in the infrastructure. The consequences of this situation are the flight by more affluent residents and businesses to neighbouring municipalities, constraints on business expansion, a moratorium on planned construction of new housing and commercial developments and insufficient infrastructure to address the acute need for affordable housing.³⁹² The cost to repair and expand the current services is in the order of R8 billion and R3 billion, respectively.³⁹³

With respect to water provision, the city is losing almost 50% of its water as a result of leaks and pipe bursts³⁹⁴ even before the losses to unmetered / illegal connections. As a result upgrading the water system is a priority. The 2013/14 budget to develop 4000 erven, provide bulk and zonal meters and valves (to be able to isolate an area in case of pipe bursts) and upgrade water purification works is estimated at R202 million.³⁹⁵

The number of households without access to any form of refuse removal in the city has grown from 4,7% in 1996 to 6,85% in 2011. However, it is clear from personal observations of the research team that the quality of municipal refuse removal leaves much to be desired, which is confirmed in documents provided by the Administrator.³⁹⁶ The management of landfill sites by contractors has a budget exceeding R3,7 million³⁹⁷ that is part of a total waste management budget of R66 million.³⁹⁸

It is estimated that 90% of the road infrastructure needs to be replaced – not just repaired. In addition major upgrades of the system with road widening are needed to manage the growing internal traffic as well as the links to Middleburg.³⁹⁹ The municipal budget for 2013/14 for road infrastructure includes R108,5 million on the operating budget and R36,8 million on the capital budget.⁴⁰⁰ The latter appears to be woefully short of the investment required to deal with the roads and storm-water problems. Part

of the solution in the turn-around strategy is an Expanded Public Works Programme (EPRW) that will drive the municipal works programme.⁴⁰¹ The chief internal auditor is of the opinion that cooperation and law enforcement are necessary to manage the heavy road traffic. “The city is surrounded by mines there are hundreds of trucks laden with coal using the road network in this city ... Therefore the municipality needs to sit with the companies that are running their trucks here. Witbank should be having a weight-bridge to determine if the trucks are carrying an acceptable load and fine the companies if it does not generate money for the repair of the roads.”⁴⁰²

4.6 Municipal planning

This section contains an overview of the integrated development plan (IDP) and the local economic development plan (LED) that is a component of the IDP. Spatial planning will be discussed in section 4.7.

4.6.1 Emalahleni integrated development plan

The primary strategic plan of a municipality is the integrated development plan (IDP), a mandatory plan required in terms of the Municipal Systems Act, 32 of 2000. However, as the city has failed in service delivery and it has been placed under administration. The administrator has prepared a turn-around strategy and a financial recovery plan to assist the municipality to improve its financial situation and deliver services to the community.⁴⁰³

This turn-around plan was approved in May 2013⁴⁰⁴ (see section 4.5 for more detail). The IDP prepared in February 2013 was reviewed, refined and approved by Council on 27 June 2012 while the revised budget was adopted on 20 June 2013. Service Delivery Budget Implementation Plans (SDBIPs) have been compiled following acceptance of the draft turn-around budget by National Treasury in April 2013⁴⁰⁵. The process of preparing the IDP and budget included an *Indaba* with the mines and other industries and businesses⁴⁰⁶ but as this occurred after the adoption of the budget and prior to the approval of the IDP, the contribution of these sectors to the decisions is doubtful. However, according to a DA councillor, the administrator is lobbying the businesses in the area for assistance in improving service delivery.⁴⁰⁷

According to the 2013/14 IDP the Emalahleni vision is “striving together to be an excellent centre for service delivery and development” while the mission statement reads “Providing affordable, accessible and sustainable quality service, enhancing community participation and creating a climate for economic development.”⁴⁰⁸ These goals are clearly framed in terms of the developmental mandate of local government and the problems besetting the municipality. The IDP reflects the severe financial and service delivery problems for these are the focus of its short term and medium term objectives as well as its turn-around strategy.⁴⁰⁹ According to the IDP the short to medium term goals are:

- stabilising the institution,
- gearing it up for delivery,
- enhancing efficiencies and capacity,
- and deliver a good quality service to the community,
- with a short term focus on maintenance and
- a medium term focus on rehabilitation and new infrastructure,
- Matching [sic] expenditure with income, and growing the revenue base....,
- move to a balanced budget in 12 months.⁴¹⁰

The long terms goals “involve the planning and execution of long term capital programmes for increasing the service delivery capacity, rehabilitating the current base at scale and to growth the economic base.”⁴¹¹

While the 2013/2014 Emalahleni IDP reflects the city's serious financial, administration and service delivery crises it appears that the staff have taken a more prosaic view of strategic planning. According to an official in the development planning function, the problems of the IDP relate to poor relationships between spheres of government, within the municipality and between the municipality and potential partners. In his view there are problems with inter-governmental relations and the municipality struggles to gain the national and provincial support required for effective planning and implementation. IDPs also depend on robust capacity which is often lacking within municipalities for both planning and implementation, as in the case of Emalahleni. Thus many municipalities are still struggling to produce credible IDPs.⁴¹² Due to a 'silo mentality', some municipal departments in Emalahleni are not aware of the IDP or of the Spatial Development Framework (SDF).⁴¹³ Furthermore, each new Council come in with their new focus, new vision and new five year plan without evaluating the previous IDP and its successes and failures. According to the official this is one reason why the previous IDPs were unsuccessful and thus the municipality will always be regressing.⁴¹⁴

It would appear that despite the legislation calling for the IDP to include a long term vision for the municipality,⁴¹⁵ the previous IDPs gave the impression to have been somewhat short-sighted with a focus on the next five years rather than long term development.⁴¹⁶ As a result, the municipality did not anticipate or plan for the rapid growth and in-migration that occurred, largely driven by the search for employment on the mines.⁴¹⁷ This rapid increase of between 300 and 500 people per month⁴¹⁸ leads to inadequate bulk infrastructure and overloading of local services.

Besides the problems arising from sustained economic growth leading to in-migration, there are also problems relating to the financing of the IDP. While some projects and programmes should be financed from municipal ('own') funds others are national and provincial competences and should be addressed on those levels.⁴¹⁹ In addition, there are those projects and programmes that are dependent on corporate social investment from either the private sector or international and local donor agencies. Although the municipality is supposed to put together a resource mobilisation unit to access external funding it has not been successful and the resource mobilisation unit has not realised.⁴²⁰ From the IDP document as well as other interviews, it appears that strategic local partnerships with the mines and corporate social responsibility projects do not feature strongly in Emalahleni strategic plans^{421 422} and what projects are implemented are done so entirely by the relevant industry to avoid corruption in the municipality and the provisions of the Municipal Finance Management Act, 56 of 2003.⁴²³

4.6.2 Overview of Local Economic Development (LED) plans

The Local Economic Development (LED) strategy is contained in the IDP (Chapter 9).⁴²⁴ It considers the following sectors: mining, manufacturing, agriculture, business tourism, business services and SMME development. In each case there is an overview of the sector and a list of investment opportunities without a detailed discussion on how to unlock these opportunities. As there is no reference to more detailed strategies and programmes, the outlines contained in the IDP are of limited value in guiding local economic development. There are furthermore no explicit links to Provincial or National plans in the chapter.

While the local IDP/LED plans are parochial, there is an investigation by the Mpumalanga Provincial Government and the SA Iron and Steel Institute to establish a steel and metals fabrication hub between Witbank and Middelburg. The intention is to have beneficiation of existing steel products produced in the area, particularly those produced by the major plants such as Evraz Highveld Steel and Vanadium, and Columbus Steel (situated in Middelburg). This initiative arises from the Mpumalanga government's concerns regarding the province's poor trade balance, with most goods being imported into the area while they have a comparative advantage in (coal) mining, energy, and agriculture and forestry (along with the related pulp and paper industry).⁴²⁵ The accessibility of the area, the availability of power and the existing steel industries make it an ideal location for the initiative

that will meet three objectives: firstly, revenue for the area; secondly, training and skills development; and thirdly, a return on investment in infrastructure.⁴²⁶

The lack of strategic direction could be partially attributed to the nature of the Local Economic Development (LED) directorate in Emalahleni which is small and struggles to coordinate local business or to initiate or support interaction among businesses. It is thus unable to provide a platform where all businesses small, medium, informal can agree on development.⁴²⁷

Within the municipality there appears to be an uncomfortable relationship between the LED unit (situated within the office of the municipal manager) and the Development and Planning Directorate as some key performance areas lie within the LED unit but the execution resides with the Planning Directorate.⁴²⁸ This is particularly relevant with land use applications where bottle-necks and frustrations are viewed as failures of the LED unit rather than the planners.⁴²⁹ The relationship between economic development and planning was also mentioned by an official in the planning department who pointed out the potential of spatial planning to create opportunities for investment, particularly in the 'townships'.⁴³⁰

⁴³¹ This is particularly relevant with land use applications where bottle-necks and frustrations are viewed as failures of the LED unit rather than the planners.⁴³² The relationship between economic development and planning was also mentioned by an official in the planning department who pointed out the potential of spatial planning to create opportunities for investment, particularly in the "townships".⁴³³

4.7 Spatial planning

4.7.1 Spatial planning and the IDP

Although the IDP does contain a spatial analysis chapter with "key development projects per node" (Chapter 10) it does not appear to contain or refer to a spatial development framework (SDF), nor does it include discussions on strategic spatial planning to accommodate future growth and manage environmental degradation.⁴³⁴ The administrator was extremely critical of the planning function for not anticipating and planning for the population and economic growth and hence managing many of the problems that the city now faces.⁴³⁵

From comments made by an official in the planning function it seems that the SDF has been neglected despite the fact that (in his opinion) it should be the long term strategic development plan of any municipality while the IDP should be the plan guiding the council for its term of office. The town planner pointed out that, although the SDF is the 10 to 30 year projection on how one sees the economic growth of that particular city or town which should be done in line with all of the economic projects or programmes that one would like to realise in growing and integrating communities, this is not happening. Instead the council is focussing on attaining immediate benefits rather than pursuing strategic plans for the next 20 to 30 years that could be best captured in the SDF.⁴³⁶ In terms of implementation, there are so many objectives that cannot be implemented⁴³⁷ within the specified period of five years.⁴³⁸

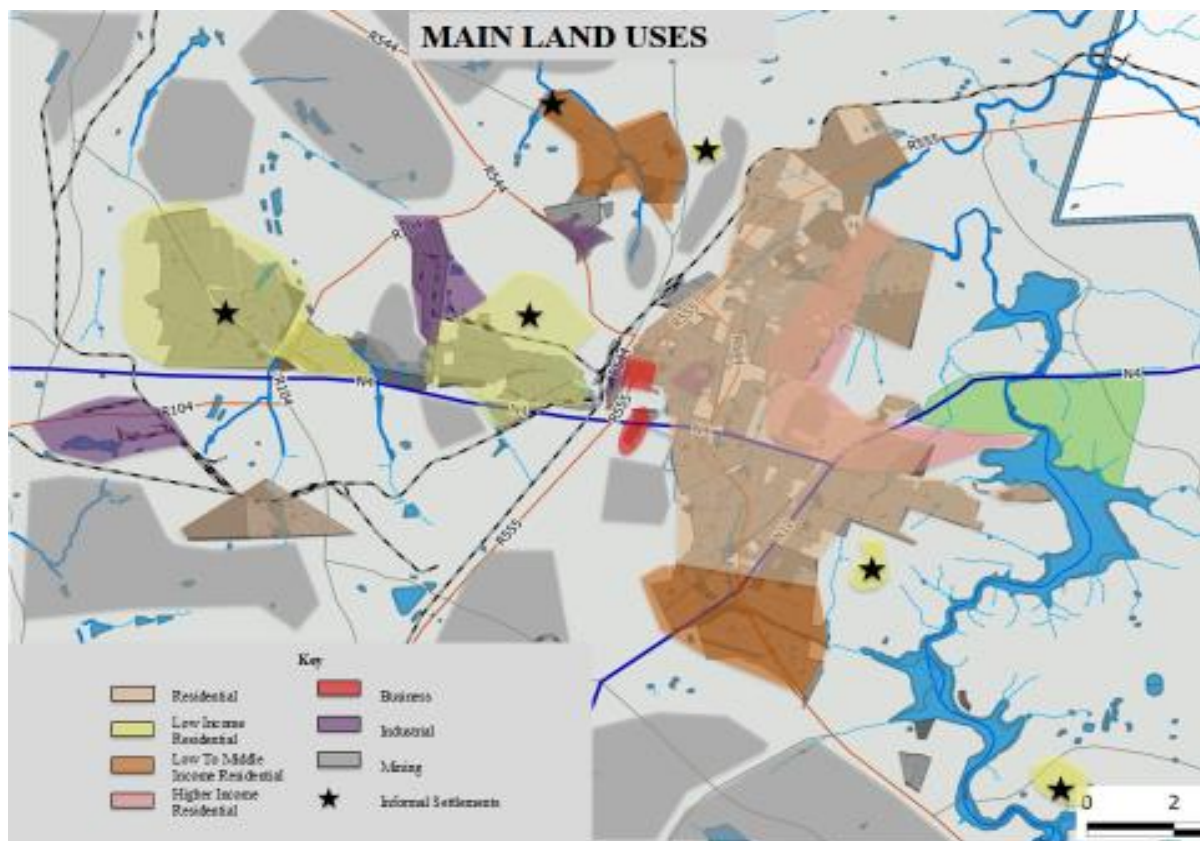
The relationship between economic development and planning was also mentioned by an official in the planning department who pointed out the potential of spatial planning to create opportunities for investment, particularly in the 'townships'.⁴³⁹ According to him as soon as there is one investor in that area, for instance the Shoprite group, others such as furniture stores, banks and other investors will follow, creating employment, thus reducing the burden of unemployment within that particular area. While the city has a number of key pieces of land available to investors, these must be addressed in the Emalahleni spatial development framework as a proposed industrial or commercial hub; otherwise no investors will come or have confidence to develop in Witbank. Such opportunities should be in both the eastern "white" and western 'township' areas of the city.⁴⁴⁰

4.7.2 Spatial patterns

Mining originally determined the location of the city and still influences development. As in most South African cities, Apartheid planning has left a legacy of fragmented residential areas. The vast Kwa-Guqa area is effectively isolated from the city centre with limited road access worsened by the many streams separating it and the other residential areas. The industrial area of Ferrobank along with mine dumps adds to the exclusion. Ackerville, Lynville and Thushanag and the large informal settlement to the north of these settlements are only separated from the CBD by a railway line and enjoy better access to the CBD. Lower income housing is largely situated to the west of the city centre although there are pockets of informal housing to the south-east. Low to middle income housing including informal settlements and the mixed income Klarinet development, are to the north, while the area around Duvha (which was originally built as artisan housing) also has middle income housing. The upper income areas are to the east of the city.⁴⁴¹ These patterns are indicated in Figure 12 below.

The other smaller towns or nodes are accommodated in the IDP and the plans for upgrading informal settlements. However, some of these settlements such as Rietspruit are not economically viable while Kriel (Ga-Nala) is over 60km away on a road that is “very small and atrocious. It takes the better part of ... an hour to ... reach Kriel and you compete with trucks along the way”.⁴⁴²

Figure 12: Main land uses in Emalaheni⁴⁴³



4.7.3 Growth pressures

The recent rapid growth has led to an increase in the number of dwelling units. As previously mentioned, some 30 000 households are living in informal settlements, of which at least 12 000 must be relocated as they are in hazardous locations (such as on burning coal fields, or under high voltage power-lines).⁴⁴⁴ Table 13 summarises the current housing situation.

The more affluent areas are also under pressure with increased densities through subdivisions,⁴⁴⁵ higher density housing and new extensions.⁴⁴⁶ As a result of the undermining of land in the city, high-rise developments are often not an option and horizontal densification appears to be the order of the day.⁴⁴⁷ The council has been under duress to approve developments and careful evaluation of the nature and impact of new development has been foregone due to development pressure – especially when the development has already been completed.⁴⁴⁸

Table 13: Housing status quo, 2013⁴⁴⁹

	Estimated no of units**
Formal (detached residential)	66 000
Flats/ rooms (formal)	3043
Medium density	5100
Backyard units	6779
Informal	30 279
Other	5462

** based on Municipal surveys

Despite the problems of undermining, abandoned and burning mines and mine dumps, there is sufficient land at present to accommodate immediate needs and future growth.⁴⁵⁰ The areas currently identified in municipal documents are all on the outskirts of the existing settlements with the exception of the area linking Ga-Nala, Kriel and Thubelilhe in the south of Emalahleni.⁴⁵¹ At present the two main obstacles to development are firstly, the lack of bulk infrastructure and secondly, the shortage of finances to address the bulk infrastructure problems.⁴⁵²

4.7.4 Accessibility, transport and traffic

Emalahleni has good regional access with the two national routes (N4 and N12) and several provincial roads. While the two national routes provide excellent access to the city, they also act as barriers within it, dividing it into northern and southern parts with limited crossing between these. Since there are only a few intersections with these routes into the city, and the internal road network is inadequate the intersections are often under pressure. This is particularly the case with the intersections giving access to and from the N4 between the CBD and Kwa-Guqa due to the lack of acceptable alternative routes.⁴⁵³

The rapid economic and population growth of the city has put strain on all the infrastructure, including the roads that were never planned or designed for the volumes of traffic that they now carry. In addition, the numerous small streams that segment the town are barriers to integration and free movement. Additional east-west roads linking the Kwa-Guqa/ Ackerville areas to the CBD and residential areas to the east as well as the employment opportunities to the north and south are critical for improved mobility and access for residents of these areas.

Upgrading the road infrastructure and creating additional capacity is essential for sustained economic development. However, alternatives to heavy duty trucks carrying coal (e.g. conveyor belts from mines to power stations and railways to ports) must be negotiated with the mines. A traffic and transportation strategy, that addresses linkages for those areas with limited access; provides alternative routes for heavy duty vehicles and capitalises on the excellent location of the city, should be formulated with the main stakeholders as participants in the process.

Public transport has not been high on the municipality's agenda and is not a function performed by the municipality⁴⁵⁴ but the IDP does call for the development of an Integrated Transport Plan.⁴⁵⁵ With increasing densities (from 136 persons per km² in 2010⁴⁵⁶ to 186,7 persons per km² based on a population estimate of 500 000⁴⁵⁷ people and 149,5 with a population of 400 000 in 2013) and taking into consideration that at least 75% of the municipal area is dedicated to mining, the *de facto* population density is probably above 746 persons per km². The cruciform shape of the existing urban development may facilitate an effective public transport system, provided that the roads offer acceptable access and capacity.

Management of the rural hinterland

Emalahleni was already over 80% urbanised in 2007.⁴⁵⁸ Much of the undeveloped land to the north and south-west of the city has been purchased by the mines for future production. Within the municipality, urban development, mining, and 'land waiting to be mined' are the predominant land uses.

The smaller settlements within the municipality do not appear to be effectively integrated into Witbank, at least not from an administrative perspective.⁴⁵⁹ One respondent was fairly open regarding the lack of integration;

We tend to focus quite a lot on urban areas, we absolutely do not have some kind of strategic partnership with the rural within our municipality boundaries and there's quite a lot of them, quite a lot because we are the maize bucket of the country and absolutely there should be [an]... intense kind of conversation going on. ... the rural areas are not optimally reflected within our strategic plans. We should be planning better roads, better hubs. We cannot duplicate the city in the rural area but we are supposed to spearhead things like a transport hub where the rural communities could find it easy to come to the city and do their purchases. We have to work with Province in providing social services there, especially in terms of health.⁴⁶⁰

4.8 Innovation, knowledge economy and human capital formation

Emalahleni has developed on the basis of primary industries such as coal extraction and power generation from that coal resource. While these industries have undoubtedly had some innovation regarding greater efficiencies in their processes, they have not led to an innovative industry in the region. The same can be said of the local iron and steel industry where one of the main problems identified is the lack of innovation and, research and development in the industry.⁴⁶¹

A lack of skills in the steel industry was identified as a stumbling block to improved performance in that industry.⁴⁶² It appears from interviews that specialist skills have been imported along with the specialist equipment from foreign companies for the construction of the Kusile power station, again indicative of a lack of skills in the area.⁴⁶³ Even the technical skills to maintain and rehabilitate the municipal infrastructure appear to be in short supply.⁴⁶⁴

An inspection of the education levels of the community (Table 14) can provide some insight into the low skills levels. Some 92% of the population only have Grade 12 (Matric) or less and just on 2,3% of the population have a Bachelor's or higher degree.⁴⁶⁵

Table 14: Educational levels Emalaheni 2011⁴⁶⁶

	Percentage
No schooling	5,25%
Grades 0-6	21,27%
Grade 7/Std 5	4,93%
Grades 8-11/Std 6 to 9	32,05%
Grade 12 / Std 10 / Form 5	24,37%
NTC I / N1/ NIC/ V Level 2 - N6 / NTC 6	4,16%
Certificate with less than Grade 12 / Std 10	0,26%
Diploma with less than Grade 12 / Std 10	0,30%
Certificate with Grade 12 / Std 10	1,55%
Diploma with Grade 12 / Std 10	2,03%
Higher Diploma	1,55%
Bachelor's Degree	0,97%
Higher Degree	1,30%

5. Synthesis

From the abovementioned research several intertwined themes emerge. These are firstly, the recent growth of the region that has created employment, expanded the economy and attracted new residents. The consequences of the growth lead to the second theme, the (in)ability of the municipality to provide services to the community. The third theme pertains to the future of coal mining in the region and the subsequent influence on the local economy, while the last theme is the long term impact of mining and industry on the regional environment. The rapid growth of the area has been based on coal extraction and the construction or refurbishment of existing power stations in the region. It has created jobs (see Table 6, p.31) and increased welfare to the area. This has attracted new businesses and generated new markets for products, leading to a relatively self-sufficient consumer market.⁴⁶⁷ The economic growth has also attracted residents in all income groups creating a demand for housing that is visible as increased densities,^{468,469} new developments and informal settlements.⁴⁷⁰ It has also placed extreme stress on the municipal infrastructure – from water supply to the roads. The city has not anticipated this growth, had not planned for it, and is unable to manage the increased demand.

Whereas the surge in demand has certainly contributed to the city's service delivery crises, this was amplified by inept and corrupt municipal governance. While little attention was paid to, and hence no investment made in the maintenance and extension of the services infrastructure, the municipality was bled dry by councillors and officials.

Consequently there is a prosperous, growing economy that has been fettered by a demoralised, dysfunctional local government. Frequent power failures, water pipe bursts with resulting water shortages and traffic problems are driving investors, businesses and residents from the town. Lawlessness abounds, including traffic offences,⁴⁷¹ illegal developments⁴⁷² and illegal and unmetered connections.⁴⁷³ The lawlessness extends beyond residents and small businesses to include some of the major industrialists.⁴⁷⁴

Service delivery problems and the dire state of municipal finances led to the municipality being placed under administration in April 2013. A turn-around strategy has been developed to address the financial predicament and the looming infrastructure collapse. This strategy is at the heart of the IDP and drives the current budget. Assuming that the strategy is effectively implemented – and progress is being made according to the Administrator⁴⁷⁵ then Emalahleni could be back on track to growth, development and prosperity.

Although medium term growth of the region will occur due to the continued presence of mining the economic growth of the city will depend on the quality of its service delivery and that is dependent on finances. Commitment to improved municipal governance and administration, accompanied by adequate finances from National and Provincial government will be crucial for Emalahleni to resolve its infrastructure crisis and become a developmental local government.

Witbank was built on coal, and as long as the coal lasts, its economic base will be founded on mining and power generation. The supply of goods and services to the mines and the steel manufacturers that followed them laid the foundation for the integrated economy that currently exists. Currently, mining contributes 47% of the city's GVA⁴⁷⁶ and will probably continue to make a substantial contribution for the next decade or two.

However, with revised estimates on South African coal reserves, it is possible that extraction will peak in ten to twenty years and thereafter decline.^{477 478 479} A decline in an industry that plays such a central role in the city's economy will impact not only on the community but the province and the nation, as this area is part of the primary coal producing area in the country.⁴⁸⁰⁴⁸¹ The longer term social consequences are likely to be very similar to those experienced in the Free State Goldfields⁴⁸² such as increasing unemployment, poverty, closure of enterprises serving the mines and a strain on the local municipality.⁴⁸³ However, thanks to Emalahleni's location on the Maputo corridor and the existing investments in iron and steel manufacturing and energy, the extent of the problem could be less extensive than those of the goldfields.

Planning for a future with radically reduced dependence on coal must commence now. It requires developing other industries – preferably those with a lower ecological footprint than Emalahleni's current economic drivers. There will have to be a move from the current dependence on primary industries to secondary and tertiary sectors. One option is the beneficiation of steel and iron products and the establishment of the Steel and Metals Fabrication Hub⁴⁸⁴ and manufacturing cluster. Another option could include a transport and distribution centre given the favourable location of the city on the MDC. As the proximity of Johannesburg and Tshwane – along with the poor quality of the natural environment – will probably inhibit the development of leading innovation industries, consideration will have to be given to other industries.

In order to make this transition, the following will be necessary. Firstly, skills training will be essential to address both the current shortages of skilled labour and the demands of a new economy. Secondly, this transition must be planned and preparations should begin as soon as service delivery has been stabilised so that the implications can be accommodated in medium to long term plans. Thirdly, attention must be given to rehabilitating the environment that has been scarred by over a century of mining.⁴⁸⁵ This will involve a concerted effort of government in partnership with the relevant industries.⁴⁸⁶

Given the severity of the current service delivery situation in Emalahleni, it is not unsurprising that most respondents focused on the immediate issues. However, there is increasing concern over the long term effects of mining. In addition to the restrictions undermining, subsidence and underground fires place on the development of the city, there is the problem of the damage and devastation of the surface, particularly in respect of older open cast mines that were abandoned prior to modern environmental legislation.⁴⁸⁷ Acid mine drainage (AMD) is another emerging issue, and the extent of the future problem is still being debated. Already there are signs of this within Emalahleni^{488 489} but the problem will be exacerbated as the mines begin to close and are abandoned.⁴⁹⁰ It may be that Witbank/ Emalahleni is heading towards collapse due to over exploitation of ecosystem services and environmental degradation over the past decades.⁴⁹¹

Should Witbank be able to deal with its governance, service delivery and infrastructure issues, then, on the strength of its economy, it certainly has the potential to become a metro. Its GVA of R39 billion is approaching that of Mangaung (R40, 8 billion) and Buffalo City (R45,67 billion).⁴⁹² Emalahleni's employment figures (105 017 formally employed) are about two thirds of either Buffalo City or Mangaung, and still growing. It has a favourable location on route to major ports, a diverse and integrated economy, and major investments in steel manufacturing plants that have excess capacity.



Built on coal and sustained by mining and coal related industries, Witbank has developed into a strong regional centre. However, it is the future of the mining industry, the social-ecological impacts of mining, and the manner in which these impacts are managed that will ultimately determine Emalahleni's future.

Our forebears deferred the environmental costs associated with mining, and we now have to pay those costs. Are we going to do the same to future generations? If we do, their problems are likely to be far more severe than ours because the effects are cumulative and in the future, once mining is on the wane, the funds to address the problem might not be readily available. ...because of the particular local conditions, the problems in the Olifants and especially the Vaal River basins are huge by comparison and pose a serious threat to future generations of South Africans.⁴⁹³

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