STRATEGIC DEVELOPMENT PLAN FOR THE R59 CORRIDOR

FINAL REPORT

July 2010
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1. INTRODUCTION

During 2004, the Midvaal Local Municipality initiated the formulation of a Strategic Development Plan for the R59 freeway, to promote the development of this freeway or sections thereof as a development corridor. The intention of the study was to explore the development potential of the R59 and formulate proposals and guidelines for corridor development. The plan also put forward proposals and initiatives to market the development of the corridor.

Plan Associates was appointed to undertake the formulation of this plan on behalf of the Midvaal Local Municipality. Since then market interest in the functional area of the corridor has increased significantly, and the municipality is currently inundated with development applications of various sorts around the corridor. The corridor is also included in the IDP and the SDF (see Figure 1) of the municipality. The increased development pressure has resulted in the need for more detailed development guidelines to direct and facilitate development within the corridor, and subsequently Plan Associates was appointed to review the initial proposals as reflected on Figure 2, and to provide more detailed development guidelines towards the future development of the corridor.

This report thus represents the reviewed and refined proposals for the R59 Corridor.

1.1 STUDY AREA AND DEVELOPMENT CONCEPT

The R59 freeway is an important regional route which connects the City of Johannesburg and Ekurhuleni with the Emfuleni in the south of Gauteng, and Sasolburg in the Free State Province. A section of the R59 freeway runs through the Midvaal Local Municipality and acts as a lifeline to the southern areas of the province. This freeway was constructed some 30 years ago to supplement the K89 (Alberton/Vereeniging Road).

The main focus of this study is thus the section of the R59 freeway situated in the Midvaal Local Municipality area. The study also includes road K89 and the railway line which run parallel to the R59 freeway, as well as the adjacent developments. Please refer to Figure 3 depicting the study area.
R59 CORRIDOR
STUDY AREA

Legend
- R59
- K89
- Railway Line
The combination of the freeway, local road and railway line in close proximity hold the potential for corridor development and a concentration of non-residential uses along this route is already evident.

The R59 freeway originates in the south of the City of Johannesburg at South Rand Road, north of the N12 freeway. It then passes through Alberton in the Ekurhuleni Metropolitan Municipality, past Meyerton in the Midvaal Municipality and Vereeniging and Vanderbijlpark in the Emfuleni Local Municipality, from where it crosses the Vaal River into the Free State Province and then runs to Sasolburg.

The railway line and K89 provide strategic linkages at regional level and access to areas of economic opportunity, as discussed under Regional Context.

The K89 originates north of the Alrode industrial area at the intersection with Heidelberg Road. It runs through Alrode South, past Tokoza and joins up with the R59 in the north of the Midvaal area, from where it runs parallel to the R59 through the Midvaal area.

The railway line runs parallel to the east of the K89 through Alrode and Wadeville to Germiston Station, where all the main railway lines in Southern Africa converge.

1.2 REPORT STRUCTURE

Section 2 of this report sets out the objectives for corridor development, and points of departure used in this study, as well as the process/methodology followed in the formulation of the Strategic Development Plan for the corridor.

Included in Annexure A is a theoretical background on corridor development in terms of international and national directives. The concept and process of corridor development is explored. Based on a number of case studies, the key elements for corridor development and key performance areas are also highlighted. These aspects provide some conclusions regarding the crucial aspects to be addressed to achieve the development of the R59 as a corridor.

Section 3 gives a multi-disciplinary assessment of the status quo regarding the regional context and corridor development within the region. The local context is also explored in terms of transportation, engineering services and socio-economic conditions. A detailed analysis of the entire study area is provided.
In section 4 the potential of the study area for corridor development is evaluated, based on the theory and situational analysis.

Section 5 provides the specific Development Concept to be met with the development of the R59 as a corridor. This leads to the Development Framework and Guidelines, set out in Section 6. This includes specific land use proposals and guidelines to strengthen corridor development and ensure integration with other developmental aspects.

The implementation strategy for the development corridor is set out in Section 7, in terms of specific actions and phases. Section 8 confirms the marketing strategy required for the successful implementation of corridor development.

2. PROJECT OBJECTIVES, POINTS OF DEPARTURE AND METHODOLOGY

2.1 OBJECTIVES

The formulation of a Strategic Development Plan for the R59 corridor is aimed at achieving the following objectives:

- To assess the R59 Development Corridor within the larger district and provincial context;
- To formulate appropriate proposals to explore the development potential of the corridor;
- To review and refine the previous framework plan for the development of the corridor;
- To formulate strategies to facilitate development in accordance with the framework plan and development proposals;
- To formulate guidelines and policies to be introduced by the Midvaal Local Municipality to promote the development of the corridor;
- To put forward programmes and action plans to initiate the development of the corridor, which are to be included into the IDP of the municipality;
- To put forward proposals and initiatives to market the development of the corridor.

2.2 POINTS OF DEPARTURE

For the purpose of this document, the following definition of an activity or development corridor was used: “An activity or development corridor is defined as a linear strip of land or area, connecting large activity nodes, traversing urban or inter-urban areas, surrounding a
A corridor typically consists of activity nodes and more than one transport facility in reasonably close proximity to support each other. The corridor links two major points and conveys passengers and goods between these points. The inherent economic potential of the nodes and the movement lines lead to development along the corridor. The road component of a corridor usually consists of a mobility spine with limited access (normally a freeway), and an activity spine with higher levels of access and lower mobility (normally a second or third order route).

2.3 STUDY APPROACH AND METHODOLOGY

2.3.1 Methodology

As far as the methodology in conducting the study is concerned, a seven phase process was followed in the formulation of a Strategic Development Plan for the R59 Corridor, as detailed below:

Phase 1: Situational Analysis

This phase involved a multi disciplinary analysis of the current situation pertaining to the R59 Development Corridor. This included, inter alia, the following aspects:

- Assessment of the current land uses as well as transportation and engineering infrastructure available;
- Assessment of the current trends in terms of economic activity and development applications within the corridor;
- Assessment of the environmental features; and
- Assessment of the broader regional context within which the corridor operates.

Phase 2: Consolidation of Development Opportunities and Constraints

Emanating from the situational analysis, the development opportunities and constraints pertaining to the R59 Development Corridor as identified were consolidated. The
development opportunities and constraints were determining factors in terms of the rest of the phases, by determining what aspects needed to be strengthened (opportunities) and what aspects needed to be dealt with in terms of remedial activities (constraints).

**Phase 3: Design of Framework Plan**

The next step in the process was the review and refinement of the Development Framework for the R59 Corridor. This included spatial proposals pertaining to the type of land uses, the distribution of land uses, the transportation infrastructure to be provided, as well as the operational features pertaining to how the corridor will function in future.

**Phase 4: Formulation of Implementation Strategies**

Strategies were subsequently formulated to implement the proposals contained in the Development Framework. This included a range of mechanisms or measures to be implemented in order to ensure the successful implementation of the corridor - including reference to capital investments, operational aspects, policy aspects and financial aspects.

**Phase 5: Formulation of Development Policy and Guidelines**

During this phase a Development Policy and Development Guidelines pertaining to the R59 Corridor were devised. The development policy relates to the kind of land uses and activities to be allowed or not allowed, the transportation arrangements within and around the corridor, as well as policy guidelines pertaining to the environmental features of the study area.

**Phase 6: Formulation of Action Plans and Programmes**

A range of actions and projects will eventually emanate from the final Development Plan and Strategies. These actions and projects will be prioritised and compiled into a schedule for implementation over a period of time. This will included the actual phasing of implementation of the various actions and projects, as well as a cost estimates pertaining to the various activities to be implemented.
Phase 7: Formulation of Marketing Proposals

The process was concluded during the 2004 process through the formulation of a marketing strategy for the R59 Development Corridor that highlights ways and means to promote the development of this corridor within the context of Gauteng Province.

3. SITUATIONAL ANALYSIS

3.1 REGIONAL CONTEXT

3.1.1 Provincial Perspective

The Midvaal Local Municipality is one of three local municipalities located in the Sedibeng District Municipality, which constitutes the southernmost local authority in Gauteng. The population of the Midvaal Municipality according to the 2001 Census was estimated at 64,644 persons, and currently stands at 83,450 people (2007 Community Survey) constitutes approximately 10.4% of Sedibeng's population compared to 8% in 2001. A concise summary of the most salient socio-economic features of the municipality as derived from the 2007 Community Survey is included in Annexure B of this document.

The spatial structure of the Midvaal Municipal area is predominantly that of a rural area, with extensive farming constituting approximately half of the physical area. There are two significant natural features impacting on the physical structure, namely the Suikerbosrand Nature Reserve and the Vaal River, the southern boundary of the municipality and Gauteng Province. Refer to Figure 4 depicting the Regional Context and Spatial Structure.

Together with the Emfuleni municipal area, it constitutes the major centre of economic activity in the southern parts of Gauteng Province. It is also evident from Figure 4 that the nature of economic activity in this region is mostly industrial with the two industrial cores being located in Ekurhuleni to the north, and Emfuleni towards the south, with Midvaal being located midway between these two cores. These three areas are all linked together via the R59 freeway.

The Midvaal Municipal Area is situated south of the main concentration of current and future economic activities in Gauteng. The area between the City of Johannesburg, Johannesburg International Airport and City of Tshwane was identified through the Gauteng Spatial
Development Framework as the core economic focus area in which the bulk of economic development of Gauteng Province is expected to take place in future (see Figure 4). The majority of the Blue IQ projects (economic infrastructure investment projects) in the Province also occur in this area, namely:

- the Gautrain Rail which links into Johannesburg International Airport (JIA);
- the Johannesburg International Airport;
- the Industrial Development Zone directly adjacent to the east of JIA;
- the Alrode/Wadeville corridor; and
- the City Deep project.

Also evident from Figure 4 are the major concentrations of disadvantaged/low income communities located in three main core areas:

- Soweto to the north west;
- Orange Farm, Evaton and Sebokeng to the west; and
- Katlehong, Thokoza and Vosloorus to the north-east.

As reflected on Figure 5 the area to the west of routes R59 and R82, around the N1 freeway, is characterised by large concentrations of low income communities, with very limited economic activity located locally. Figure 5 also illustrates potential areas for the future expansion of these towns and settlements, and from this it is evident current trends will prevail in future.

These communities will thus in future continue to be largely dependent on job opportunities in Joburg, Ekurhuleni, Emfuleni and Midvaal, which places even greater emphasis on the need to develop the R59 corridor to its optimum economic potential. In addition to this, it also amplifies the necessity to create proper east-west linkages between the N1 freeway and the R59 freeway in order for workers to be able to travel easily between places of residence and places of work.

Development in Midvaal is concentrated in the north-eastern half of the municipal area and occurs around the R59 freeway in the east and the R82 freeway in the west (Figure 5). Prominent towns and development occurring along these routes are:
• R59: Randvaal, Henley-on-Klip and Meyerton.
• R82: Eikenhof, Walkerville and De Deur.

A Development Framework was also compiled during 2005 to guide development along the R82 Activity Spine (see Figure 6), as this route attracts a range of localised economic activities to establish in close proximity.

Meyerton is the highest order town in the Midvaal area with a large business and residential component. The other towns listed above are mainly service centres to the surrounding rural areas. The towns are surrounded by agricultural holdings, mainly used for rural residential purposes and extensive farming areas.

The following sections provide a brief summary of the major status quo features of the study area, including current sectoral plans for various features which are deemed to be key determinants to the future development/phasing of development in the corridor.

3.2 TRANSPORT NETWORK

3.2.1 Road Network

The development of the R59 freeway as a corridor should be considered both in terms of the existing and planned public transport network in the area. The major roads in the study area are depicted on Figure 7.

The major strategic future roads in Midvaal are listed below:

• PWV 13: A major north-south road running from Benoni and Boksburg through Midvaal and links up with the proposed PWV 22 in the south.
• PWV 18: A major east-west road running along the northern boundary of Midvaal. This road will connect the East Rand and the West Rand and traverses the R59 freeway.
• PWV 20: A major east-west road running through the south of Midvaal and traversing the R59 freeway.

The existing road network provides good connectivity between the north and south of Midvaal, but there is a lack of proper east-west connections at regional level. The most significant routes at a regional level include:
• The N1 national route running from Cape Town to Musina.
• The N3 national route between Durban and Johannesburg. This route runs through Midvaal in the east.
• The Golden Highway, a major north-south route which runs parallel to the N1 in the west of Sedibeng, past Sebokeng and Evaton.
• The R59 north-south route which links Alberton and Vereeniging and runs through the east of Midvaal past Meyerton.
• The R82 north-south route which links Johannesburg and Vereeniging via Walkerville and De Deur in the west of Midvaal.
• The K89, a secondary route running parallel to the R59 linking Alberton and Vereeniging through Meyerton. This was the main route until the R59 freeway was constructed.
• The R42, an east-west route which links Meyerton with Heidelberg and the N17 in Ekurhuleni.
• The R551, an east-west route between the N1 and the Suikerbosrand Nature Reserve. This road merges with the R42 at the Nature Reserve.
• The R550, an east-west link between the N3, R59 and R82.
• The R54, which links Vaal Marina in the south of Midvaal to the R82.

Most of the existing north-south linkages in the region are provided through high order roads, such as freeways, while the east-west routes are mainly lower order routes. The overall condition of the higher order road network in the region is good.

From the above mentioned list, the R59 freeway and K89 is the subject of this study. The R59 is the highest order road and functions as a Mobility Route linking the growth points of Alberton and Vereeniging, with access limited to specific intersections on this route. These are:

• The K86 intersection (Kliprivier Drive) in Alberton;
• K154 (R550) intersection at Nampak and Everite;
• K158 intersection at Daleside;
• Henley-on-Klip off ramp;
• K210 (Meyer Street) off ramp at Meyerton;
• K164 (Johan le Roux Street) off ramp at Meyerton industrial area;
• K11 (Verwoerd Street) off ramp at Rothdene.
These intersections are relatively evenly spaced along the length of this spine and provide direct connections with the K89. The proposed PWV 18 and PWV 20 will also intersect the R59 in the north and south of the study area respectively.

It is interesting to note the similarities in length and access points between the Midrand Corridor (N1) and the proposed future R59 corridor as reflected on Figure 8.

Apart from the fact that these two corridors are of comparable length, it is also interesting to note the difference in intensity of development between the area to the east (high intensity) and west (low intensity) of the N1 freeway. This is a direct consequence of the fact that route K101, which is the old Pretoria-Johannesburg road, runs parallel to the east of the N1 freeway and acted as an Activity spine giving access to land uses adjacent to the east of the freeway, and thus unlocked the development potential of this area.

In the case of the R59 Corridor, route K89 runs more or less parallel to the R59 freeway and will thus in future act as an Activity Spine which will unlock the development potential of the land parallel to the east of the freeway in future. As this was originally the only road through the area, most of the land uses already occur along this road and front onto this road. Route K89 has lower mobility than the freeway, but higher accessibility through more intersections and direct access at spacing intervals of about 600 metres. The upgrading of the current road to the standards of a K route will however have the effect that no direct access to land uses will be possible from this road in future. The construction of an additional lower order (third and fourth order) road network around the corridor to supplement the K89 and provide direct access to land uses along the R59 freeway, will thus be required.

Due to the high development pressure experienced in the area, there is currently an initiative underway to design a third and fourth order road network for the R59 Corridor and surrounds. This work, as reflected on Figure 9, is still in progress, and involves extensive discussions with representatives from Gautrans and the National Roads Agency on detailed matters. This network will only be finalised by 2009, and the work reflected on Figure 9 only represent some draft proposals/alternatives currently considered.

However, the important principles relevant to the R59 Corridor illustrated on Figure 9 are the following:

- the fact that a third order route, parallel to the west of the R59 freeway, will be required in future in order to unlock the development potential of land to the west of the freeway (similar to K89 to the east of the freeway);
- the need for local east-west crossings across the freeway between the interchanges in order to separate regional and local traffic and to enhance interaction between future land uses to the east and the west of the freeway;
- the westward extension of a third order road network from the freeway in order to enhance future east-west movement.

3.2.2 Rail Network

The Midvaal area is well served in terms of rail infrastructure, with north-south and east-west railway lines traversing the area. The commuter rail services are mainly operated on railway lines owned by the South African Rail Commuter Corporation. The railway line running from north to south through Midvaal adjacent to the R59 freeway is operated on a Spoornet line and some of the commuter rail services are also functioning on Spoornet lines.

There are seven railway stations and halts in the Midvaal area, with passenger transport services available at the following stations:

<table>
<thead>
<tr>
<th>TABLE 1: AVERAGE NUMBER OF BOARDINGS AND ALIGHTINGS PER STATION PER DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATION</td>
</tr>
<tr>
<td>Daleside</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Henley-on-Klip</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Kookrus</td>
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<td></td>
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<td>Meyerton</td>
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<td></td>
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<tr>
<td>Skansdam</td>
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<td></td>
</tr>
<tr>
<td>Duncanville</td>
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<td></td>
</tr>
</tbody>
</table>

Source: Gauteng Rail Passenger Census, 2005

Note: Top Ten Number of Boardings and Alightings in Study Area

Passenger volumes at these stations are however low and considerably lower than areas such as Vereeniging. Metrorail operates the service between Vereeniging and Germiston through Meyerton. There are 26 northbound trains operating between 04:00 – 21:23 and 27
southbound trains operating between 03:25 and 21:45 on weekdays. There are also services on Saturdays, Sundays and public holidays, characterised by three times as many southbound and northbound trains. In terms of capacity, this service falls in the category of 55% - 70% utilisation, which is well below the critical capacity utilisation during peak hour of 85%.

There are no proper inter-modal transfer facilities in Midvaal. The Meyerton railway station however includes a formal taxi rank and bus terminus.

Most of the public transport users in Midvaal make use of taxis, notwithstanding the fact that rail transport is the cheapest mode of transport. The low density residential development around stations may be one of the main causes of this.

In summary, it can be said that from a transport point of view, the study area has the necessary elements required for corridor development, namely more than one mode of transport as well as a Mobility Route and Activity Spine, with frequent intersections on these roads.

### 3.3 ENGINEERING SERVICES

The Midvaal municipal area, and specifically the R59 study area are well provided in terms of engineering services.

#### 3.3.1 Water

The area has a competitive advantage in respect of water, due to its location in close proximity to the Vaal River as a main source of water. There are several Rand Water bulk water pipelines running from the Vaal River through Midvaal to Johannesburg and Ekurhuleni (see Figure 10). In areas where the municipality does not have the bulk infrastructure and ability to provide water, consumers obtain water directly from these bulk water pipes through permits obtained from Rand Water. This is highly beneficial in terms of allowing development throughout the study area depicting the availability of water in the project area.

Municipal water is available from Daleside in the north to the southern boundary of the study area in the townships, industrial areas and agricultural holdings. Most of the existing reticulation infrastructure is located east of the R59, implying that these areas would be
easier to service than areas west of the R59. However, most of the bulk water infrastructure (bulk lines and reservoirs) are located on the hilly landscape to the west of the R59 freeway as shown on Figure 10, from where the water gravitates to the reticulation systems currently located to the east thereof. From a bulk water supply point of view, the area to the west of the R59 freeway is thus well supplied. There is some spare capacity on the network to allow for infill development.

The northern portion of the study area (in the vicinity of Nampak and Everite) does not have access to municipal water, but obtains water directly from Rand Water.

The following is a brief technical summary of the current water supply system in the municipal area:

(a) Rand Water

Potable water is supplied from the Rand Water Suikerbosrand /Vereeniging -Johannesburg system. There are 11 connections to the Rand Water system:

(i) Rand Water connection: Kookfontein: Sewage Works (meter no. 1616)

Water is supplied to the sewage works within Samancor area via a 25mm connection. Capacity 7 kℓ/h.

(ii) Rand Water connection: Meyerton (meter no. 2279)

A 300mm connector from the 790mm Rand Water pipe in Bell Road, supplying the Meyerton reservoirs and Samancor. Capacity 1 000 kℓ/h.

(iii) Rand Water connection: Glen Donald (meter no. 2561), supplying the Glen Donald agricultural holdings via a 100mm connection. Capacity 90 kℓ/h.

(iv) Rand Water connection: Samancor (meter no. 4060), supplying Samancor with water via a 100mm connection. Capacity 90 kℓ/h.

(v) Rand Water connection: Riversdale (meter no. 4164), supplying Riversdale residential area with water via a 200mm connection. Capacity 555 kℓ/h.
(vi) Rand Water connection: Spioenkop Reservoir (meter no. 4261)

A 600mm connection on the Rand Water pump line from the new Rand Water Daleside reservoir supplying Blignautsrus, Faraosfontein, Golfview, Hartzenbergfontein, Ironside AH, Ohenimuri, homestead Apple Orchards and Walkerville with water. The 600mm pipe feeds the Spioenkop reservoir and also supplies the water networks directly with water via two 50mm meters with capacity 30 kℓ/h and one 200mm (capacity 555 kℓ/h) connection. All three connections are equipped with pressure reducing valves.

(vii) Rand Water connection: Walkerville (Langerand) (meter no. 1441)

The 700mm steel pipeline from Langerand supplies water to the Walkers reservoir through a 450mm pipe (capacity ± 1 000 kℓ/h), which serves Balmoral, De Deur Estates and Walkers Fruit Farm (western portion).

(viii) Rand Water connection: Panfontein (meter no 1871), supplying water to Uitvlucht village near Suikerbosrand, via a 50mm connection. Capacity 30 kℓ/h.

(ix) Rand Water connection: Kliprivier Valley (meter no. 2853)

A 300mm connection supplying the Highbury reservoir, which serves Highbury, Daleside and Henley-on-Klip through a gravity system, and also Valley Settlements, Pendale and Walkers Fruit Farm (eastern portion) via a pumping system to the Klipriver Valley reservoir. Capacity 1 000 kℓ/h.

(x) Rand Water connection: Nooitgedacht (meter no. 2854)

A 100mm connection supplies Blue Saddle Ranches development and Drumblade. Capacity 90 kℓ/h.

(xi) Rand Water connection: Garthdale (meter no. 2940), supplying Klipwater village, Garthdale and Everite with water via a 100mm connection. Capacity 90 kℓ/h.
3.3.2 Sanitation

Figure 11 indicates the current sewer reticulation system of in the study area. Municipal sewer reticulation is available in the same areas as water provision, but in most of the areas outside the township of Meyerton a mixed system applies. This implies that not all properties are connected to the municipal sewer system and make use of other systems such as French drains or the STED system. The municipal waste water treatment works, which are located southwest of Meyerton, are operating on capacity and major upgrading or new works are required to accommodate further connections.

The industries and developments in the north of the study area (around Nampak and Everite) make use of the Waterval Water Works operated by the East Rand Water Company (ERWAT).

In broad terms, the areas closest to the two treatment works have the most extensive sanitation network, while the network becomes more limited the further you move away from these two points. As far as the northern part of the R59 Development Corridor is concerned, the areas both to the east and the west of the freeway can be served with relative ease.

The central parts of the corridor around Daleside and surrounds represent the northern extents of the network served by the Meyerton works, and this area currently experiences limited capacity in terms of sanitation infrastructure. As you move further southwards the situation gradually improves.

The area to the west of the freeway and south of the watershed is also problematic due to a lack of infrastructure. This matter can however be addressed by way of a process of incremental expansion.

A regional sanitation scheme for Midvaal and Emfuleni is currently planned. The scheme will include an outfall sewer along the Klip and Vaal Rivers with a new regional water care works downstream along the Vaal River. This regional scheme will supplement the existing (limited) capacity of the two treatment plants located within the study area, and will certainly be able to serve the entire corridor, once fully developed.
3.3.3 Electricity

Electricity is fairly readily available to the study area. Figure 12 indicates that the entire area is serviced with electricity, either by the municipality or Eskom. The Midvaal Municipality supplies electricity from Meyerton in the north to the south of the study area mostly on the eastern side of the R59 to the township areas, agricultural holdings and farms. The Meydustria industrial area however obtains electricity from Eskom. The remainder of the study area falls within the Eskom supply area. There is capacity on both of these networks to accommodate additional incremental development.

Construction of the Graceview substation to the north of the study area will commence soon. This substation will serve all developments around the northern part of the R59 Development Corridor.

The Meyerton substation has a 40 MVA capacity, with current consumption standing at about 35 MVA. This substation is scheduled to be soon upgraded to a 60 MVA capacity, which should be sufficient to serve developments in the southern part of the study area in the short to medium term.

As illustrated on Figure 12, four more substations are being planned to serve the future electricity needs in the central parts of the R59 Corridor.

Conclusion:
An assessment of the overall availability of engineering services thus indicates that most of the existing infrastructure is located east of the R59 freeway. Upgrading of sanitation services ranks as the highest priority to accommodate further development in the central parts of the corridor, as well as the area adjacent to the west of the R59 freeway, and south of the watershed. Major development would also require medium to long term extensions and upgrading of water and electricity services.

3.4 SUB-AREA ANALYSIS

The study area can be broken down into distinctive sub-areas in terms of characteristics, development trends and infrastructure services. A description of the current land uses, development trends and level of engineering service infrastructure is provided below for each of the sub-areas.
3.4.1 Sub-area 1: Area between the K154 and Road 1073 (Kliprivier Area) (Figures 13 and 14)

The area to the north\(^1\) of the Klip River is underlain by a large aquifer (underground cavity filled with water) (see Figure 13). It is an important natural resource and this area is therefore protected by Rand Water to prevent pollution or contamination. Development in this sub-area is therefore limited to extensive agriculture. The Klip River runs through this area and crosses the R59 freeway.

This area is not serviced with any municipal infrastructure. Water is obtained from boreholes or from Rand Water through water permits. The farms make their own provision for sanitation services, mainly in the form of septic tanks or French drains. Eskom provides electricity to this area.

Nampak Tissue\(^2\) is located at the north-eastern quadrant of the intersection of the R59 and the K154. Nampak produces paper and plastic products and is located between the K89, Klip River and the railway line. This development also incorporates a significant residential component and a private golf course. It is serviced with water and electricity by Rand Water and Eskom respectively and is provided with waterborne sewer which drains to the adjacent ERWAT sewer purification works.

Everite\(^3\) is situated east of the K89 south of the K154. This industry produces building products and although asbestos was previously used in their production material, this has now been replaced with new technology to eliminate asbestos from the product range. The hazards associated with asbestos have therefore now been reduced in the area. The industry includes a significant residential component in the form of hostels for workers at the industry.

The Waterval Water Works\(^4\) (property of the East Rand Water Company) is located south of the Klipwater Township on the banks of the Klip River. This facility serves the Katorus and Palm Ridge areas. This township and the developments directly adjacent to the water works are therefore served with waterborne sewer. Rand Water and Eskom are the water and electricity providers to this development. Nampak, Everite and the Waterval Water Works are, however, land uses associated with nuisance and pollution, particularly smells and air pollution, requiring buffer areas around these uses.
There are several light industrial and commercial uses occurring in the area east of the R59. These properties have the advantage of dual road frontage, with high visibility from the R59 and access from the K89. These developments occur on smaller farm portions. There is no municipal service delivery in this area, with water being obtained from boreholes or Rand Water. Septic tanks or French drains are used for sanitation. Eskom provides electricity to this area.

The Klip River runs very close to the K89 in this area and there is evidence of intensive agriculture occurring along the banks of this river. There are two informal settlements in this area, namely Lima’s Farm and Jaconi’s Farm, the latter being located close to the river.

The area west of the R59 is occupied by extensive agriculture. There is also an informal settlement on one of the farms (Piel's Farm). The area falls in the Eskom electricity supply area. Water is obtained from boreholes or Rand Water and sanitation is provided through septic tanks or French drains. The informal settlement has emergency services provided by the Midvaal Local Municipality. Plans are underway to relocate and upgrade the informal settlements in this area.

The proposed PWV 18, which runs from east to west between Fochville and Nigel, traverses this area.

Several development applications have recently been submitted in this sub-area, with the main focus being on the areas around the K154 interchange.

These applications include the Klipriver Business Park which covers all four quadrants of the interchange, Heineken to the west of the R59 freeway and south of Klipriver Business Park, and Graceview Industrial Park which is adjacent to the south of Heineken.

The development interest in this area can be ascribed to the fact that the area is located within the economic influence sphere of the City of Joburg to the north thereof.

This phenomenon furthermore manifests itself in the large number of residential estate development applications received from the area immediately to the west of this area (see Figure 14).
3.4.2 Sub-area 2: area between Road 1073 and K158 (Figure 15)

The area west of the R59 is occupied by extensive agriculture. Blue Saddle Ranches\(^{(12)}\), a rural residential estate, is situated just to the west of the freeway. There is a dirt road parallel to the R59 freeway which provides access to Blue Saddle Ranches and the Drumblade Agricultural Holdings. Eskom provides electricity to this area, while farmers make their own provision for water and sanitation services.

The land situated between the R59 and K89 is mainly vacant, except for the Engen One Stop filling stations\(^{(13)}\) situated on both sides of the R59. The farm\(^{(14)}\) situated directly adjacent to the Daleside Industrial area\(^{(15)}\) is owned by a circus, with a coffee shop, residential uses and circus-related activities on the farm.

The Daleside Industrial Area\(^{(15)}\) consists mostly of light and service industries. Both the northern\(^{(16)}\) and southern\(^{(17)}\) portions of this township has not developed yet. It falls within the Eskom electricity supply area. There is municipal water available in the area, but no water borne sewer. There are many vacant properties in this area.

The Daleside railway station\(^{(18)}\) is situated in the southern part of this sub-region.

3.4.3 Sub-area 3: Area between the K158 and K210 (Meyer Street) (Figure 16)

Valley Settlements and Pendale Agricultural Holdings\(^{(19)}\) are located west of the R59 freeway and Highbury\(^{(20)}\) is located in the area between the freeway and the K89. These are agricultural plots and although agricultural uses are still practiced on some of the plots, most are used for rural residential purposes. There is also a strong tendency towards development of business and light industrial uses in the Highbury area, most of which are unauthorised. This trend is particularly evident in properties adjacent east of the R59 freeway with high visibility from the freeway. Some of the properties in Highbury and Valley Settlements have access to municipal water, while the remainder of the area is serviced by Rand Water with no waterborne sewer. Eskom is the main electricity supplier in the area, although some of the properties have municipal electricity. The former Randvaal Municipal offices (now used by the Midvaal Municipality) and primary health care clinic are also located in this area.

The Daleside residential area\(^{(21)}\) is located west of the railway line and old Johannesburg/Vereeniging Road. This area originated as small farms, but was incorporated into the local
town planning scheme as Residential 1 erven. The area has access to piped water provided by the Midvaal Municipality, but does not have water borne sewer. It falls within the Eskom electricity supply area.

The Glen Douglas Dolomite Mine and Bass Lake\(^{(22)}\) are situated south of Daleside between the railway line and the Klip River. The mine is still in operation. Bass Lake is a popular recreational destination and includes conference facilities, outdoor adventures (4X4 trails) and scuba diving activities. The area around the R59/Road 1072 interchange is experiencing considerable development pressure, particularly the area around Bass Lake, with the latter acting as a magnet and drawing developments to the area.

The Henley-on-Klip residential area\(^{(23)}\) is situated south of Glen Douglas Mine. This is a formal residential area with a rural residential character. The Midvaal Municipality provides water and sanitation to this area, while Eskom provides electricity. There are many vacant stands in the area, but water and stormwater services are running at capacity and are constraining further development in the area. This area is also host to the Oprah Winfrey Leadership Academy for Girls, South Africa.

South of Henley-on-Klip is a farm portion\(^{(24)}\) which is intensively used for agricultural purposes. The area has however been earmarked for future formal residential development, which will result in the spatial integration of Henley-on-Klip and Meyerton.

There is residential development\(^{(25)}\) (low to middle income bonded) occurring at the north eastern quadrant of the R59/K174 interchange. This area is developed with affordable housing through the sale of stands owned by the municipality. The Midvaal Municipality provides this area with water, waterborne sewer and electricity.

### 3.4.4 Sub-area 4: Area between the K210 (Meyer Street) and Johan le Roux Street (K164) off-ramp (Figure 17)

The area west of the R59 freeway in this sub area consists of farmland\(^{(26)}\) which is used for farming purposes and a section of smaller agricultural plots adjacent to the freeway, namely Meyerton Farms, which are primarily used for rural residential purposes and peripheral uses. There are numerous illegal uses in this area and considerable development pressure, but the infrastructure requires upgrading and owners cannot afford the service contributions. There are municipal services available to these plots, but upgrading would be required to accommodate extensive development.
There is a large informal settlement namely Sicelo\(^{(28)}\) west of the R59 located adjacent to Meyerton Farms.

The area east of the R59 is the core urban area of the Midvaal Local Municipality and includes the town of Meyerton with residential areas, CBD\(^{(29)}\), commercial\(^{(30)}\) and industrial uses. Unfortunately these developments occurred prior to the development of the R59 freeway and therefore front onto the K89 and railway line, rather than onto the freeway.

There are three clearly distinguishable functional areas east of the R59. The first is the area between the R59 freeway and the K89. This area is used for urban residential development\(^{(31)}\). There are various vacant properties available in this area, with infill development occurring sporadically.

The second area is located between the K89 and the railway line\(^{(30)}\). This area is developed with commercial and light industrial uses. The Meyerton railway station\(^{(32)}\) is also located in this area. There are various vacant properties available in this area, with spare services capacity to accommodate development. There is also a large parcel of vacant land\(^{(33)}\) adjacent to the main road, Meyerton Street, where a shopping centre was recently approved.

The third area is located between the railway line and the Klip River and consists of the Meyerton Central Business District (CBD)\(^{(29)}\) and adjacent residential area\(^{(34)}\). There are vacant stands available adjacent to the main road, Meyerton Street, offering opportunities for development.

The Meyerton residential area can be described as an older, well-established residential area with large, single residential development. The Meyerton Golf Course forms a physical barrier between the main residential area and the northern residential areas.

This area is serviced by the municipal electricity network and there is sufficient spare capacity for further business and residential development. An extension of the network would be required to serve the vacant land on both sides of Meyer Street. This entire area has access to municipal water and sanitation services.

The K89 terminates in this sub-region at the intersection with Johan le Roux Street.
3.4.5 Sub-area 5: Area between Johan le Roux Street (K83) off-ramp and Verwoerd Street (K11) off-ramp (Figure 18)

The area west of the R59 freeway can be described as the heavy industrial area of Meyerton, with the Samancor industries located adjacent to the freeway. There is intensive agriculture taking place south of this heavy industrial area. The Meyerton water purification works are located south west of Samancor. These works have reached capacity and intervention in the form of upgrading or alternative purification works is required. The Meydustria industrial area is located west of the purification works. This is a proclaimed industrial township, but services have never been installed. The area was earmarked as an Export Processing Zone, due to its location adjacent to the Aerovaal Airport located in the Emfuleni Local Municipality Area. Investigations were conducted to reroute cargo flights from the OR Tambo International Airport to this airport, to alleviate airspace congestion.

In the area east of the R59 freeway, the railway line runs directly adjacent to the freeway with no space for development between the two transport routes. There is a light industrial and commercial area located directly south of Johan le Roux Street. The Noldick area located south east of the R59/Johan le Roux Street interchange was proclaimed as a residential area, but has mainly developed as a mixed commercial and industrial area. The main electrical substation is also located in this area. There are numerous vacant industrial stands, but upgrading of the electrical substation would be required to accommodate extensive development.

The remainder of the area between the R59 freeway and the Klip River is developed with agricultural holdings, mostly used for rural residential purposes. These holdings have however been incorporated into the Meyerton Town Planning Scheme as Residential 1 erven. There is a tendency towards densification in this area, with townhouse complexes being developed on some of the properties. The area lends itself towards residential densification and infill, particularly the area along the Klip River. Business uses and light industrial uses are also occurring sporadically in the area and this trend seems to be increasing. There is piped water, waterborne sewer and electricity available from the municipality in this area.
3.4.6 Sub-area 6: Area between Verwoerd Street (K11) off-ramp and the Southern Boundary of the Municipal Area (Figure 19)

The area west of the R59 freeway falls within the Emfuleni Local Municipality area and is occupied by extensive agriculture.

The area east of the R59 and railway line consists of an urban residential area, Rothdene, as well as agricultural holdings. South of Rothdene the Klip River runs very close to the R59 and the railway line. There are agricultural holdings situated on the banks of this river, used for agricultural and rural residential purposes. The industrial areas of Vereeniging are located just south of the Midvaal Municipal area, with a portion of the Duncanville industrial area situated within the Midvaal jurisdictional area. The railway line turns away from the R59 in the southern section of Midvaal, and the major industrial area of Vereeniging is situated between the railway line and the R59.

4. SYNTHESIS

4.1 GENERAL

Spatially, development has occurred in a linear form along the R59 freeway, but in a sporadic manner. There are three main concentrations of development evident in the study area all located east of the freeway, namely:

- Around the K154 intersection – Nampak and Everite area, with some major new development interest recently;
- The central area between Daleside and Henley-on-Klip;
- The southern area between Meyer Street and Verwoerd Street, which includes Meyerton town with the CBD, residential areas and industrial area.

4.2 EVALUATION OF THE POTENTIAL OF THE R59 FOR CORRIDOR DEVELOPMENT

The analysis of the study area explored the significant local elements and developments, which led to the identification of this area for possible corridor development. The Theoretical Overview on Corridor Development (refer to Annexure A) indicates the Key Elements and Key Performance Indicators required for successful corridor development. These aspects
were used as criteria to evaluate the potential of the R59 for corridor development, and can be summarised as follows.

- **Connectivity between major nodes:** The R59 and adjacent transport facilities connect the major development areas of Johannesburg and Ekurhuleni with Emfuleni and Sasolburg. It therefore provides a connection between major nodes.

- **Densities and continuity:** To date, development along the R59 freeway occurred in a sporadic manner. The urban residential developments situated east of the R59 developed at low densities with considerable distances between the developments. The area west of the R59 is mostly occupied by agricultural activities with rural residential uses. The existing developments along the R59 could however be seen as part of the early phases of corridor development, while continuity and higher densities should be the aim of long term development.

- **Location of significant land uses:** Land uses have occurred in linear form all along the R59 and K89, with clear concentrations of development in specific areas. Stimulating these existing growth areas and focusing development could achieve the “beads on a string” concept in this area. The new developments at the northern end of the corridor (Klipriver, Heineken and Graceview) will also make a significant contribution as far as this criterion is concerned.

- **Existence of multi-modal transportation:** The study area complies with this element, in having both road transport and rail transport. There are furthermore two roads in the study area with different functions, namely a mobility spine (freeway) and activity spine.

- **Propensity of development:** The fact that development has occurred naturally along the routes in the study area and that development is still ongoing, in spite of the lack of specific incentives or directives, indicates the area’s natural inclination towards development.

- **Absence of inhibitors:** The only physical inhibitor to corridor development in the study area, is the aquifer situated in the north of the study area, which prohibits development along this section of the R59. The remainder of the area is free of physical constraints. The need to protect the existing agricultural uses which are mostly located west of the R59, should inhibit development west of the road.
• **High level of accessibility and mobility:** The fact that there are two routes constituting the proposed corridor development, is highly beneficial. The R59 freeway ensures high mobility in the area, while the K89 provides a higher degree of accessibility. There are frequent interchanges along these routes to enable local access. The future upgrading of the K89 would however imply that there would be no direct access to land uses from this route. This factor, as well as the physical distance between the routes, points towards the need for the development of lower order roads.

• **Leadership and Vision:** At institutional level, the establishment of the Midvaal Local Municipality instituted local leadership and vision in the Midvaal area, which has already benefited the area in terms of development. Various economic studies conducted at District Level however concluded that there is a lack of a co-ordinated marketing and regeneration strategy for the Sedibeng area. This should be driven by both the public and private sectors.

• **Spatial structuring:** The study area incorporates the main spatial structuring aspects required for corridor development. This includes the mobility spine (R59 freeway), activity spine (Vereeniging/Alberton Road), major nodes and activity centres (Johannesburg, Alberton, Meyerton, Vereeniging and Vanderbijl) as well as smaller nodes such as Nampak/Everite and Henley-on-Klip. The Klip River, which runs parallel to the roads and railway line, provides the opportunity for an open space system. The recent implementation of an urban edge implies that this management instrument is also in place, although realignment of the edge is essential to enable corridor development.

• **Economic Logic:** A corridor is in essence a desire line functioning between forces and points of attraction. The R59 and the railway line function as desire lines between the northern and southern growth points of Gauteng and act as lifelines to the southern areas. The economic analysis of the study area indicated that the study area attracts workers from outside its boundaries. The required economic forces and attractions required for corridor development are therefore present in the study area.

• **Infrastructure development:** Basic infrastructure such as water, electricity and sanitation are available to the study area with the potential for accommodating further growth and development. Due to the high costs of infrastructure development and the extended and sporadic nature of development along the R59, focal points for development and infrastructure provision need to be identified.
• **Regional development approach:** The proposed implementation of the development corridor fits well into the Integrated Development Plan and Spatial Development Framework of the Midvaal Municipality. Support for this corridor at District and Provincial level is however crucial.

• **Development Incentives:** There are currently no incentives for development in the study area. Incentives should be considered to attract business and industries from outside the area, to capitalise on the economic opportunities identified for the area. There is a tendency towards the development of small industries and businesses, particularly on the agricultural holdings close to Meyerton, but many of these uses are illegal and difficult to manage. Incentives should be considered to encourage these uses to upgrade and relocate to formal business premises in serviced areas, to make optimal use of existing infrastructure.

From this evaluation, it is clear that the study area complies with most of the criteria required for corridor development. The evaluation also highlighted elements that should be addressed, to ensure that the full potential of the corridor can be reached.

The Situational Analysis clearly indicated that the area located east of the R59 is generally more suitable for short to medium term development, while most of the area west of the R59 (especially in the central part of the corridor) would only be viable for development in the long term. The proposed corridor covers a very large physical area (comparable to the Midrand Corridor) and the financial limitations in terms of infrastructure provision imply that development of the corridor should also be approached by way of a focused Growth Management Strategy.

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### 5. DEVELOPMENT CONCEPT, FRAMEWORK AND GUIDELINES

#### 5.1 CONCEPT

The proposed development of the R59 corridor should be undertaken based on the concept of a desire line between two major nodes, with land uses distributed along the desire line like beads on a string. This concept is further expounded below and illustrated on **Figure 20**.
5.1.1 Major Nodes

The R59, Vereeniging/Alberton Road and railway line currently function as a desire line between the Johannesburg/Ekurhuleni complex and the Emfuleni complex, as described in the Situational Analysis. These complexes constitute the major regional nodes in the proposed corridor development. For the corridor to operate effectively, the functioning and strong attraction between these nodes are essential. Development of smaller nodes along the corridor should not compete with, or detract from these major nodes.

5.1.2 Beads on a String

To create the “beads on a string” structure, interchanges with smaller nodal development are required at regular intervals along the corridor. The foundation of this structure is already in place in this instance, in terms of the interchanges along the R59 and the stations along the railway line. There are already two significant concentrations of development evident along the corridor at present:

- The Nampak/Everite area at the northern end of the corridor where there is extensive new market interest; and;
- Meyerton Town and surrounds to the south which currently holds the bulk of residential, commercial industrial and retail development along the entire corridor.

These two nodes need to be clearly designated and development of these areas should be promoted as a first priority in the short to medium term. Development between these two designated areas (around the central part of the corridor) should be managed in accordance with the Development Framework and Guidelines for the corridor, but with due consideration to the infrastructural capacity limitations in these areas.

5.1.3 Mobility and Access

A key element in corridor development is the appropriate combination of mobility and access. In terms of the corridor development concept, the R59 corridor already comprises a mobility spine (the R59 freeway), and an activity spine, to the east thereof, namely the Alberton/Vereeniging Road (K89). Parallel to the west of the R59 freeway, a new second or third order route should however be constructed in order to unlock the development potential of land adjacent to the freeway by giving access to these sites.
The addition of activity streets as part of a planned lower order road network is however required to unlock development potential and enable a higher degree of accessibility in support of the first and second order road network referred to above.

### 5.1.4 Adequate Densities and Continuity

The development of the R59 corridor should be supported through continuity in development and adequate densities. This emphasises the stimulation of designated development areas to create continuity along the corridor and ensure adequate concentrations of residential and non-residential uses in favour of public transport. These concentrations should occur around stations as focal point, as these should function as freight distribution points and inter-modal transfer facilities.

### 6. DEVELOPMENT FRAMEWORK

In the next section the development concept described above is further refined as a detailed Framework Plan and Guidelines for the development of the corridor.

#### 6.1 FRAMEWORK PLAN

**Figure 21** depicts the proposed Development Framework for the R59 Corridor. The most salient features of the framework are described in the sections below:

Three **nodes** have been earmarked as designated development areas along the corridor. These are:

- The Nampak/Everite/Klipriver area to the north;
- Daleside/Witkop and Henley-on-Klip in the central part; and
- Meyerton and surrounds to the south.

Capital investment and development incentives should be focused on these designated areas. In order to encourage these nodes to development, the clustering of uses is proposed in terms of the earmarking of these nodes for specific purposes. The following is proposed:
### TABLE 2: PROPOSED CLUSTERING OF LAND USES IN NODES

<table>
<thead>
<tr>
<th>NODE</th>
<th>PROPOSED USES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nampak/Everite/Klipriver</td>
<td>Light industrial uses, mini-factories, offices, warehouses and commercial uses. This node is situated at the gateway of the corridor and should therefore be protected in terms of the types of uses and aesthetical appearance.</td>
</tr>
<tr>
<td>Daleside/Witkop and Henley-on-Klip</td>
<td>This area is proposed for commercial uses (such as transport uses), manufacturing, industrial uses and service industries for agriculture. Around Henley-on-Klip residential uses and hospitality uses in support of the tourism industry.</td>
</tr>
<tr>
<td>Meyerton and surrounds</td>
<td>This will be the primary node along the corridor, with a mix of land uses. This area can accommodate heavy industries, large-scale manufacturing, commercial uses, retail, general business and urban residential uses.</td>
</tr>
</tbody>
</table>

The development of a **road network** to support the development corridor and nodal structure is essential. The R59 fulfils the function of a mobility spine, while the K89 acts as an activity street to unlock development potential to the east of the freeway. (Gautrans has indicated that it supports this principle). To complete the road network, the implementation of an activity spine west of the R59 is required (refer to Figure 21) to also unlock the potential of this area. The construction and upgrading of roads west of the R59 is not supported in the short term, or at least until the area east of the R59 is substantially developed. Apart from the freeway and the two activity streets running parallel to it on both sides, the corridor will be furthermore straddled by two higher order K-routes which will support it – route K77 (alternative alignment) to the west thereof, and route K91 to the east (see Figure 21).

The development of the three nodes mentioned above should be strongly focused on the **stations** in support of Transit Orientated Development (TOD). This implies that there should be a concentration of non-residential uses and higher residential densities in and around stations, to support passenger transport. New residential developments should occur at high densities and within walking distance from the stations. Inter-modal transfer facilities should also be provided at stations.

It is proposed that the central part of the area west of the R59 be reserved for medium term commercial and business use, to strengthen the development corridor. Amongst others, emphasis could be placed on exploring the opportunities in the agricultural sector, through production and local processing of products for the export market. The northern section of the area to the west of the R59 can be developed for a combination of industrial/commercial
and residential uses in the short term, while the southern section to the west of the freeway should be utilised for residential infill development.

The Klip River is earmarked as the main open space system through this area. The river should be protected, especially from effluents from industrial development and should be incorporated as a design feature in developments. Agricultural and residential uses should be promoted along the river, to protect it from pollution.

### 6.2 DEVELOPMENT GUIDELINES PER SUB AREA

Specific guidelines are proposed for the development corridor, to enable co-ordinated development. These guidelines provide detail to the Development Framework and were applied to the various sub-areas described in the Situational Analysis.

#### 6.2.1 Sub-area 1: Area between the K154 and Road 1073 (Kliprivier Area)

The northern part of this area (North of Nampak) should be retained for agricultural purposes, with the emphasis on the protection of the aquifer and prime agricultural land. The area is situated at the gateway to the Midvaal Local Municipality and should be furnished with appropriate signage to indicate the entrance to the municipal area. This signage could include information about the area, particularly the proposed corridor and tourism attractions.

The area around the K154/R59 interchange will form the gateway to the development corridor and appropriate signage is required to announce this. The character and appearance of development at this point is also very important, in order to portray a positive image of the corridor and the entire area. The proposed Klipriver Industrial Park as illustrated on Figure 22 is thus a very important landmark in this regard, and a key project to launch the corridor concept from the northern end of the corridor.

Development can be facilitated in the short term both to the east and west of the freeway, at least up to road 1073 at the southern end of this precinct as all these sites can be served by existing/planned bulk water, sanitation and electricity infrastructure.

In order to protect the image of the gateway, light industries and commercial uses are proposed for this node, while heavy and noxious industries are excluded.
No provision is made for north-south orientated lower order routes in the eastern precinct between the freeway and K89 which would divide the existing stands in half due to the fact that there are already two major developments spanning the entire length of the erven.

The development concept of a business park with a single entrance onto the adjacent second/third order routes both to the east and the west of R59 will thus have to be applied throughout this entire area. This is a repetition of the planning concept already applied at the Klipriver and Graceview Industrial Parks. The potential future entrances along the two activity spines are graphically illustrated on Figure 22.

East-west movement across the freeway will also be important, and for this purpose two link roads with bridges across the freeway are suggested in addition to the two access interchanges.

As far as residential development is concerned, it is suggested that the current trend of residential development to the west of the corridor be supported.

The south-eastern part of this precinct comprises of environmentally sensitive open space land.

### 6.2.2 Sub-area 2: Area between Road 1073 and K158

The land situated between the R59 and the Klip River (see Figure 23), which includes farms as well as the Daleside and Witkop industrial townships, is earmarked for commercial and industrial uses. The properties fronting onto the R59 should be retained for light industrial and commercial uses and the same design guidelines should be applicable, than to similar uses in the Nampak/Everite node, to protect the image of the area from the freeway. The industrial land at Daleside situated east of the K89 would not be subject to these stringent design criteria and could accommodate larger scale industries (in line with the current situation), but there should be a buffer between these and the Klip River to protect the open space system.

It is furthermore suggested that the two land parcels to the north of the Daleside industrial area\(^{(24a, 4)}\) and to the east of the Skansdam railway station be earmarked for future residential use. Because of the proximity to the railway station this development can be in the form of Transit Orientated Development (TOD) with low, medium and high density mixed
R59 CORRIDOR
SUB REGION 2
use. Such development will serve the needs of the surrounding economic activities and will promote the utilisation of public transport in the area.

The northern and southern sections of Daleside (10 and 11) which front onto the Klip River have never developed as industrial townships. If these do not develop in the next 5 to 10 years, it is proposed that these land parcels be deproclaimed and then also be developed for residential purposes.

The northern part of the strip of land(9) between the Skansdam railway station and route R59 is very narrow, and it is suggested that it be developed as individual business parks utilising the three access points onto route K89 as indicated on Figure 23.

The southern portion of land is wide enough to be served by way of a “midblock” access route running between routes K89 and R59. This also allows for the subdivision of this land into smaller individual erven to accommodate more individual land owners.

One local crossing across the R59 freeway is provided for midway between the two access interchanges. This bridge already exists. To the west of the R59 freeway two larger land parcels are defined by the proposed road network. This land should only be opened for development in the medium to longer term once the node to the north and the land parcels adjacent to the east around Daleside are at an advanced stage of development.

The alignment of the route parallel to the west of route R59 around or across the eastern end of Blue Saddle Ranch must also be finalised in due course.

The width of the two land parcels to the west of the freeway allows for a “midblock” access route between the two access interchanges as illustrated on Figure 23.

It should be noted that large parts of the broader Daleside precinct are underlain by dolomite, and that all development applications in this area will be subjected to detailed geotechnical investigations and associated development guidelines e.g. density, coverage, minimum service levels etc.
6.2.3 Sub-area 3: Area between the K158 and K210 (Meyer Street) (Figure 24)

The entire strip of land situated to the west of the R59 freeway in this sub-area is earmarked for future (medium to long term) commercial/light industrial development as illustrated on Figure 24. Individual applications may, however, be considered in the short term if located around the three access interchanges in the area. Due to the width of this strip of land it is again suggested that a “midblock” access road be provided parallel between the freeway and the proposed future activity spine (third order route) to the west thereof.

The agricultural holdings situated to the east of the freeway between the R59 freeway and the K89 are earmarked for mixed land use development. This includes residential uses as well as business, commercial and industrial activities in different functional precincts within this area as reflected on Figure 24.

The section of Daleside situated south of the K158 is earmarked for urban residential purposes. Infill development should be promoted in this area, to enable the development of vacant properties and to make optimal use of the existing infrastructure network. In the broader context of the corridor it provides a valuable opportunity for a residential precinct in the central part of the corridor, amidst a wide range of anticipated future economic activities.

Adjacent to the south, Bass Lake and the Glen Douglas Dolomite Mine are earmarked for mixed land use development, to promote the development of the Bass Lake feature as a tourism attraction. The area could accommodate hospitality uses, such as overnight facilities and restaurants, to supplement the proposed adventure and conference facilities in time to come.

Henley-on-Klip is earmarked for urban residential development, but the rural character which serves as the main attraction point of this township, should be maintained. Infill development on vacant properties should be promoted, although cognisance should be taken of service capacity constraints. A special opportunity exists for higher density residential development to take place in the precinct(27) around the Henley-on-Klip railway station and which is also in close proximity to the existing access interchange (refer to Figure 24).

Hospitality uses, such as bed and breakfast accommodation, tea gardens and wedding venues should also be supported in the Henley-on-Klip area.
The land situated on the eastern banks of the Klip River poses potential for rural residential developments as well as intensive agricultural activities.

The land\(^{(17)}\) situated south of Henley-on-Klip should be reserved for agricultural purposes until such time as there is sufficient market demand to accommodate residential development in the area. The physical integration of Henley-on-Klip and Meyerton through the development of this land should thus only be permitted, once most of the vacant stands in Henley-on-Klip and Meyerton town to the south have been fully developed.

The properties\(^{(16)}\) situated directly west of this agricultural portion, between the R59 and the K89 is earmarked for urban residential development. The area is currently being developed through the sale of stands by the municipality, but this is occurring in a sporadic manner. Densification and infill development is proposed to make optimal use of the existing service infrastructure in this area.

The narrow strip of land between the railway line and route K89 to the north of K210 should be made available for commercial/light industrial uses subject to complying with the access standards along route K89.

The remainder part of the strip of land located between the R59 freeway and route K89 is earmarked for future commercial/business uses as illustrated on Figure 24. The development of this strip of land will be a medium term priority, and the bulk of the land on the opposite side to the west of the R59 freeway will only be opened up for development once development of this strip of land is at a fairly advanced stage.

Apart from the three access interchanges located within this sub-area, it would be advisable to have at least one more local crossing across the R59 freeway somewhere between the K158 and Henley-on-Klip access interchanges as illustrated on Figure 24.

It is furthermore suggested that a local access road be provided for midway between route R59 and K89 in order to serve the individual land uses. It is possible to create a fairly continuous route to perform this function by the utilisation of existing road infrastructure in the area (see Figure 24), but a detailed lower order network should be designed for the area as a matter of urgency, before the area redevelops and densifies.
6.2.4 Sub-area 4: Area between the K210 (Meyer Street) and Johan le Roux Street off-ramp (Figure 25)

The area west of the R59 freeway is already compromised due to the existing informal settlement and proposed township establishment to upgrade this settlement. This area is earmarked for urban residential development, with densities ranging between 20 and 60 units per hectare, and holds enormous potential for short to medium term residential infill development. The surrounding agricultural holdings further to the west are earmarked for agricultural and rural residential purposes. Intensive agricultural activities should be promoted, or alternatively rural residential estates, to prevent urban sprawl.

The land situated between the R59 and Meyer Street is earmarked for mixed land use purposes. This includes urban residential uses, business as well as commercial and industrial uses. The goal should be to promote intensive development in this area, to support effective use of the public transport system. Residential development should occur at medium to high densities (between 20 and 60 units per hectare), in support of the development corridor and the public transport system.

Apart from the densification and infill development opportunities located around the Meyer Street off-ramp\(^{16}\) and the large area earmarked for such purposes to the west of the R59 freeway\(^{22}\), there is also an opportunity for higher density residential development on the government owned vacant land parcels\(^{26}\) to the north-east of the Meyerton railway station.

As illustrated on Figure 25 it will be important to provide for two crossings (bridges) across the R59 freeway between the K210 and the K164 access interchanges in order to facilitate/enhance local movement of people between the CBD, the mixed use zone, and the railway station and taxi rank, and the surrounding residential areas.

To the west of the R59 freeway the proposed third order route parallel to the freeway continues through the Meyerton Park area from where it passes through the Samancor site up to the K11 access interchange further towards the south.

The mixed use strip of development between the railway line and the R59 freeway is already served by route K89 (refer to Figure 25) but the configuration of the network in the vicinity of the Meyer Street interchange still needs to be sorted out. To the east of the railway line it should be seriously considered that Meyer Street be extended northwards in order to link up
with Henley-on-Klip and to open up the agricultural land\(^{(17)}\) for the proposed future residential use.

The Meyerton CBD\(^{(25)}\) is earmarked for retail and business uses, while infill development in the industrial area\(^{(20)}\) south of the CBD should be promoted. The revitalisation of the Meyerton CBD should be promoted. The remainder of Meyerton is earmarked for urban residential development.

6.2.5 Sub-area 5: Area between Johan le Roux Street off-ramp and Verwoerd Street off-ramp (Figure 26)

The area situated west of the R59 freeway which includes Samancor, Meydustria, and surrounds, should be set aside for industrial uses. Heavy industries and noxious industries should be limited to this area, to protect the remainder of the development corridor. An overall environmental management plan is required for Meyerton and the industrial area, to deal with pollution and aesthetical impacts. The existing agricultural uses south of the industrial area should also be retained.

The Noldick area\(^{(19)}\) east of the R59 has been earmarked for industrial uses and service industries. The development of this area should be sensitive to the adjacent residential areas.

The Kookrus\(^{(23)}\) area up to Verwoerd Road and Riversdale area are earmarked for residential densification and infill development subject to infrastructure availability and capacity. Business uses and service industries in Kookrus should only be permitted as a temporary measure with the consent of the municipality and should be encouraged to upgrade to formal, serviced sites in the Noldick area. As long as these uses are accommodated in the rural residential areas, the formal industrial areas will not develop fully, necessitating this policy measure. Medium to high residential densities (between 20 and 60 units per hectare) are proposed for this area, in support of the development corridor and public transport system.

The area between Verwoerd Street and the Klip River is earmarked for rural residential purposes. This area lends itself very well towards the development of a rural residential estate or equestrian estate. Hospitality uses in support of the tourism industry should be promoted in this area. The land situated east of the Klip River should be reserved for
agricultural uses, in support of the protection of prime agricultural land and the promotion of the agricultural sector.

6.2.6 Sub-area 6: Area between Verwoerd Street off-ramp and the Southern Boundary of the Municipal Area

The area situated west of the R59 freeway falls within the Emfuleni Local Municipality’s jurisdictional area. Co-ordination is therefore required between the two municipalities to ensure that development west of the freeway is complimentary to the proposed corridor development.

The Rothdene area situated east of the freeway (see Figure 26) is earmarked for urban residential development. Infill development should be encouraged, to ensure the development of vacant serviced stands.

The land situated between the R59 and the K205 should be reserved for agricultural uses and rural residential purposes. Properties in this area front onto the Klip River and pose potential for intensive agricultural uses, as water for irrigation is readily available.

The southernmost portion of the study area is earmarked for industrial uses, as this forms part of the Duncanville industrial area situated in Emfuleni, and this represents the point where the Midvaal part of the R59 Corridor merges with that of the Emfuleni Local Municipality.

6.3 CONCLUSIVE SUMMARY

The key features of the proposed R59 Development Corridor as reflected on Figure 27, and as discussed in the sections above, can be briefly summarised as follows:

- The corridor will eventually comprise development both to the east and the west of the freeway.
- At regional scale the corridor functionally links the Joburg/Ekurhuleni node to the north of the Emfuleni node to the south.
- At local scale the corridor comprises two main nodes to be developed in the short term: the Everite/Klipriver node to the north and the Meyerton node to the south.
• From these two nodes the development of the corridor should gradually grow towards the central part towards Daleside in order to allow for the incremental expansion of engineering services.
• In the central part of the corridor, first preference will be given to development to the east of the freeway (due to bulk service availability), and then later on to development to the west. (All areas adjacent to access interchanges will be considered for development – even in the short term).
• The strip of land to the east of the corridor between the railway line and the Klip River is predominantly earmarked for residential use (various densities, typologies and affordability levels.
• To the west of the freeway residential development is concentrated around the Klip River node in the north, and the Meyerton node to the south.
• Heavy industries/noxious industries are limited to the Samancor area and surrounds to the south, while the central and northern parts of the corridor are earmarked for commercial and light industrial uses established in a business park type of environment. (Special attention should be paid to the aesthetic quality of all buildings in this area).
• The secondary road network around and across the R59 freeway creates a lattice like network which:

- provides for continuous circular movement along/around the entire corridor;
- will serve as the backbone to the future public transport network for the area as it links all precincts of economic activity to all residential precincts (maximises choice);
- separates local traffic from regional traffic (even at the interchanges because local crossings are provided for);
- links to all railway stations.

• Residential development and densification is proposed in close proximity to all railway stations in the area in order to enhance the potential ridership (and thus viability) of the commuter rail system.
• Provision is made for both business park developments and individual business/industrial erven.
• In order to ensure that the area develops in a sustainable manner; that all environmental and services requirements are being met continuously; and that the area be characterised by substantial, long term investments/economic activity; it is suggested that all applications for land use change on farm land along the corridor be
done by way of fully fledged Township Establishment Applications. Such applications will then be accompanied by the legally prescribed environmental, geotechnical and services investigations and agreements. Council will thus not consider Rezoning Applications on farm land along the R59 Corridor.

- The residential areas earmarked along the R59 Corridor have sufficient capacity to provide for an additional 28,696 housing units which is more than enough to cater for the existing demand of about 4936 units (see Table 3), as well as the projected incremental demand for Midvaal for at least the next 20 years. The existing housing count in the Midvaal area is about 10,800 units.

Table 3: R59 Corridor: Residential Development Potential

<table>
<thead>
<tr>
<th>NUMBER ON MAP</th>
<th>LAND USE</th>
<th>MIDVAAL AREA (ha)</th>
<th>GROSS DENSITY du/ha</th>
<th>ESTIMATED NUMBER OF UNITS</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>BNG DEVELOPMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Future Residential Expansion Areas</td>
<td>120.6</td>
<td>20</td>
<td>2,411</td>
<td>8%</td>
</tr>
<tr>
<td>22</td>
<td>Sicelo Extensions</td>
<td>271.9</td>
<td>20</td>
<td>5,437</td>
<td>19%</td>
</tr>
<tr>
<td>24</td>
<td>Skansdam</td>
<td>168.5</td>
<td>20</td>
<td>3,369</td>
<td>12%</td>
</tr>
<tr>
<td>26</td>
<td>TOD at Meyerton Station</td>
<td>4.6</td>
<td>60</td>
<td>276</td>
<td>1%</td>
</tr>
<tr>
<td>27</td>
<td>TOD at Henley-on-Klip Station</td>
<td>80.7</td>
<td>60</td>
<td>4,844</td>
<td>17%</td>
</tr>
<tr>
<td><strong>TOTAL BNG</strong></td>
<td></td>
<td>646.2</td>
<td>25</td>
<td>16,338</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td><strong>RESIDENTIAL EXPANSION AREA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Golf Park Extensions</td>
<td>375.3</td>
<td>20</td>
<td>7,505</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td><strong>INFILL AND REDEVELOPMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12A, 12B</td>
<td>Daleside</td>
<td>193.3</td>
<td>12</td>
<td>2,319</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td><strong>RESIDENTIAL ESTATE DEVELOPMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Blue Saddle Ranches</td>
<td>498.6</td>
<td>1</td>
<td>499</td>
<td>2%</td>
</tr>
<tr>
<td>6</td>
<td>Eye of Africa</td>
<td>678.4</td>
<td>3</td>
<td>2,035</td>
<td>7%</td>
</tr>
<tr>
<td><strong>TOTAL RESIDENTIAL ESTATE</strong></td>
<td></td>
<td>1176.9</td>
<td>2</td>
<td>2,534</td>
<td>9%</td>
</tr>
</tbody>
</table>
| **TOTAL**     |                                | 2391.7            | 12                  | 28,696                    | 100%

Note: Existing number of dwelling units; approximately 10,800

- The precincts earmarked for industrial development cover about 3562 hectares of land as reflected in Table 4, compared to the 1533 hectares of land which the Midrand corridor between Brakfontein and Buccleuch comprises of.
Table 4: R59 Corridor Industrial Development: A Comparison with Midrand Strip (Brakfontein to Buccleuch)

<table>
<thead>
<tr>
<th>NUMBER ON MAP</th>
<th>LAND USE</th>
<th>MIDVAAL Length (km)</th>
<th>MIDRAND Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industrial Townships in Process</td>
<td>468</td>
<td></td>
</tr>
<tr>
<td>4,9,10,11,13</td>
<td>Future Industrial Expansion Areas East</td>
<td>890</td>
<td></td>
</tr>
<tr>
<td>29-36</td>
<td>Future Industrial Expansion Areas West</td>
<td>1521</td>
<td></td>
</tr>
<tr>
<td>20,25</td>
<td>Existing Industrial Areas</td>
<td>683</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>3562</td>
<td>19</td>
</tr>
</tbody>
</table>

7. IMPLEMENTATION STRATEGY, PROGRAMMES AND PROJECTS

The R59 development corridor consists of all the elements required for successful corridor development. The Development Framework and Guidelines are however not sufficient to unlock development potential and the existing energy in the area should be properly managed to ensure co-ordinated development. This requires attention to specific aspects as part of an implementation strategy for the corridor.

7.1 LEADERSHIP AND VISION

The Midvaal Municipality has taken the initiative in the formulation of a development framework and strategy for the development corridor and should also lead the way in the implementation of the development corridor.

The implementation of the Strategic Development Plan for the R59 development corridor needs to be a joint effort involving all the role players in the area. The business sector should also be involved, particularly organised business in the form of the Midvaal Business Chambers.

It is proposed that a Corridor Development Forum be established to drive the implementation of the Corridor Development Plan. The Forum should consist of at least the following role players:

- Midvaal Local Municipality;
- Midvaal Business Chambers;
- Land owners and other parties with a vested interest in the development; and
- Organised stakeholder groups representing the community.
The Forum should also be responsible for Performance Management. This is very important to determine the success of the marketing and implementation strategies. The implementation of the Guidelines proposed in the Strategic Development Plan should also be monitored. Monitoring of the development rate of properties in the nodes is required, in order to determine the timing of infrastructure upgrading process. The overall success of the development should be evaluated from time to time to determine whether the development strategy is effective.

The proposed Development Corridor should be included in the Integrated Development Plan of Midvaal and Sedibeng, to ensure that this initiative is fed through to provincial level. Support for the development should particularly be obtained from the following Provincial Departments for the aspects detailed below:

- Development Planning and Local Government – re-alignment of the Provincial Urban Edge to enable the approval of MIIG applications for bulk infrastructure provision.
- Department of Agriculture, Conservation, Environment and Land Affairs – identification and funding for specific projects to promote the agricultural sector in the local economy. The opportunities highlighted in Section 4 of this document and the Local Economic Development Strategy should be explored with this Department.
- Department of Transport and Public Works – prioritisation of the upgrading of the Alberton/Vereeniging Road to K route standards.
- Department of Finance and Economic Development – identification and funding of specific projects to explore the opportunities associated with the Blue IQ projects located close to the corridor and other opportunities identified in Section 4 of this report and the Local Economic Development Strategy.

7.2 IMPLEMENTATION PROGRAMME

The proposed R59 Development Corridor stretches across a vast area and although infrastructure services are readily available, upgrading would be required to stimulate and attract extensive development. To give structure to the development of the corridor, two priority development nodes have been identified. In principle, development should be allowed to commence at these two nodes, while expenditure on infrastructure services should be programmed accordingly, due to financial limitations. This thus requires a phased approach towards the development of the corridor as previously discussed in chapter 6.
The following phasing and projects are proposed to give effect to the development of the corridor (also refer to Figure 28):

Short Term

- **Priority 1: Protect and strengthen the Meyerton Node**
  There is considerable public and private investment in this node, which should be protected. Existing businesses should be looked after, while infill development on vacant stands should be encouraged to make optimum use of existing infrastructure.

  There are various initiatives in this regard currently underway. The Midvaal Local Municipality is currently busy with a drive to liaise with local businesses to ensure that their needs are met and that their investment will be protected. The formulation of a number of plans to support this node is in process, particularly the CBD Revitalisation Project, Residential Development Plan and Golf Park Development Plan. The development of a specific Precinct Plan for this node is therefore not required, but rather integrated and dedicated management measures.

- **Priority 2: Promote Development of the Klipriver/Nampak/Everite Node**
  This node is situated at the gateway to the corridor and poses considerable development potential, in terms of its locality relative to the Johannesburg/Ekurhuleni complex. The development of this node will serve to launch the development corridor and should therefore be addressed at an early stage. The successful completion of the three projects currently underway in this area (Heineken, Graceview and Klipriver Industrial Park) is critical towards setting the standard, nature and character in terms of future developments along the corridor. These projects are thus flagship pilot projects towards the launching of the R59 Corridor initiative, and should be branded as such by the municipality.

  Hand in hand with this initiative goes the facilitation of the residential developments adjacent to the west of the Klipriver node.

Medium Term

In the medium term the focus of Council should then move towards the north- and southward expansion of the corridor from the two main nodes, and specifically focusing on the southern parts of the Klipriver node, the eastern section of the central part of the corridor, and the
residential and industrial developments towards the southern end of the study area (around Meyerton).

**Longer Term**

In the medium to longer term the focus should then move towards the full scale development of the western section of the corridor (see Figure 28), as well as the residential expansions towards the south-east.

### 7.3 PROPOSED PROJECTS

The table below summarises the proposed projects and estimated implementation cost from the implementation programme:

<table>
<thead>
<tr>
<th>PROPOSED PROJECT</th>
<th>TIME FRAME</th>
<th>BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Relocation of informal settlements to Klipwater Ext. 1</td>
<td>18 months</td>
<td>Depending on the number of qualifying beneficiaries</td>
</tr>
<tr>
<td>2. Monitoring of illegal settlements. Monitoring of invasion after relocations</td>
<td>Ongoing</td>
<td>Operational</td>
</tr>
<tr>
<td>3. Enforcement of municipal by-laws in terms of building regulations and land use rights</td>
<td>Ongoing</td>
<td>Operational</td>
</tr>
<tr>
<td>4. Revision of Town Planning Scheme to reflect changes</td>
<td>6 months</td>
<td>R800 000</td>
</tr>
<tr>
<td>5. Service upgrading in Henley-on-Klip</td>
<td>6 months</td>
<td>±R1 500 000 (depending on Sectoral Plans)</td>
</tr>
<tr>
<td>6. Service maintenance: Daleside/Witkop</td>
<td>Ongoing</td>
<td>R500 000 annually</td>
</tr>
<tr>
<td>7. Establishment of Corridor Development Forum</td>
<td>Ongoing</td>
<td>R50 000 annually</td>
</tr>
<tr>
<td>8. Branding and signage</td>
<td>3 months</td>
<td>R500 000</td>
</tr>
<tr>
<td>9. Marketing brochure</td>
<td>1 month</td>
<td>Funded by sponsors (R15 000)</td>
</tr>
<tr>
<td>10. Website development</td>
<td>1 month</td>
<td>R50 000</td>
</tr>
<tr>
<td>11. Information Centre</td>
<td>Ongoing</td>
<td>R200 000 annually</td>
</tr>
</tbody>
</table>
8. MARKETING STRATEGY

The key to unlocking the potential of the R59 development corridor is to influence people’s perception about the corridor. People’s attention should be attracted to the area by promoting the development corridor.

8.1 BRANDING

The first step towards this goal would be to brand the development corridor in terms of a specific name. At the moment the corridor is referred to as the R59 Development Corridor. Alternative names should also be considered, specifically the Midvaal Development Corridor. The name should however not relate to the name of a municipality which could be changed in future, but should be informative and descriptive. The proposed Corridor Development Forum should be tasked with this responsibility.

8.2 SIGNAGE

The second step would be to develop signage to promote and market the corridor. This signage should be provided at the gateway to the corridor, to announce the area. The signage should include information about tourism attractions in the area and should refer people to the municipal offices as information centre about the corridor and tourism attractions.

Signage should also be provided along the corridor, to enhance the perception that development is occurring in the area. This should include notice boards announcing the nodes in the corridor, as well as signage to tourism facilities.

Signage should further be displayed along major routes throughout the District, particularly the N3 highway which crosses through the Midvaal area as well as the N1 highway to the west of the municipal area, to attract people who do not normally travel through the area. This signage should promote the corridor and tourism opportunities in Midvaal.

8.3 MARKETING BROCHURE AND MATERIAL

A marketing brochure should be developed with a summary of the Corridor Development Plan and the Corridor Development Framework. This brochure should be available from the municipal offices for people requiring more information or for prospective developers.
brochure could also be distributed at trade fares and exhibitions held in Gauteng to attract attention to the area. The brochure could be funded through sponsorships of local businesses.

A dedicated website should be developed, containing the Development Plan for the corridor. This website should contain the same information as the brochure, with contact details for the municipality and Corridor Development Forum.

8.4 INFORMATION CENTRE

There should be a dedicated office and personnel tasked with the responsibility of providing adequate and updated information on the corridor to interested parties and potential developers. This office should provide information over and above the information available in the brochure and on the website, in order to further assist people interested in the development. This information centre could be combined with a tourism information centre, which is also proposed for the area.

The importance of excellent service and availability of information upon request by this centre cannot be over emphasised.

8.5 DEVELOPMENT INCENTIVES

Specific incentives should be provided to attract development and enable the upgrading of informal uses in the area to the corridor, in order to strengthen development. The following are proposed for further consideration by the Midvaal Municipality:

- Joint marketing effort. This could be achieved by regular updating and distribution of marketing material, particularly the brochure, website and signage.
- Provision of infrastructure in line with the proposed phasing and priorities identified for the development in Section 6.2.
- Lower rates and taxes. Existing illegal land uses or small businesses in the rural residential and agricultural areas that relocate to formal premises within a window period, could be offered the incentive of lower rates and taxes at the formal premises for a specific period.
- Service contribution holidays. Businesses applying for a change of land use rights within the Meyerton node could be offered a service contribution holiday, where no
service contributions will be charged for a specific time period. This could attract new developments or encourage existing illegal uses to upgrade to formal premises.

- Assistance with consent use applications. Existing illegal uses should be assisted with applications for consent use, in terms of simplified application procedures and lower applications fees, during a specific window period.
ANNEXURE A

THEORY ON CORRIDOR DEVELOPMENT

The Activity Corridor Concept

The concept of corridor development is not new and land use planners, architects and engineers have been working on the idea of linear city development for more than a hundred years. Some of these ideas have been conceptualised and developed in more detail and implemented, while governments in many countries are implementing policies aimed at integrating land use and transportation to create corridor development (Del Mistro, 2001).

In the South African context, the focus on the restructuring of the apartheid city has also lead to an emphasis on more efficient urban form. In terms of the White Paper on National Transport Policy, 1996 infill development, densification, mixed land use and the promotion of development corridors and nodes are supported in favour of land passenger transport.

The overall goals of the implementation of Development Corridors in South Africa therefore are:

- To create equitable access to recreational, social, cultural, environmental, retail, residential and most importantly, employment opportunities for all city dwellers and in particular the urban poor.
- To form the basis of an urban planning and transportation strategy aimed at integration of the city (Chittenden, 1990).

In line with National Policy, the Gauteng Department of Transport and Public Works (Gautrans) developed Guidelines for Activity Corridors, Spines, Streets and Nodes for the Gauteng Road Network. The Gauteng Province Department of Transport distinguishes between two major types of corridors or axis:

- the Transportation Corridor
- the Activity/Development Corridor

A transportation corridor constitutes a strip of land with more than one transport facility in reasonably close proximity to support each other, intended to move vehicles, people and goods from one place to another. The emphasis is on providing mobility rather than...
accessibility. Access points or interchanges in the case of roads are positioned at well spaced intervals to provide access to adjoining transportation systems and, even in urban areas, not too closely spaced.

It should be noted that a single transport facility between point A and point B, conveying passengers and/or goods, is defined as a transport connector or transport link and is not, as often wrongly referred to, a transportation corridor.

An **Activity or Development Corridor** is a linear strip of land or area, connecting large activity nodes, traversing urban or inter-urban areas, surrounding a major transport facility or facilities, providing an appropriate regional level of mobility and accessibility to adjacent areas, and should contain a high concentration of population and mixed land uses (job opportunities) (Gautrans, 2001).

In terms of this definition, Development Corridors incorporate activity areas (nodes) and more than one transport facility. Development Corridors normally incorporate the following elements:

- **Mobility Spines** – freeways or high order routes with high mobility and limited access.
- **Activity Spines** – major roads or railway lines accommodating mixed land uses and high-density development adjacent to this facility. Public transport should form a major feature of an activity spine.
- **Activity Streets** – roads of a lower order than, but similar to Activity Spines where the same principles of linearity and high density mixed land use apply.
- **Activity Nodes** – this is a place of high accessibility where both public and private investment tends to concentrate. An Activity Node offers the opportunity to locate a range of activities, from small to large enterprises, often associated with mixed-use development.

Gautrans has furthermore set out the following objectives for corridor development in the province:

- To reduce travel time and distances (and therefore subsidies).
- To promote public transport for use by ALL income groups.
- To reduce the need for private transport especially during peak-hours.
The development of the R59 freeway as a corridor, should be in line with the National and Provincial Policies and should aim to reach the objectives set out above.

Development Phases Of An Activity Corridor

Throughout history the notion was that places were connected via a transportation link. As the places grew bigger because of economies of scale and agglomeration benefits, they tend to extend along the transportation link. This could take place in the form of small nodes that develop along the route (like a string of beads) and later become continuous (refer to Figure 1). This process does not occur overnight but develops gradually over time. This process could, however, if the necessary underlying spatial conditions exist, be managed to develop in a much shorter time (Gautrans, February 2001).

The R59 freeway and adjacent K road and railway line provide a transportation link (for more than one mode of transport) between the Johannesburg/Ekurhuleni area and Meyerton/Vereeniging/Vanderbijl areas. Sporadic development is already occurring in certain areas along this transportation link, in line with this model of corridor development. This study will investigate whether the necessary conditions can be met to stimulate corridor development and will put forward appropriate management measures.

Key Elements In Corridor Development

According to Geyer, (1986, p.194) there are five inherent characteristics to a development axis:

- it must originate at one primary core (node) and terminate at another;
- there must be an inherent interdependency between these cores (nodes);
- there has to be a communication axis between these cores in order to facilitate interaction;
- the interaction between these cores has to be of such nature that it facilitates development along such an axis;
- the axis has to provide for economical and physical growth.

The following Section is an extract from “The Development and Implementation Strategy for the East West Corridor in the City of Johannesburg prepared by Urban Econ, 2003.)
The mere linkage of areas of activity via a transport route, over many kilometres, does not contribute to corridor development, even at a sub-regional level (*Pretoria Metro, 1997*). A combination of key elements should be present, to give rise to efficient corridor development. These elements are:

- **Connectivity between major nodes:** An underlying motive for development appears to be connectivity between the major nodes and a purposeful interaction between them. A corridor entails the movement of people, goods and services between two points, implying that there must be forces of attraction between these points or nodes.

- **Densities and continuity:** Densities, both in terms of residential and business activity, should be as high as possible and there should be a high level of continuity along the route. This is necessary in order to increase the threshold levels of markets, which in turn will generate new growth and development opportunities.

- **Location of significant land uses:** Nodes of activity with a range of land uses should either be in existence along the corridor route, or be created to serve as focal points for local and metropolitan activities. Ideally, one should strive for linearity, or for the “beads-on-a-string” configuration.

- **Existence of multi-modal transportation:** The success of corridor development, especially in urban and more densely populated areas, implies the availability of a range of transportation modes along the route to carry passengers at all levels of mobility.

- **Propensity of development:** There must be a natural tendency for development to occur in the corridor, as the success of such development will be directly related to the market’s view of the area along the route and the ability to provide services to facilitate development. This includes investor perceptions, landowner willingness and public intent.

- **Absence of inhibitors:** Although these could be of an economic nature, the main inhibitors of corridor activity are usually of a physical nature. Aspects such as mountain ranges, rivers and geotechnical conditions are of the main inhibitors that may occur.

- **High level of accessibility and mobility:** Routes chosen to act as spines for activity corridors should, if possible, not be routes with severe limitations regarding access.
Access to the main mobility spine should be at frequent interval, otherwise the spaces between nodal points, or interchanges, dissipate the continuity of the corridor (Urban Econ, 2003).

**Key Performance Indicators In Corridor Development**

There are various local and international case studies of corridor development. The Curitiba Model (the capital city of Brazil’s Parana State) is generally regarded as one of the best examples of successfully operated urban corridors. Other examples include:

- The Thames Gateway, London.
- Melbourne’s Activity Centre Strategy.
- The Multimedia Super Corridor of Malaysia.
- The Four Cities project of South Africa (Urban Econ, 2003).

Based on these case studies and development approaches, the following Key Performance Indicators have been identified (Urban Econ, 2003):

- **Underlying principle: Leadership and Vision:** A strong *business leadership and development vision* is needed to guide and manage the overall development of a corridor. Leadership efforts are not only driven by the public sector, but also the private sector in the region beyond the borders of these corridors. Underlying to this is the availability and empowerment of a strong leader/leading and management organisation that will drive the development process through initiative, creativity, vision, networking and entrepreneurship.

- **Spatial structuring:** Several spatial/physical elements were present that lead to the creation of an environment conducive to development and investment. Although the manifestation of these depends on the unique attributes of the planned corridor, the following generic elements were identified: mobility spines; activity- and accessibility spines; development/urban nodes or activity centres; an open space system, and urban edges and interface.

- **Economic Logic:** The Curitiba model indicated that the principle of economic logic is related to the concept of a *desire line*. In its purest form, a corridor entails the movement of economic goods and services between two points. Implicit hereto, is the notion that
there must be forces of attraction in the local economy that justifies and necessitates this movement.

- **Branding and aftercare:** The only way to effectively access and secure markets is through the marketing of high quality products and opportunities to potential investors and target markets. This implies that the development corridor should be implemented hand-in-hand with a well-thought through and market-orientated branding and marketing strategy.

- **Clustering and Networking:** Linked to the creation of sustainable and vibrant economic nodes, one of the instruments that can be used in the implementation of corridor is industrial/business clustering and networking. Effective clustering in specific nodal areas or regions has the added benefit of creating agglomeration advantages that, in turn, can attract a broader spectrum of businesses to an area.

- **IT and e-commerce as a development base in globalisation:** To promote world competitiveness, whilst attracting and encouraging direct investment, the latest business development trends suggests that the develop an ICT-based platform through which modern trends in communication and business interaction can be incorporated with success in a corridor.

- **Infrastructure development:** The provision of modern and appropriate infrastructure is, apart from financial motivation and client services, one of the most important ways used to attract direct investors to a development corridor. The infrastructure, in many cases, serves as catalyst for development.

- **Regional development approach:** Most of the areas studied adapted a multi-dimensional development approach that incorporates, amongst others, transport development; environmental development; land use development; economic and business development; human resource development, and community liaison.

- **Human resources development:** The development of available human resources form an integral part of development programmes for development corridors and Spatial Development Initiatives. This contributes to the empowerment and improvement of the living standards of labourers, skills transfer and empowerment.
• **Development Incentives:** Incentives being applied in the corridor development initiatives range from fiscal incentives (tax holidays and grants) to aspects such as infrastructure development, customer care and quality control. Incentives must be tailor-made for the needs of investors and must be provided efficiently.

• **Performance Monitoring:** Performance monitoring is essential in order to review the successful implementation of the project on a frequent basis and to identify early warning indicators of problem areas.

This theoretical overview will be used as platform in assessing the development potential of the R59 as an Activity Corridor and formulating a development plan.
LIST OF REFERENCES

PWV Consortium.