

5.4 Initiating and Implementing Corridor Development

The development of corridors has been identified as a potential instrument to restructure the City into robust, efficient and well-connected urban areas as well as contributing to citywide economic growth and job creation. This can be achieved by unlocking inherent and under-utilised economic and social development potential with existing nodal development, road and rail infrastructure (current and proposed). The movement and nodal components highlighted in previous sections are most prominent and intense within the City's identified corridors. Strengthening these corridors will also strengthen key economic centres to balance and share growth not only for the City but also across the province with neighbouring local authorities.

i. Development Paradigms

Focusing and managing development within defined Development Corridors will actively support the following GDS development paradigms:

- Proactive absorption of the poor
- Balanced and shared growth
- Facilitated social mobility
- Settlement restructuring

ii. Sector Plans

The Corridor strategy addresses the following sector plans and associated long-term strategic interventions from the IDP and indicative 5-year strategic objectives:

SECTOR PLAN	LONG TERM STRATEGIC INTERVENTIONS	INDICATIVE 5-YEAR STRATEGIC OBJECTIVES
Spatial Form and Urban Management	Promote densification in strategic locations, in accordance with clear principles and criteria, as defined in the Spatial Development Framework and Regional Spatial Development Frameworks	Increase in densities in nodes and along public transportation routes in support of defined spatial structure
	Within a clear structure for movement and accessibility, ensuring that movement systems in the city directly link with, and are supported by, strong high-intensity, mixed-use nodes and higher residential densities	Corridors and mobility routes planned, developed and managed in the way that supports the overall development framework of high intensity nodes on a lattice of connecting routes
	Encourage and enforce a compact urban form through a range of mechanisms	Minimised demand for investment and services on the urban periphery Optimal utilisation of investment within the urban core (land, infrastructure and capital expenditure)
	Within all new housing developments ensure that the minimal Sustainable Housing Settlements (SHS) thresholds are adhered to and implemented.	Increase in investment of affordable housing in close proximity to public transportation and designated nodes Increased accessibility to social, economic and environmental infrastructure (thresholds to be determined) Increase in the % (or number) of areas that have achieved a minimum acceptable level of SHS

SECTOR PLAN	LONG TERM STRATEGIC INTERVENTIONS	INDICATIVE 5-YEAR STRATEGIC OBJECTIVES
	Develop and maintain an integrated public investment and planning framework binding on all spheres of government and parastatals	Implementation of all public sector infrastructure investment to support priority nodal development, movement networks, urban renewal and other city priorities
Housing	Ensure the provision, of affordable home-ownership and rental accommodation at scale, addressing the needs of a range of housing segments, with a special focus on the needs of poorer residents not currently catered for.	Through both the City's own means, and in partnership with other actors and stakeholders, deliver 100,000 well-located and good quality housing units over the next five years, which includes the delivery of 15,000 rental housing units, 30,000 housing units through the Community Builder Programme and 50,000 mixed income housing units.
	Ensure that urban sprawl – caused by informal settlements, lower cost housing developments and lifestyle estates – is arrested through the use and reuse of well-located land for housing development	Introduce the Sustainable Human Settlements approach to all new housing developments.

5.4.1 Principles of Corridor Development

The development and transportation community has used the term corridor in many different ways – activity corridor, movement corridor, transport corridor to name but a few. For the purposes of the City's definition, development corridors are:

- High volume transport routes that connect major activity centres and nodes;
- Existing / potential for regional and inter-regional accessibility;
- Provision of a number of movement options – i.e. road and rail;
- Potentially lower transit costs on current/ potential routes;
- Intense, high-density mixed land uses;
- Availability of tracts of vacant / under-utilised land that provides opportunities for higher densities and integration opportunities;
- Provide the basis and support for long-term investment priorities and
- Strong bias towards maximizing the benefits of already dominant movement flows.²⁴

Development corridors may be used as tools to improve and structure where and how activities are located spatially with access as a main requirement.

A development corridor should consist of a package of key structuring elements, namely:

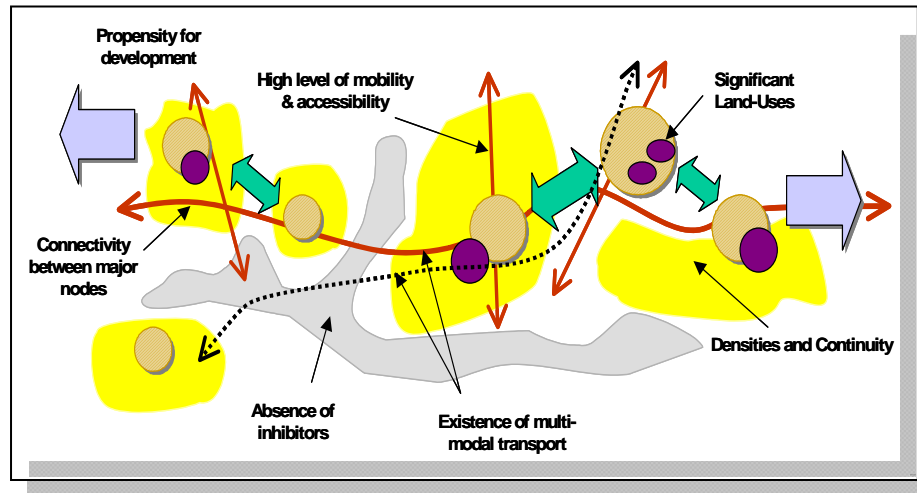
- Distinct road hierarchy;
- Mobility spines;
- Activity spines;
- An open space system;

²⁴ DEL MISTRO, Ramona. "Development of an Integrated Urban Corridor Assessment and Strategy Development Process for Transport Authorities and Provinces", 2001 (Study for the Development of Corridors prepared for Ekurhuleni Metropolitan Municipality, 2004).

- Connected nodes (may vary in type and size);
- Defined start and end

This concept is illustrated in **Diagram 5.5** below:

Diagram 5.5 Concept Drawing of a Development Corridor



It is important to recognise that corridor development does not occur over a short period of time, and depends on a number of critical factors:

- Anticipated time frames, together with the appropriate phasing of development;
- Availability of adequate services and infrastructure;
- The rate at which development occurs; and
- Prioritising:
 - Linking roads with a transportation and mobility function
 - Support these roads with strong nodes

It is acknowledged that a more detailed corridors study is required in order to relate the role and function of the City's identified corridors to the regional context and the Global City Region. Whilst specific interventions have been identified for the strengthening of the EWDC, the mechanisms for their implementation need to be considered further. Specific mechanisms and interventions will also need to be considered for the NSDC in order to release the maximum potential of the corridor.

5.4.2 Identified Development Corridors

The key elements which influence the function and category of a corridor are: land uses, environment, economic factors and transport. Corridors develop in response to different stimuli. These stimuli include: land uses; transport modes; physical form, function, scale and linkages. Not all corridors are the same and have different characteristics.

The City has identified and promotes two corridors as illustrated in namely:

- East West Development Corridor (EWDC **Map 32**)
- North South Development Corridor (NSDC **Maps 33 and 34**)

These two corridors are very different in nature although both contain a number of the above-mentioned attributes for corridor development. The private market is highly active in the northern section of the NSDC (along the M1 highway) and there are few inhibiting physical constraints for development. In this instance the City's interventions are based on development controls and co-ordinating public investment in infrastructure. Conversely, the central-south section of the NSDC presently lacks significant private investment and is dependent on public interventions and development incentives. The function of the NSDC primarily relates to the promotion of movement and facilitation of access to release economic potential in the south.

The EWDC represents a mix of both public and private initiatives and investment. The function of the EWDC is primarily recognised as an economic corridor, with strategic inter-regional links to Ekurhuleni. The original premise of the corridor was based on the historic mining belt which died out in the late 1960's, following which industrial and commercial uses were promoted within the EWDC. There are severe physical constraints regarding the EWDC based on the historical mining legacy.

The City seeks to promote the corridors above in order to harness the opportunity to manage urban form by identifying structuring elements, maximising access and facilitating the integration of nodes and infrastructure in order to maximise social and economic potential.

Both corridors are considered in more detail in the following section.

5.4.3 East West Development Corridor

The EWDC midway through City from the eastern boundary linking the industrial development in Ekurhuleni on the east to Mogale on the western boundary of the City a distance of over 30km. The Corridor incorporates the traditional mining belt that has been perceived as a barrier to the integration of the northern

and southern parts of the City. The mining legacy of the area has also presented a number of environmental challenges and constraints the most visible of these being the numerous mining dumps. Whilst mining activities have been dormant in the centre of the City for a number of decades, an area of the city that extends from Fleurhof in the west through to Heriotdale in the east has the potential for future mining opportunities. A mining license was granted in September 2008 for Consolidated Main Reef (CMR), Crown Mines and Langlaagte land parcels in the centre of the City which will result in the revival of mining activities and associated land uses within the EWDC. On completion of the mining activities, land will be rehabilitated and stabilised with a view to release the land for long term redevelopment.

With respect to transportation, there is an existing railway line with a number of associated stations and strong east west road linkages. Conversely, there are very few strategically located road linkages across the mining belt, linking the latent labour market of the south with the existing employment opportunities of the north. Many of the existing industrial, commercial, retail and residential areas are not operating optimally given these constraints. The BRT system will assist in facilitating north – south movement and the Dobsonville – Jeppestown – Eastgate BRT route will run parallel to the EWDC corridor in part.

The EWDC has as its core the east-west mining belt, with east-west transport linkage being provided by Main Reef Road, Soweto Highway, Ontdekkers Road, the M2 highway and the R564.

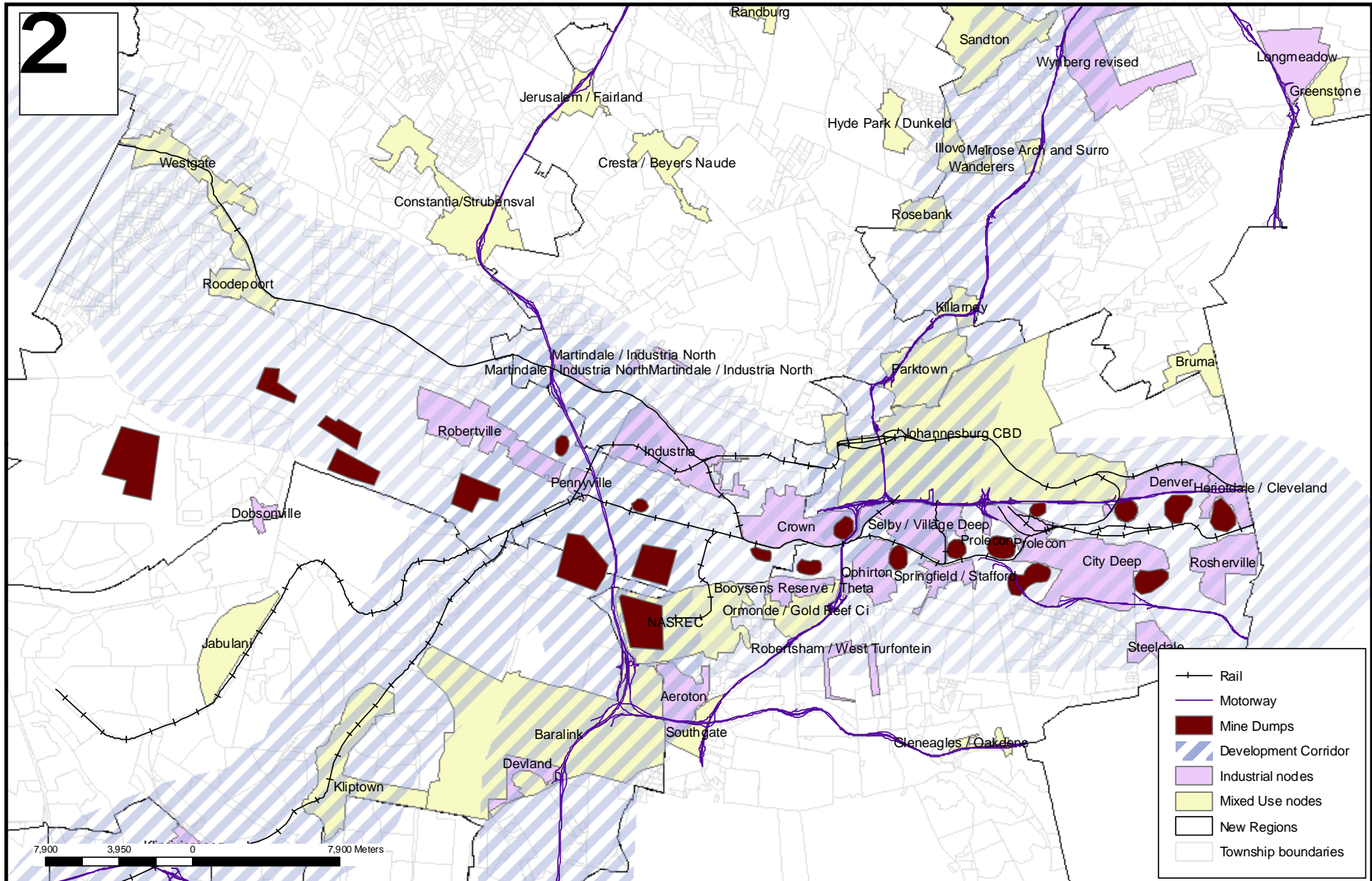
- The northern border of the study area is aligned with Ontdekkers Road (running through the area of Roodepoort, Princess Agricultural Holdings, Witpoortjie, Lindhaven/ Reefhaven/ Davidsonville, Florida, Westbury, Maraisburg, Fordsburg, Mayfair and Brixton), passing the southern boundary of the CBD at Salisbury and Jeppestown South and following the alignment of Jules Street north of the industrial areas of Benrose, Denver, Heriotdale and Malvern Ext 2.
- To the south, the study area includes the areas of Elandspark, Steeledale, Tulisa Park, Moffat View, the northern boundary of the Moffat Park, northern parts of Turffontein, Aeroton and the Southgate shopping complex, the northern extensions of Meadowlands and the northern boundary of Dobsonville.
- The eastern boundary of the study area is aligned with the N3/N12 highways and it is foreseen that the corridor will cross the municipal boundary to flow into the Ekurhuleni Metropolitan Area.
- The western part of the study area comprises the mining land belonging to the Durban Roodepoort Deep Mining Group and the Witpoortjie/Princess AH area. The corridor requires an appropriate anchor within Mogale City.

Due to the central location of the EWDC it has the longer term potential to become an integral restructuring and integrating mechanism within the City. The challenge for the City is to take advantage of the opportunities this area presents and transform it into a vibrant, mixed-use urban environment with a thriving economy.

The EWDC presents the City with unique opportunities to:

- Fast-track development in impoverished southern areas;
- Create employment;
- Improve the quality of life for the urban poor; and
- Improve the north-south spatial integration.

2



Map 32 East West Development Corridor Conceptual Boundaries

In order to achieve the above-mentioned benefits from the EWDC the following goals objectives were identified as critical success factors:

Goal 1 – Creating an efficient transport system

This goal has as its main drive the facilitation and creation of effective transportation linkages throughout the EWDC area. This includes the following elements:

- The provision of an effective mass public transport system;
- Effective and high-quality road infrastructure (mobility and activity spines as described previously);
- Intermodal transfer facilities at strategic activity centres;
- Providing a variety of transport modes to be used;
- Improving the services and infrastructure that will contribute to the notion of creating a metropolitan and provincial logistics and distribution hub; and
- Improving access to places of work, home and recreation for local communities in a safe and secure environment.

Goal 2 – Creating an efficient urban structure

This goal entails the efficient utilisation of available and developable land to create an urban system conducive to corridor formation. Specific elements include:

- Creating and/or strengthening key urban nodes or activity centres that will provide opportunities for the concentration of economic and employment activities in the area;
- Facilitating the effective integration of the built environment and the natural environment through a system of well-planned open spaces and environmental management principles; and
- Accommodating a range of commercial and residential densities that will support the function and role of a development corridor.

Goal 3 – Establishing integrated and sustainable neighbourhoods

This goal has as its main underlying principle the promotion of the EWDC as an area that supports a quality residential neighbourhood that caters for the needs of its local communities (i.e. the creation of a sense of place). Specific elements include:

- The provision of a range of housing environments that will provide local residents with a choice of residential location, housing typology and density;
- Fostering higher density residential development in strategic areas that supports the functioning of the corridor and the accessibility to employment, recreation and services;
- Developing local neighbourhoods as self-contained units with unique identities; and
- Creating neighbourhoods conducive to social harmony by providing social facilities, cultural activities safety and recreation.

Goal 4 – Economic regeneration

This goal has as its main objective the regeneration of the EWDC local economy and the integration of the local economy with that of the rest of the metropolitan area. Specific elements include:

- Creating a business environment that will promote the increased competitiveness and outward orientation of local businesses and industries.
- Creating activity centres of specialisation that will result in a more effective metropolitan economic system without creating unnecessary market rivalry between nodes (especially in terms of the CBD).
- Fostering the development of business agglomeration advantages at activity centres/nodes.
- Promoting economic and activity diversity that will increase the economic viability and sustainability of the region.
- Providing efficient accessibility to employment and investment opportunities.
- Facilitating efficient labour source development through well-planned training and educational programmes, matchmaking and skills training.
- Promoting the investment in stable business opportunities, through appropriate institutional frameworks, marketing and information dissemination.

Implication of Mining in the EWC

The reintroduction of mining activities in the East West Development Corridor will have a significant impact on the short, medium and long term development of the City. The mining land through the central area of the City has the potential to realise spatial, economic and social opportunities through the development of new mining operations.

New mining operations are a result of changes in the mining legislation in the form of the Mineral and Petroleum Resources Development Act, Act 28 of 2002 (MPRDA). The Act promotes the exploration of mineral wealth in an environmentally sensitive manner. Further, the mining activities need to ensure that local communities realise benefits in the form of local social and economic development that will promote sustainable human settlement. A founding principle of all current and future mining operations is to rehabilitate and clean up previously encumbered and unsafe areas of land that will be released for future urban development as the mining operations progress.

The nature of these mining operations includes surface reclamation of existing sand dumps and slimes dams. Surface and underground mining operations will utilise modern mining methodologies and technology that are more environmentally sensitive than older methods and are designed to have a minimal impact on existing urban development areas.

The current and future operations will be designed, developed and implemented in accordance with the requirements of the MPRDA . These requirements include extensive Environmental Impact Assessments and Environmental Management Programmes (EIA/EMPs) to address the physical, social and ecological issues and mitigating measures to minimise anticipated impacts. In addition, in terms of the legislation, it is obligatory that the mining company prepares a detailed Social and Labour Plan (S&LP) which has to be integrated into the City's IDP.

Within the EWDC a major focus of the mining operations is an area of the City that extends from Fleurhof in the west through to Heriotdale in the east for which Central Rand Gold (CRG) was granted prospecting rights. The Department of Minerals and Energy (DME) granted a mining license to CRG for Langlaagte, Crown and CMR (Robertville) areas in September 2008. The current planning for the mining operations is initially focused in the vicinity of the Fleurhof, Riverlea and Crown areas. These planned mining operations will include "slot and undercut" surface operations on the reef outcrop areas as well as the establishment of a series of decline shafts for trackless underground mining. The planned mining operations will also include backfilling and rehabilitation of the underground mining voids using development and waste material to avoid the establishment of any permanent surface waste dumps and tailings dams. In the same general area the surface reclamation operations of Crown Gold Recoveries are currently removing various sand dumps and slimes dams.

It is estimated that a total of 16 000 HA of land could be released incrementally following the rehabilitation of all the mining land within the EWDC (in accordance with project Hloekisa). Project Hloekisa aims to ensure collective collaboration of the mining companies to rehabilitate mining land in this vicinity. The rehabilitation will involve backfilling of underground mining voids, the removal of mine dumps and tailings dams and the rehabilitation of contaminated land. Whilst the active mining operations will limit the scope of non mining-related development which could be accommodated in the short term, there is enormous potential for the well located rehabilitated mine land to accommodate employment land and assist in establishing integrated and sustainable neighbourhoods and an efficient urban structure.

East West Development Corridor Development Management Guidelines:

- a. All or parts of this area are located within approved and/or applied for quarrying; prospecting and/or mining right areas in terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002) and associated regulations.
- b. Any quarrying, prospecting and mining activities and operations should contribute to the local social and economic growth of the area and have a minimal impact on surrounding development and the environment.
- c. There should be ongoing monitoring, management and strict adherence to national legislation governing quarries, prospecting and other mining activities and operations.
- d. Any urban development taking place in the vicinity of any quarrying, prospecting or mining activities and operations is to comply with the approved Environmental Impact Assessment/Environmental Management Plan (EIA/EMP) for the operation and take cognisance of the mining operation plan as contained in the EMP and the associated mitigation and management measures.
- e. The erection or construction of any buildings, roads, railways, or any structure within a horizontal distance of 100 metres from the workings of the mine or quarry shall comply with all the requirements and obligations of the Mine Health and Safety Act (Act 29 of 1996) and the associated Mine Health and Safety regulations.
- f. As a development guideline, reference should be made to the approved Environmental Management Plan (EMP) and Social and Labour Plan (S&LP) as required in terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002).

5.4.4 North South Development Corridor (NSDC)

Conceptually the North South Development Corridor (NSDC) extends from Orange Farm north via Lenasia and Soweto to the central anchor point of the CBD. From the CBD it continues north through Sandton to Midrand. It provides inter-regional access beyond the municipal boundaries to Sedibeng to the south and Tshwane to the north.

The NSDC presents the City with the opportunities to:

- Utilise the existing infrastructure and public amenities;
- Reinvestment and infill development possibilities for higher density residential development;
- Reduce the distance between employment and residential amenities;
- Further densification when services are available at strategic locations; and
- Further economic growth and development.

Presently, the character of the corridor is split between the central-north and central-south sections. The central-north section is characterised by high degrees of investment and economic and employment opportunities. Private transport dominates in this section and congestion is the main constraining mobility factor. Conversely, the central-south section has fewer economic and employment opportunities and a greater pool of labour resources. Public transport dominates in this section and the condition and capacity of infrastructure is the main movement issue. A consolidated and integrated corridor would increase the opportunities afforded to the labour force and economic opportunities in the central-south by facilitating better access and co-ordinating public expenditure. Phase 1a of the BRT will be operational as of May 2009 and will assist in facilitating better access between Lenasia, Soweto and the Inner City. The full route will extend to Sunninghill and will assist in reinforcing access to the employment opportunities in the north and will provide strengthened public transport access within the NSDC.

The central-north alignment is based on the N1 / M1 highway. The Gautrain route and four of the Gautrain stations (Midrand, Sandton, Rosebank, Park Station - CBD) fall within this northern section of the Corridor. Other movement lines include the Oxford / Rivonia Roads arterial, Louis Botha and Jan Smuts Avenue. Metropolitan and Regional nodes exist in the area including Midrand, Sandton, Sunninghill, and Rosebank. These factors continue to attract development and reinforce the vibrant economic activity already present within the area. The northern part of the Corridor is the location of choice for many high tech industries and office nodes. The challenge for the City is to integrate and manage existing, well-established land uses in a manner that has long-term benefits for all the residents of the City.

Conceptually, the southern section is based on a split alignment between the N1 highway (primarily freight / passenger-based - Section A) and the supporting north-south road and rail network (primarily passenger-based – Section B). Section A builds on the basis of an existing freight and passenger based mobility route (i.e. N1) linking the south (Vereeniging / Vanderbijlpark / Orange Farm with the Johannesburg CBD, International Airport and City Deep and other national highways (e.g. N3-Durban). Section A functions primarily as a mobility and transport corridor, providing fast and unobstructed access to heavy industry and freight movements. The alignment of Section B is based on the existing rail infrastructure that links the Central Business District with Soweto –

Lenasia – Ennerdale – Orange Farm and existing roads such as the R533. Section B functions primarily as an activity and economic corridor, connecting a string of nodes and economic opportunities, providing access to a mix of land uses.

The alignment of the central-south section of the NSDC incorporates the following major nodes and public investment initiatives presently being undertaken in the area including:

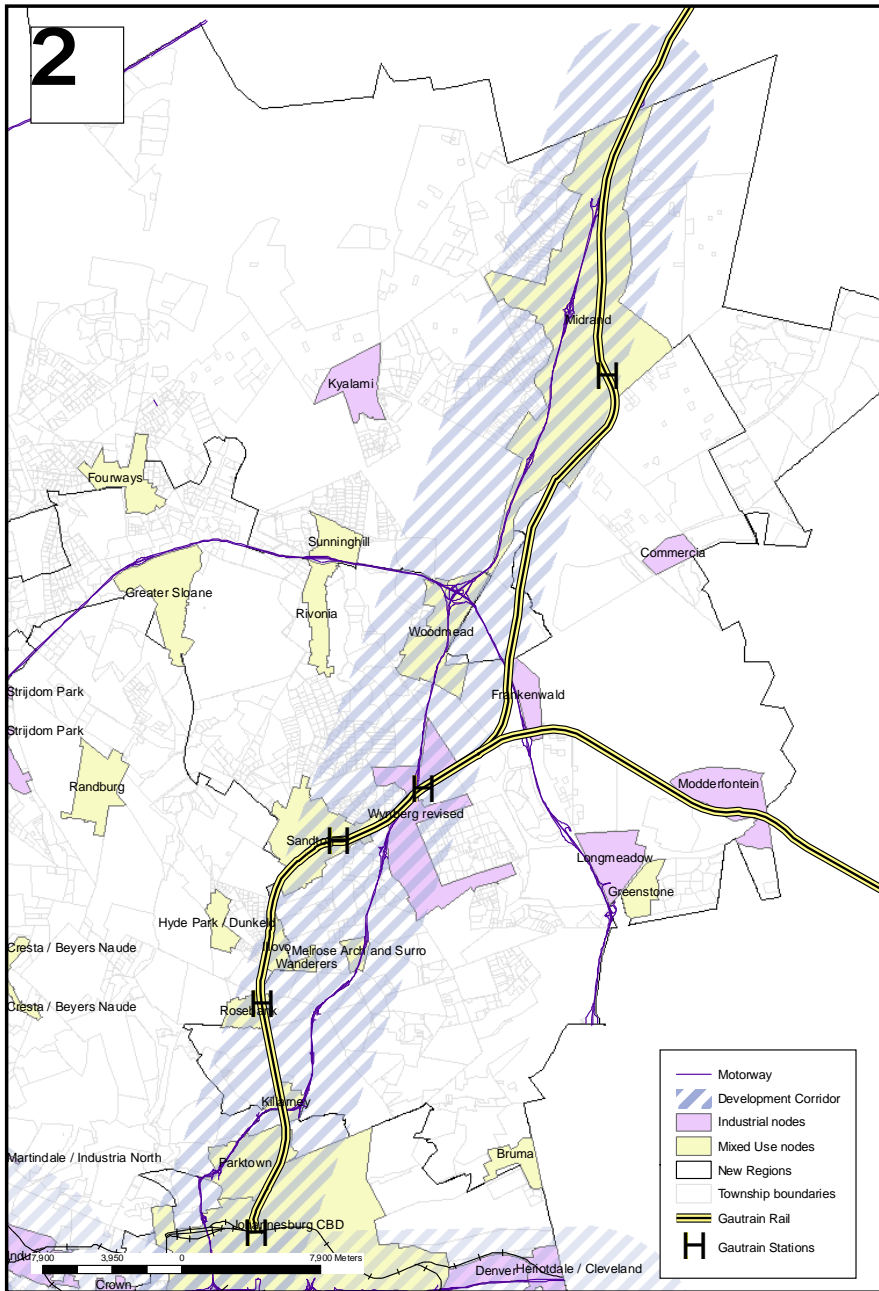
- Phase 1 BRT: Lenasia - Regina Mundi-Parktown-Sunninghill;
- NASREC Regional Node and 2010 stadium precinct;
- Baralink Regional Node;
- Kliptown District Node;
- Lenasia District node;
- Lenasia South / Unaville District Node;
- Ennerdale District Node;
- Stretford District Node;
- Devland Industrial Node;

The implementation of these projects will act as catalysts for further development and can overcome the perceptions that the area is stagnant and dormant.

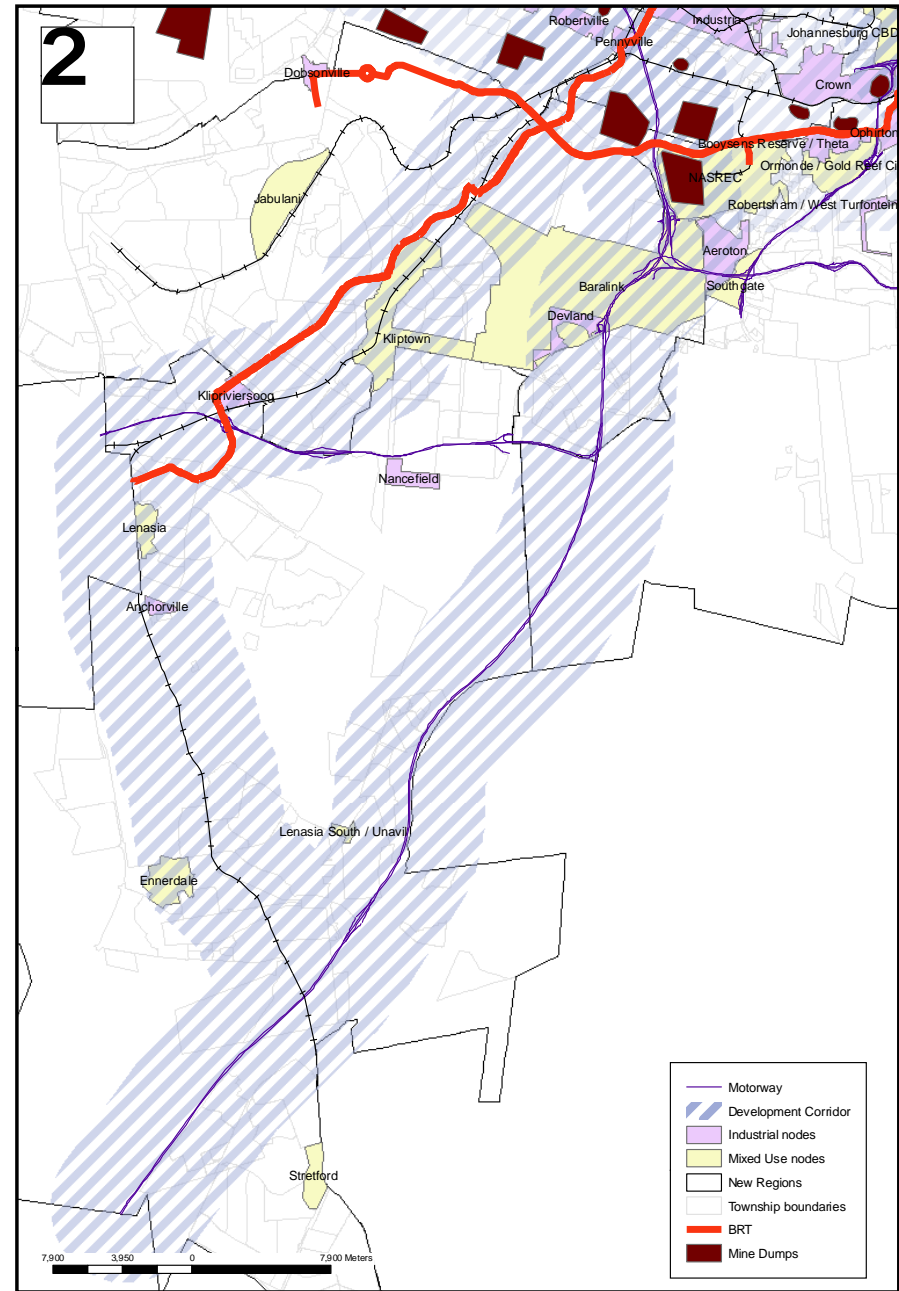
5.4.5 Mogale – Tshwane (R28/N14) Development Corridor

One of the strategic cross border development issues that has not previously been reflected in the City's SDF is the conceptual corridor that links Mogale with Tshwane. Both Tshwane and Mogale have indicated this linking corridor within their respective spatial plans and was one of the noted alignments issues arising from the engagements and processes alluded to in Section 2.4. Presently, the N14 / R28 facilitates mobility on an east-west axis and development is presently along much of its length is limited to predominantly rural uses, other than at the "anchor" points of Mogale City and Centurion and the intersections / on/off-ramps.

Spatially, the corridor would impact on a limited developmental footprint to the north of the City (less than 10km in length) and would act as a central bridging point of the corridor. The Northern Farms Nature Reserve located centrally within this footprint will remain protected, irrespective of its potential inclusion within this corridor. However, the strategic importance of the full extent of the corridor and the longer—term potential for intense, mixed use development between Mogale City and Centurion / Pretoria merits the incorporation of this conceptual corridor within the City's spatial thinking and plans. Importantly, the corridor intersects three strategically important localities for the City, namely: the Lanseria proposed Metropolitan Node / Airport, the Nietgedacht Farm (integral to the Kya Sands and resident Informal Settlements) and Diepsloot and the proposed adjacent developments. Development in these areas would be guided by the RSDF and Northern Areas Development Framework for Diepsloot, Kya Sands and Lanseria. How, and over what timeframe, this corridor ultimately realises and functions will need to be the subject of extensive deliberations between the planning and infrastructure departments of the respective municipalities as well as endorsement via the Gauteng Spatial Development Framework review. **Map 33**, indicates the broad spatial concept of this Corridor.



Map 33 North South (Central-North)



Map 34 North South (Central-South)

5.4.6 Sedibeng – Johannesburg Corridor

A need exists to investigate the viability of facilitating economic growth through public investment in and around the area. The provision of public transport is one of key infrastructure requirements in the area. In addition, economic development in the southern part of the North-South corridor would provide much-needed job opportunities for the very poor and marginalised communities of Orange Farm, Sebokeng and Evaton. Trends data from the Gauteng spatial development framework, 2007 indicates that the inhabitants of these communities travel as far south as Vereeniging and surrounds for work purposes.