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## THE GAUTRAIN RAPID RAIL PROPOSAL

“The Gautrain Rapid Rail Link is one of the Spatial Development Initiatives (SDIs) of the Gauteng Provincial Government. The Gauteng SDI projects, including the Gautrain, are aimed at stimulating development in specific areas of the province with a high potential for economic growth, thereby creating employment opportunities. The Gautrain project is also in line with national government’s stated policy to promote public transport, and to prioritise it over private transport. The project is targeted at attracting current private car-users to the rapid rail system” (Bohlweki Environmental EIA (draft) 2003).

The proposed network of approximately 80 km consists of two spines; one linking Johannesburg and Pretoria, and the other linking Sandton and Johannesburg International Airport. The estimated journey time from Johannesburg to Pretoria is 40 minutes, while the journey from Sandton to the airport will take less than 15 minutes. The train will be travelling at speeds of 160- 180 km per hour. The service will operate 18 hours a day with a frequency of six trains per hour. This public transport service will include dedicated, exclusive bus services to transport passengers to and from stations. The project proposes to develop the following stations (<http://corporate.gautrain.co.za>):

Three anchor stations

- Johannesburg International Airport (within the airport)
- Pretoria (next to the old Pretoria Station)
- Johannesburg (existing Park station)

Six other stations

- Rosebank
- Marlboro
- Midrand
- Centurion
- Hatfield
- Rhodesfiel Kempton Park and

One Station connecting the main link to the Johannesburg International Airport

- Sandton

It is believed that the Gautrain will play a cardinal role in the initiation of a new urban structure and urban form. With the stations as catalysts, it would attempt in creating “more effective and functional” environments that will sustain the transport system itself, and encourage economic growth through development opportunities (<http://www.gautrain.co.za>).

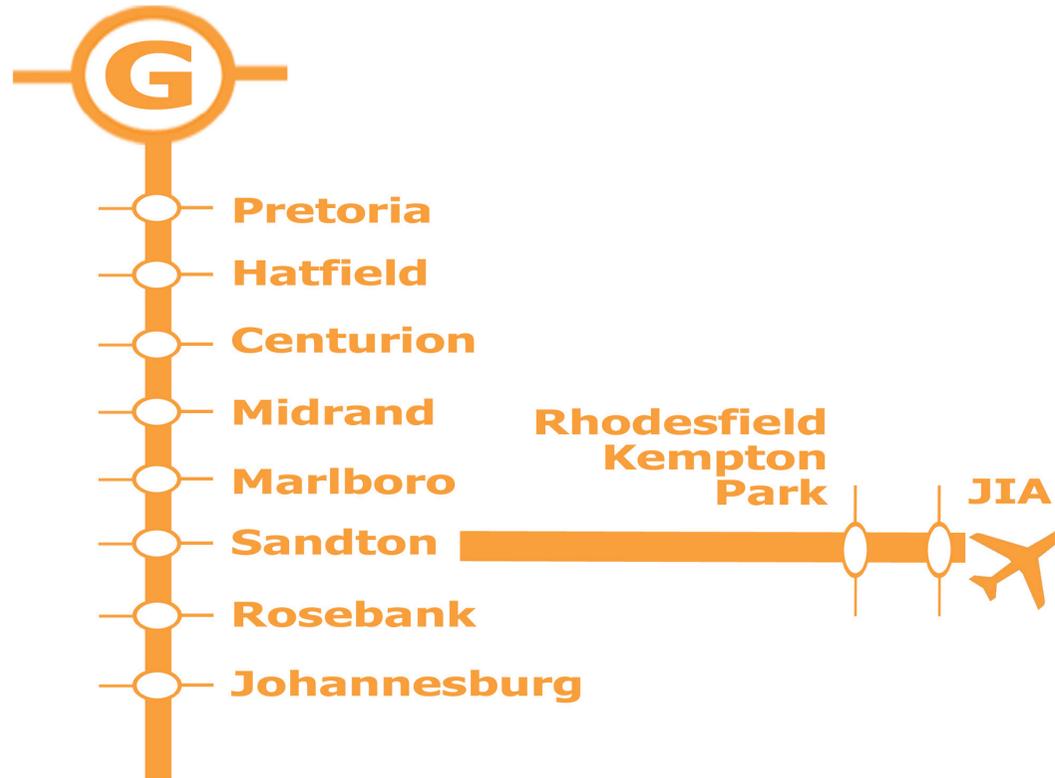
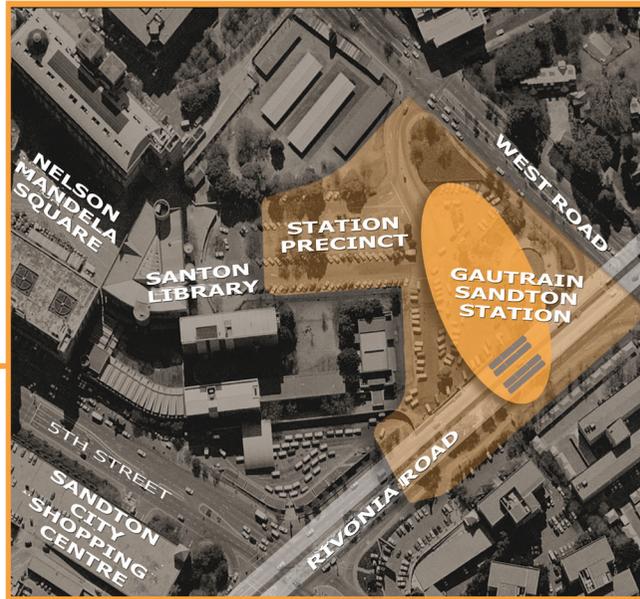


FIG 007  
Stylized Gautrain map

 **SITE**



**FIG 008**  
Aerial photograph of Sandton Central



**FIG 009**  
Aerial photograph of Sandton station precinct and surroundings

The main entrance to the Sandton Gautrain station and access points to basement parking bays and drop-off areas will be located at a site adjacent to the Rivonia Road and West Road intersection in the Sandton business district. According to Dr. Joubert, chief engineering consultant of the Gautrain team, due to tunnelling issues caused by the nearby Sandspruit and other economical factors, the platform and concourse areas of the station will be situated 30m below ground level.

The station will form part of The Sandton Central Node along with the surrounding Sandton City shopping centre, Sandton Convention Centre, Sandton Towers, Nelson Mandela Square, Sandton Sun Hotel, Sandton Library, Michelangelo Hotel and Sandton Civic Gallery (Johannesburg RSDF 2004/2005).

**SANDTON CENTRAL**

Rivonia Road, Grayston Drive and Sandton Drive define the boundaries of the Sandton business district. This city improvement district, branded as Sandton Central, is the second-largest office area in the country with approximately 1 000 000 square meters of office space. It is favoured by most management consultancies, foreign tenants, corporate professional practices and finance houses such as Investec, Johannesburg Stock Exchange, Citybank and Nedcor (<http://www.sandtoncentral.co.za>).

Various upmarket hotels like the Hilton, Sandton Towers and the nearly completed Michelangelo Towers contribute to the region's thriving tourism industry (Johannesburg RSDF 2004/2005). Sandton Central presents a total of 10 hotels.

The retail component of the Sandton Business district, comprising of Sandton City shopping centre, Nelson



**FIG 010**  
Nelson Mandela Square and Sandton Library, Sandton Convention Centre, Sandton City Shopping Centre

Mandela Square and the Village Walk shopping centre, is identified as one of the most significant retail nodes in the country. According to the Joburg Wholesale and Retail Sector shopping report 2003/2004 the highest concentrations of the largest (in terms of m<sup>2</sup> gross leasable floor area) and most popular (in terms of annual foot count) shopping centres are located in the administrative Region 3 of the metropolitan municipality of Johannesburg.

Within Sandton Central two improvement districts, namely the Sandton City and Convention Centre Improvement District and the Sandton Business Improvement District, are set out to “create a clean, well-managed environment”. As part of urban renewal partnerships the area is privately managed. Management includes key issues such as crime prevention, cleaning-maintenance and landscaping. Operating under the Sandton Central brand, and additionally to services provided by local council, a cleaning unit, consisting of 25 members and a crime prevention unit of 68 officers are present in the area (<http://www.sandtoncentral.co.za>).

Marketing in Sandton Central is aimed at promoting the district’s image as a place of prestige, style, leisure and status.



**FIG 011**  
Site photograph, Rivonia and West intersection



**FIG 011**  
The multidimensional user profile

## CLIENT & USER PROFILE

Due to its scale, the Gautrain Rapid rail link is a complex project consisting of numerous stakeholders ranging from City Councils to community based organisations and business organisations (Bohlweki Environmental EIA (draft) 2003). It is one of eleven Blue IQ projects. It is a Public-Private-Partnership, with the Gauteng Department of Public Transportation, Roads and Works (Gautrans) as promoter. The Gauteng Government will contribute by undertaking the planning and to subsidise its share of the capital cost upfront. The Concessionaire selected through a bidding process will be responsible to oversee all activities and parties appointed in regard to the design, construction, operation and maintenance of the project (Bohlweki Environmental EIA (draft) 2003

### KEY CLIENT GROUPS

- Blue IQ as the Gauteng Provincial Government's, multi-billion Rand, economic development initiative,
- Gautrans as proponent and governmental supervisor of the project,
- The appointed Concessionaire, Bombela-consortium,
- The Business sector, involved with retail and private ventures within the station precinct and
- The Public as represented through the multidimensional user.

### USER

The Gautrain will attract a variety of users ranging from the professional commuting to work, to a school group on an educational trip. Each station will have to cater for all types of users, though the preferences of predominate user types as influenced by the station's location, will inevitably reveal itself in the station's character. By investigating the demographics and visitor profile of an area, planners can predict what user type will form the majority and so allow the design to respond accordingly.

In general, the socio-economic profile of Sandton indicates affluence with a low percentage of unemployment. The area has the lowest percentage of lower income groups in the City of Johannesburg. Numerous young, skilled professionals are situated in the area along with students and families (Johannesburg RSDF 2004/2005). As mentioned earlier, Sandton is a major upmarket tourist and retail destination and due to the many business and financial establishments many corporate professionals are present in the area daily. Consequently the Gautrain Sandton station will primarily appeal to and cater for these types of users, but the Gautrain transport system is aimed to be utilised by all types of users from various income groups, affluent and poor.

The multidimensional user represents:

- Professionals
- Students
- Workers
- Shoppers
- Learners
- Tourists
- Families
- Elderly and disabled persons



## THE SANDTON STATION SYNOPSIS

All the proposed stations should comply with the general recommendations set out in the EIA (draft) 2003 report. Each station also has its own guidelines that deal with area-specific issues and the station's land-use. The relative issues and some of their expected outcomes as set out in the EIA are discussed below.

The EIA recommend that the Sandton Station should be designed to blend in with the existing urban fabric. Facades and building styles are to match or blend in with the existing buildings surrounding the station such as the Nelson Mandela Square, the Sandton Convention centre and the Michelangelo Hotel (Bohlweki Environmental EIA (draft) 2003). Based on this concept, the interior spaces of the station should exhibit a complimentary style to that of the surroundings, to create a connection with the exterior environment. This is not interpreted to mean that the design should have a similar aesthetic character to that of the mentioned buildings, as they also differ from each other, but the station shouldn't have a negative influence on the established architectural quality of the area.

The station will be constructed through cut-and-cover methods. This will offer ample opportunity for landscaping and the planting of indigenous trees at the surface after construction. It will also allow the opportunity to plan the station precinct in a way that will provide possibilities for the use of natural light in the station itself, in order to assist the orientation process through a visual context.

The planned station's land-uses incorporate a retail and commercial component. Monica Albonico, architect and urban designer leading the Sandton Central initiative states that the provision of commercial activities within and the development

of such activities in and around the station precinct are aimed to attract commuters. All stations have the prospect of offering coffee shops, banks, automatic teller machines, newspaper outlets and some form of entertainment. Additionally, Sandton station is planned to offer airline passenger orientated services that will consist of a travel centre, foreign exchange facilities and a tourism information outlet. The station will also provide a variety of parking facilities which will serve as an extra form of income to sustain the transport system. Options include: kiss-and-ride, park-and-ride, short-term, as well as long-term parking. Local government approval should be obtained for all rezoning (Bohlweki Environmental EIA (draft) 2003).

The Sandton station is expected to handle a maximum of 6 000 commuters moving through the station per hour during peak times (interview Dr. Joubert). Trains will depart and arrive at intervals of 10 minutes during peak and intervals of 20 minutes during off-peak periods.

Safety and security, in terms of avoiding accidents and deterring criminal activity is a priority issue (<http://corporate.gautrain.co.za>). The winning concessionaire is expected to develop a complete safety and security management plan, incorporating the Gauteng Provincial Government's minimum requirements.

In and around all Gautrain stations, the following preventive safety issues have been considered (<http://corporate.gautrain.co.za>):

- **Signage:** All walkways within the station will be properly sign posted. Dangerous places must be highlighted by prominent painted lines. An example is the areas that are to close to

moving trains which must have painted islands to indicate the danger to which passengers may be exposed.

- **Lighting:** All walkways will have proper lighting and illumination. A regular maintenance programme of lighting in walkways will be carried out.
- **Steps, lifts and escalators:** Steps, lifts and escalators will be provided with handrails and working emergency stop buttons.
- **Services for the disabled:** To direct paths for the disabled, tactile materials will be used. Facilities like tactile floors can be used to lead the blind to safe areas of the station. Smooth floors will be avoided as these may result in passengers slipping and hurting themselves. Visibility impaired commuters will be assisted in accessing and utilising various services of the Gautrain system.
- **Emergency and safety equipment:** Fire extinguishers and other equipment that is used in emergency situations will be provided at the stations.
- **Communications:** Communication points with the central control points or emergency centres will be provided. Responses to requests from the passengers will be swift.
- **Safe operation procedures:** Passengers will always be informed of unsafe conditions on the stations. Unsafe operations could include: wet floors and workmen doing repair work on the stations.

**A few of the security measures include**

(<http://corporate.gautrain.co.za>):

- A closed ticketing system will be used. This means that access can only be obtained to the platform areas and trains with a valid ticket.
- The design of the stations will take security into account and all areas will be properly lighted. The design of the trains is such that there are no hiding places for criminals and passengers will have an open view of the whole inside of the train.
- The entire Gautrain rail reserve will be secured with appropriate fencing, with access only at predetermined places.
- Closed Circuit TV (CCTV) equipment, including many hundreds of CCTV cameras, will be utilised within the Gautrain Rail system to continuously monitor situations within the system by security staff so that they can take immediate action when required.
- Identification of problem areas: Spatial statistics about occurrences of crime within the Gautrain system and surrounding areas will be kept. Action will be taken to address the identified problem areas.
- Identification of suspicious activities: Regular patrols by the policing unit will identify suspicious activities and remove threatening activities before a crime is committed.