Source: South African Tourism

TRANSPORT CASE STUDY: SOUTH AFRICA

Gautrain Rapid Rail Link

Location
Gauteng Province, South Africa

Owner
Gautrain Management Agency (GMA)

Private Partner
Bombela Consortium (Bombardier, Bouygues Travaux Publics, Murray & Roberts, Strategic Partners Group)

PPP Model
Design-build-finance-operate-maintain (DBFOM)

Operating Term
15 years

Contract Value
ZAR 25.4 billion/USD 1.8 billion[1]

Asset Class
Transportation (Rapid Rail Passenger System)

Awards

This is a list of some of the project Awards achieved:

- Best Global Project to Sign – PPFA Awards in 2008 (London)
- 2007 SAICE Photographic Award (South Africa)
- 2007 International Association for Public Transport – UITP Youth Project Award
- SAACE Glenrand MIB Excellence Award
- 2007 IABC Gold Quill Award
- 2008 Bentley Empowered Award
- 2008 PRISA PRISM Award
- 2010 Media Liaison Officer of the Year Award
- 2011 CineRail Award (Paris)
- 2018 Internal Audit Award
- 2018 Africa Silver Quill
- 2019 Africa Gold Quill

1 Assumed conversion rate of ZAR/USD = 14.1 as at May 15, 2019.

The Gautrain is a dedicated medium- to high-speed rail transport service linking the city of Johannesburg Tshwane with the International Airport at OR Tambo in South Africa.

There are two main routes on the system: a north-south line from Hatfield to Park Station and an east-west line from Sandton Station (via Marlboro) to Johannesburg International Airport. The transport system operates from 10 stations along 80 kilometres (km) of rail and the service operates at a top speed of 160 km/hr.

The project was conceptualised to essentially reduce the dependency on private vehicles, create a safe dedicated public transport service and therefore reduce congestion on the main corridors in Gauteng. The service was not intended as a low-income commuter service but rather an alternative means of business travel to private vehicle usage to achieve the project's three main objectives:

- **Stimulate:** Economic growth; investment; new development; job creation.
- **Promote:** Public transport; small, medium and micro enterprises (SMME) and broad-based black economic empowerment (BBBEE) development; tourism; business development.
- **Design to:** Reduce travel distances, time and cost; restructure urban areas; improve city sustainability.

Construction started in 2006, with works taking place on both routes with the aim of commercial services starting in 2011. Gautrain started operations between Or Tambo International Airport and Sandton in June 2010 and between Rosebank station in Johannesburg and Hatfield in August 2011.

This PPP is run through the Bombela Consortium (the "Private Partner") which has held a 19.5-year concession (including construction) since 2006. This project is a design-build-finance-operate-maintain (DBFOM) project and is in accordance with the regulations prescribed by South African Public Finance Management Act Regulations (TR 16).

The scope also included the supply of rolling stock. The Owner retained most of the demand risk by guaranteeing a minimum ridership, and the Private Partner was required to provide a service that was on time and to specified headways (time between trains, 10 minutes during peak hours and 20 minutes in the off-peak periods), while taking some demand risk.

Output Specifications Development Approach Used

The project was the first South African transportation PPP to use the South African National Treasury guidance on output specification development. There were limited reference specifications to use as a basis for the output specification, so the Owner used the South African National Treasury guidance and guidance from the United Kingdom (UK) on the principles for developing an output specification to develop the output specification from first principles. The output specification evolved throughout the procurement process. Updates were made after the submission of the request for qualifications, request for proposal, and the best and final offer processes, and ultimately the preferred bidder stage to incorporate private sector knowledge and to develop a bankable project. The main components of the output specification are the design and construction requirements, the system service requirements and the socio-economic development (SED) obligations.

Alignment to QI Focus Areas		Mechanisms used to achieve QI alignment	Market Comparison Analysis
Sustainability and longevity of an infrastructure asset. Ability of the asset to address the needs and meet the expectations of end users	End users expect a comfortable, efficient and reliable service. The Gautrain connects to a bus network with approximately 26 bus routes and effective mode integration is required to promote ridership. On-time performance of trains is a key component of this. The Owner also requires the Private Partner to maintain an asset that supports the on-time performance of trains and meets the handback requirements in 20 years. The Owner achieves this by linking payment with train performance and requires measurement and monitoring systems to track performance and asset condition. **Measurement and monitoring systems** The Management Information System (MIS) is the basis for collecting and collating information on the Private Partner's performance and is self-reported. It is used to determine if deductions should be applied and whether the patronage guarantee limit has been met. The MIS includes information on ridership and financial performance; performance surveys; service performance; and asset management and maintenance. • **Ridership and passenger experience:** – Rail ticket sales and patronage report; – Route and trip usage reports; – Reconciliation of booking office machine reports; – Monthly passenger flows; – Trip details and statistics; – Monthly and annual origin-destination matrix of all passenger trips; – Service delivery reports; – Equipment performance reports; and – General financial reports. • **Service performance:** – Monthly train operating reports; – Overcrowding report (utilisation during the peak hour shall not exceed the overcrowding threshold by more than 5%); and – Continuous monitoring of the system and achievements against the timetable. • **Performance surveys:** – Annual, independent revenue collection survey; and – Independent passenger satisfaction surveys. • **Asset management and maintenance:** – Annual maintenance, repair and replace report for each asset class that includes conditional assessments, activities carried out, complaints and completed replacements; and – Annual state of the assets report to manage the condition of the asset once in preparation for handback.	**Contract breach and deductions** Non-reporting, non-compliance and under performance result in a breach of the Concession Agreement. The Owner requires annual reliance statements to support the invoices being raised by the Concessionaire. The Owner also audits both the MIS and the asset reporting system. The Private Partner is then required to close out audit findings. There are deductions that are calculated from the overall Patronage Guarantee (component of the payment that is at risk of deductions) provided by the Owner, which is calculated across all of the specifications and performance targets set through the concession agreement.	Typical performance metrics include on-time performance (in compliance with a schedule), trip completion (train stops at all stations, and the stations are accessible and safe to use) and ride quality (such as noise and vibration).
Health and safety considerations during both construction and operation of the asset	Although the responsibility for health and safety is transferred to the Private Partner, the Owner takes a proactive interest in monitoring health and safety performance and the implementation of the health and safety management systems. The Private Partner is responsible for health, safety and security during construction and operations. A Safety Management Plan is required to reflect good industry practice. The Private Partner is then required to report on performance against the management plan. The scope of the Safety Management Plan includes "*Infrastructure, Facilities, and services for the system shall be provided and operated to ensure sufficient safety and security with respect to:* • *Passengers and personnel;* • *Buildings, facilities and amenities within the specified station precincts;* • *Trains and the movements of Train sets;* • *Vehicles used for the provision of dedicated feeder and distribution services;* • *Cars parked in the parking areas of the specified stations".*	**Breach in contract** Non-compliance results in a breach in the Concession Agreement. Although a contract breach does not have a financial penalty, it carries the risk of termination, which would have a financial impact.	It is typical for Owners to prioritise health and safety planning and performance monitoring. Safety management plans are typically required to be in place within a defined period (depends on the project schedule) after contract signing and prior to construction commencing. Safety plans are typically subject to Owner review. Performance measures typically link poor health and safety performance to contract default.

Alignment to QI Focus Areas		Mechanisms used to achieve QI alignment	Market Comparison Analysis
Job creation, capacity building, transfer of knowledge and expertise	Socio-economic development (SED) was a main objective of the project. The GMA developed a SED strategy, which identified 22 elements, with targets, for the project and developed a specific schedule to document the requirements. To achieve the targets in the strategy, the Owner used the output specification to align their priorities with the Private Partner's priorities. To do this, measurable requirements were included in the specification, and independent reviews were required to determine if the objectives had been achieved. • **SED requirements:** The SED objectives included jobs created by the project during construction, and jobs created to operate and maintain the asset of the 15-year concession period. Of the 22 SED targets, nine required contributions from the Private Partner to be achieved. These targets can be broadly categorised and measured as follows: – **Job Creation:** Employment of local people; targets measured in person months; – **Capacity Building:** BBEEE procurement and subcontracting opportunities; targets specified by project phase and measured in Rand; and – **Transfer of Knowledge:** BBEEE staff secondment opportunities, targets specified by project phase and measured in person months. The SED objectives are a good example of how the project objectives influence the output specification requirements. The output specification requirements are performance-based, with clearly defined (capitalised terms are defined in the project agreement) and measurable targets. For example: – *Employment of Local People: 3,510 person months during the operating term.* • **Reporting and independent review of SED requirements:** The Owner required the Private Partner to implement a comprehensive monitoring process to the report progress and performance against the SED targets. The two main components were: – Monthly self-reporting; and – Independent review of results by an Independent Socio-Economic Monitor (ISEM). The ISEM is jointly appointed by the Owner and the Private Partner and is intended to streamline the review process by avoiding disagreements on the SED target performance. The Private Partner is required to develop and submit a monthly report, which is then submitted to the ISEM for review and verification. This approach also minimises the Owner's resource requirements to effectively manage the contract. Although the penalty and reward regime is administered quarterly, monthly reporting allows trends to be identified and ensures an early response to poor performance, benefiting both the Owner and the Private Partner. The monthly SED report not only provides performance against the target, it also identifies positive developments, areas of concern, challenges and interventions introduced, and forms the basis of continuous improvement exercises.	**Penalty and reward regime** The Owner identified the need for a contractually sound penalty and reward regime to promote the Private Partner to meet, or preferably exceed, the SED requirements. The penalty and reward regime is administered quarterly. Penalties are imposed should the set targets not be met, but there is also a benefit should these targets be exceeded. The Private Partner's payment from the Owner was deducted if the SED obligation target was not achieved. If the SED target was exceeded, then the Private Partner received performance credits that could be allocated against future target short-falls. The penalty and reward regime was successfully implemented as the targets were exceeded. For example, 34,800 local jobs were created during construction, which exceeded the target of 16,800, and R3,590m was procured from BEE and SMME suppliers, which exceeded the target of R1920m.	Jointly appointing an independent party to administer a contract requirement is a common way to limit disputes. Other instances where an independent party may be engaged include: payment certification during construction, completion and commissioning, asset inspections during the operating period, and asset inspections at handback.