

THE ECONOMIC AND SOCIAL IMPACT OF GAUTRAIN

Gautrain Management Agency

301 014

JULY 2019



FOREWORD

I am delighted to introduce this new report on the economic and social impact of Gautrain. We have been aware for some time of the various ways in which Gautrain is benefiting the Gauteng province, and it is always most informative to see the evidence compiled in one place.

This report provides a quantification of the impressive jobs impact of Gautrain. The system was a major employer of Gauteng residents in its construction stage and this has continued through to the operational phase. You will see from this report that Gautrain provides long term, stable jobs and has invested heavily in the skills of its workforce.

Gautrain is also without doubt fundamentally changing perceptions of public transport amongst Gauteng residents. The report quantifies the strength of these effects, and describes the considerable economic value to Gauteng that occurs when people switch from vehicles to Gautrain.

Analysis is also included on some of the wider ways in which Gautrain is strengthening the economic performance of the province. Land use patterns are becoming more sustainable as we see development increasingly concentrated around public transport nodes. There is also a clear connection between Gautrain and the way in which the province is perceived externally – we are increasingly seen externally as a modern, business friendly location and the Gautrain infrastructure has helped to shape this view. Finally, we are at last seeing the benefits of better connections between the cities of Ekurhuleni, Johannesburg and Tshwane. All globally competitive city-regions need to be well integrated, offering residents and investors to a wide range of different market and job opportunities. We must work day-in day-out at spatial integration across Gauteng, otherwise we will get left behind by competitor locations.

I am particularly pleased with the analysis on how Gautrain is benefiting township residents. Whilst we still have a long journey ahead of us in enabling widespread use of Gautrain by township residents, it is clear that the system is already benefiting many residents both via direct employment and via the clustering of new economic activity near to townships.

I expect to see this report used in full, as we seek to better make the case for further investment in Gautrain.

Mr Phalama Jacob Mamabolo,
Gauteng MEC for Public Transport
and Road Infrastructure



Gautrain has not only changed the perception of public transport in Gauteng, but most importantly has tangibly changed the lives of the public commuter. The system has yielded visible benefits since the commencement of the development period in 2006 and it is anticipated that these positive impacts will increase exponentially once more nodes across the province are connected to the network.

This report outlines and demonstrates the full range of social and economic benefits that Gautrain has delivered to date and those that will be delivered in the future through further investment in the system. The report is consistent with and builds on the economic impact assessment that was commissioned by the Gautrain Management Agency in 2014.

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Infrastructure is a critical game changer in spatial planning. It stimulates economic growth and job creation, it promotes easy and efficient mobility, it leads to the integration of communities, it promotes both social and economic inclusion”.

Premier David Makhura at the Spatial Planning Summit of Gauteng City Region, 2015



Part one

RATIONALE FOR GAUTRAIN



Why Gauteng NEEDS GAUTRAIN

Gauteng is facing a number of urban challenges that need to be tackled if the province is to realise its economic potential. Gautrain has played an important role in combating some of these and will play even more of a role in the future.

RAPID POPULATION GROWTH



- Gauteng's population was 12.3m in 2011 and it is expected to increase to **18.7m by 2037**
- Forecast **annual population growth** in Gauteng (+1.7%), is well above the rate expected in the rest of South Africa

SIGNIFICANT TRAFFIC CONGESTION



- Peak hour trips** on key arterial roads generally take **70% longer** than equivalent trips during the off-peak
- If no improvements are made average road speeds of 48km/hr could deteriorate to **10km/hr by 2037**

DEEP POVERTY AND INEQUALITY



- Gauteng's **unemployment rate is high** at **29%**, which is above the South African rate of 27%
- Employment in the formal sector has declined to around **77%** - more formal sector jobs are required, especially for women and young people

POOR AND DETERIORATING AIR QUALITY



- Since 2006 the concentration of PM10 in Gauteng's atmosphere increased by c.**20%**, making air pollution high compared to other provinces
- PM10 levels exceed Gauteng Province Air Quality Objectives on a significant number of days each year

INTENSE GLOBAL COMPETITION



- The city of **Johannesburg is ranked 42nd** out of 44 cities on the Global Power City Index (2018) - other cities that have invested in transport mega-projects are making strong progress (e.g. Jakarta at 41st, Fukuoka at 37th, Taipei at 35th and Kuala Lumpur at 32nd)
- Gauteng needs to invest in infrastructure** to better compete on the global stage



My life changed since working at the Gautrain for the better as I am now able to provide for my family as a young person knowing that the company I work for is stable and safe, as safety in the company is of utmost importance. I have learned a lot of people skills by working for Gautrain and with a lot of different people and cultures”.

Station Support Officer

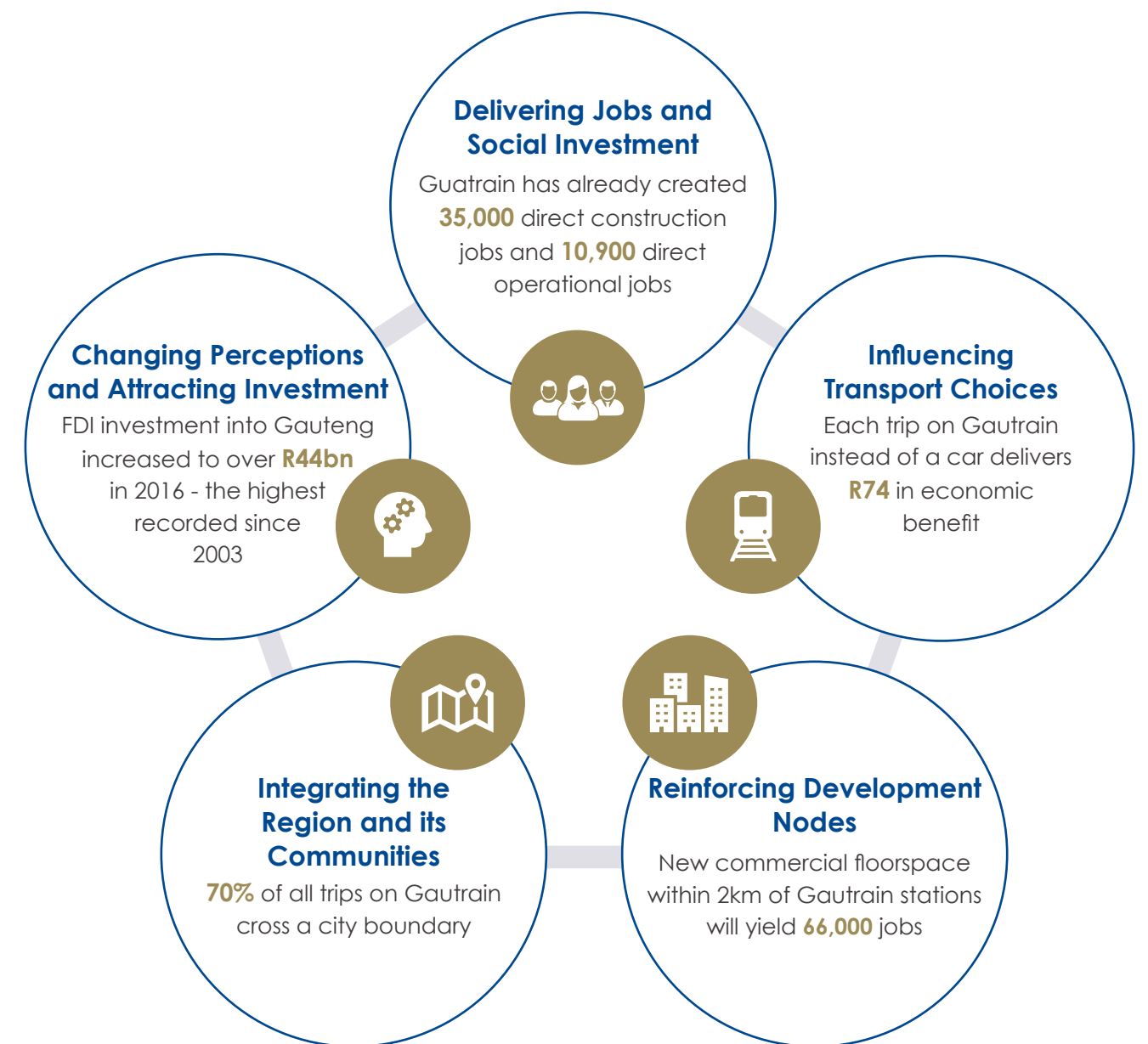


Part two

IMPACTS TO DATE 2006-2018

FIVE PILLARS OF IMPACT

Gautrain has played an important role in combating some of the urban challenges that Gauteng faces through the delivery of a range of economic and social impacts. A taster of some of these is provided in the diagram below. Gautrain will play a more significant role in the future as further investment is made in the network.





THE FIVE WAYS THAT GAUTRAIN BENEFITS GAUTENG

DELIVERING JOBS AND SOCIAL INVESTMENT



Large scale capital investment creates jobs in the construction and manufacturing sectors. **Gautrain is also a big operational employer.** Many of these **benefits flow directly to target communities** and labour market groups.

INFLUENCING TRANSPORT CHOICES



Gautrain is shifting opinions and consumer decisions related to public transport, **reducing pressure on the road network.** Reduced car usage means fewer accidents, less pollution and more productive time for workers in the provincial economy.

REINFORCING DEVELOPMENT NODES



Transit nodes are proven to shape locational decisions relating to development and commercialisation. Clustering and concentrating **development leads to more efficient land use, more collaboration between firms and unlocks wider benefits of agglomeration.**

INTEGRATING THE REGION AND ITS COMMUNITIES



The most successful global city regions are well integrated, with businesses having the ability to access broad and deep labour markets and a wide customer base. Access to new staff and clients are vital ingredients in stimulating economic growth.

CHANGING PERCEPTIONS AND ATTRACTING INVESTMENT



Gautrain is a modern infrastructure system that is changing the image of Gauteng. This encourages repeat visits from businesses and leisure tourists, enhanced investment flows and a general uplift in the visibility of the province in international networks.

DELIVERING JOBS AND SOCIAL INVESTMENT



DELIVERING JOBS AND SOCIAL INVESTMENT

The construction and operational phases of Gautrain have directly delivered a significant number of jobs to the Gauteng economy. Spend on Gautrain has also helped to support the wider economy through corporate supply chain expenditure and wage expenditure.



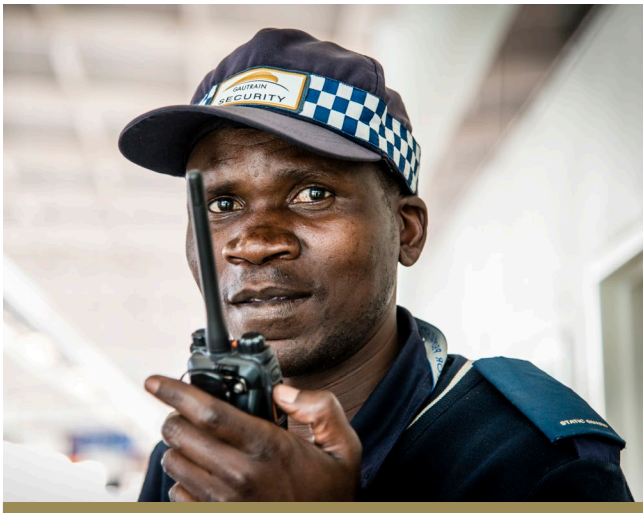
Construction Phase Impacts (Over Six Years)

c.**R26.5bn** spent during construction phases
Spend created c.**35,000** direct jobs for South African people
Around **87,300** additional jobs supported through supply chain and wage spend
Over **R12bn** of salary delivered
c.**R19.4bn** contribution to GDP of Gauteng

Source: Seriti and Hatch Calculations



For every **R10m** spent on construction work, **45 jobs** were supported directly and via supply chain and wage spend



Operational Phase Impacts (Over Six Years)

Operational phase has delivered c.**10,900** direct jobs for South African people
Around **61,000** additional jobs supported through supply chain and wage spend
Around **R12bn** of salary delivered
c.**R20.4bn** contribution to GDP of Gauteng

Source: Seriti and Hatch Calculations



For every **R10m** spent on salaries, **60 jobs** are supported directly and via supply chain and wage spend

*1 job = 1 full year of employment. This is a typical approach for monitoring employment impact in South Africa.



Delivering jobs and social investment

CONSTRUCTION PHASE INCLUSIVE BENEFITS



c.3,800 direct jobs for women

Source: Seriti

"The Gautrain project has enabled me to learn from international experts, and the experience and skills I have gained on this project are unparalleled. I was responsible for ensuring machinery always worked properly and I was selected to be the site safety

Instrument Mechanic



c.20,300 direct jobs for young people

Source: Seriti

"When I joined the Gautrain project I had no experience whatsoever except the theory I had learned from university. I am fortunate to have gained a very unique experience as a young female engineer working on a Tunnel Boring Machine (TBM)."

TBM Surface Supervisor and grant recipient from Bombela Civils Joint Venture



c.29,900 direct jobs for Historically Disadvantaged Individuals (HDIs)

Source: Seriti

"Before I worked for Gautrain I was struggling to make ends meet. With Gautrain I have received basic computer skills training and I attended a concrete construction course. This allowed me to be quickly promoted to a Works Inspector. I'm now studying a Supervision of Building Construction Course at college."

Work Inspector



The Concessionaire, its contractors and sub-contractors spent around **R128m** to improve employee skill levels during the construction process.

Women received over **5,000** months of training during the construction phase and over **120** women participated in the Women Leadership and Mentoring Programme for Electrical and Mechanical Works.



Delivering jobs and social investment

OPERATIONAL PHASE INCLUSIVE BENEFITS

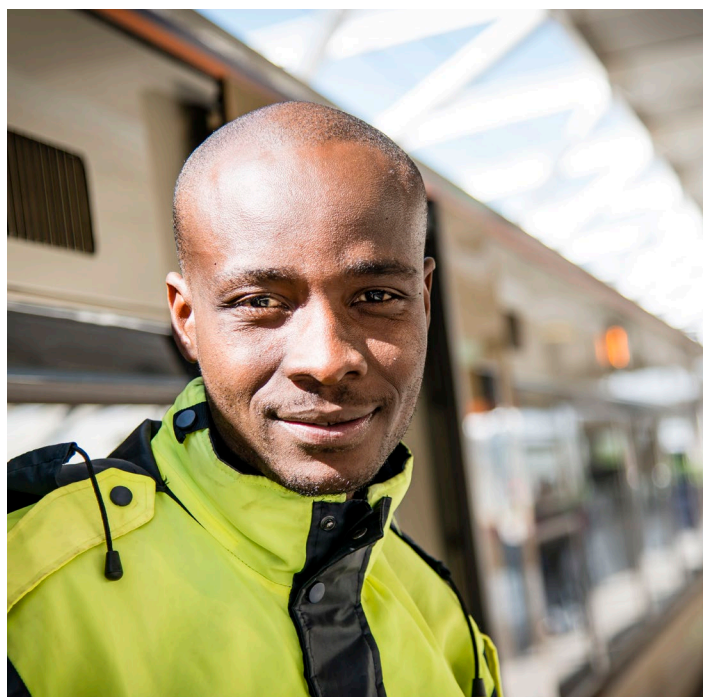


c.3,000 direct jobs for women

Source: Seriti

"The reasons I like working for the Gautrain are: I like working the shifts that I work on a daily basis; the safe environment that the Gautrain offers their employees; the people I work with are friendly and are a pleasure to work with; the trains are clean and safe to drive. The Gautrain also offers many benefits to their employees and there is a lot of growth opportunities."

Train Driver



c.5,800 direct jobs for young people

Source: Seriti

"My life changed since working at the Gautrain for the better as I am now able to provide for my family as a young person knowing that the company I work for is stable and safe, as safety in the company is of utmost importance. I have learned a lot of people skills by working for the Gautrain and with a lot of different people and cultures."

Station Support Officer



c.10,100 direct jobs for Historically Disadvantaged Individuals (HDIs)

Source: Seriti

"Exposure to the transport industry that operates to a global standard and the interaction with international people is good. I have a better understanding of operations and have learned the importance of efficiencies which I now apply in different areas of my life."

Operations Controller



The Concessionaire has spent around **R59m** to date on training and skills development for operational staff.

This is core to the Gautrain Management Agency's broader ambitions to help develop staff and ensure progression within the organisation.



Delivering jobs and social investment

PROVIDING A WIDE RANGE OF LONG-TERM JOBS

Gautrain has delivered a spectrum of jobs during its construction and operational phases. Many roles have low barriers to entry and offer a good route into secure and formal employment. There are roles to suit people with different skill levels and good opportunities to progress.

Average length of employment at Gautrain
= 5.75 years

Average length of employment in South Africa
= 4 years

Source: Stats SA 2014



Delivering jobs and social investment

LOCALISATION VIA PROCUREMENT

The Gautrain Management Agency (GMA) has taken a proactive approach to maximise the social and economic benefits of its investments to local people and businesses. A robust approach to procurement has been developed to support this.

- The GMA has delivered a **Transformation and Supplier Development Framework**. This responds to the priorities in the South African National Development Plan 2030 and the Transformation, Modernization and Re-industrialisation Strategy for Gauteng.
- The framework guides procurement and aims to increase direct and supply chain spend with B-BBEE compliant enterprises, support supplier development, promote skills transfer and catalyse economic growth:
 - ✓ Strict rules are set out as part of procurement competitions (e.g. bidders for contracts above R30 million must subcontract 30% of the contract value to a B-BBEE, EME or QSE)
 - ✓ Successful tenderers have to produce and deliver a **Supplier Development Plan** which must respond to the GMA's economic development priorities
 - ✓ Procurement rules focus on maximising **localisation** and the value of any investment to the South African economy

Isithimela Rail Services

What? Isithimela Rail Services is a company that was established as a joint venture between Bombardier Transportation UK Limited and a local B-BBEE company to lay the track during Gautrain's construction.	Impact? Bombardier Transportation UK seconded specialised staff and managers to South Africa to help deliver the project and transfer their expert knowledge, skills and technology to local staff from the B-BBEE company who now manage the business.	Sustainable? Over 230 jobs have been created by Isithimela since its inception and the company were commissioned to undertake track maintenance on Gautrain for the 15-year concession operational period.
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Delivering jobs and social investment

A SIGNIFICANT COMMUNITY DEVELOPMENT PROGRAMME

The Gautrain Management Agency has developed a Social Investment Programme Fund to support community and growth initiatives. 10% of the value of Gautrain projects is allocated to the fund which focuses on education, community care and the environment.

R37.5m has been committed to community organisations for 2017-2021

Source: Gautrain Management Agency

11 Education Organisations

with projects focusing on teacher development, psychosocial support for students, and supporting people into education focused on the built environment and transport

Source: Gautrain Management Agency

6 Community Care Organisations

with projects focusing on women empowerment, people with disabilities and home farming initiatives

Source: Gautrain Management Agency

20 Early Child Development Centres

which include crèches, day care centres for young children, playgroups, pre-schools and after school care

Source: Gautrain Management Agency

TRAC SOUTH AFRICA, STELLENBOSCH UNIVERSITY

The Technology Research and Activity Centre (TRAC) South Africa is a Stellenbosch University programme that seeks to improve science, engineering and technology education in selected secondary schools in townships.

It includes “hands-on” intervention in classrooms as well as some educator training. The Gautrain Management Agency has supported the initiative for several years and continues to do so due to strong student achievement.



Source: Gautrain Management Agency

Credit: TRAC

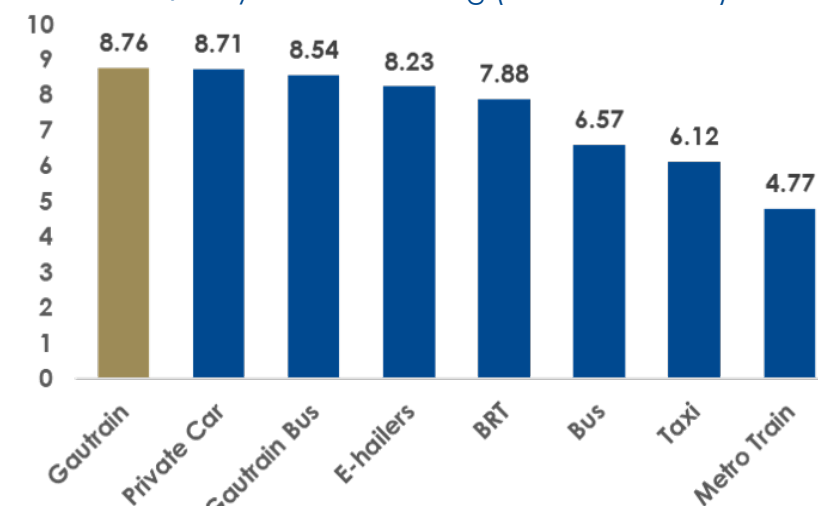
INFLUENCING TRANSPORT CHOICES

INFLUENCING TRANSPORT CHOICES

With the support of Gautrain, the perception of public transport in Gauteng is changing fundamentally. Gautrain is setting new standards and new norms for public transport.

Gautrain is shaping customer expectations

Quality of service rating (Max score = 10)



Source: Gautrain Management Agency Market Segmentation Report, 2017 N = 661



Gautrain has new approaches to safety and security

93% of users are satisfied with safety and security.

Source: Gautrain Management Agency Market Segmentation Report, 2017



Gautrain represents a new era in public transport

70% of Gauteng residents see Gautrain as innovative and progressive. **87%** of Gauteng residents think it is a good idea.

Source: Gautrain Management Agency Perceptions Survey, 2006 and 2011



Gautrain is exceeding expectations

70% of users believe Gauteng has benefited from Gautrain and **67%** think Gautrain is better than they expected.

Source: Gautrain Management Agency Perceptions Survey, 2006 and 2011

INFLUENCING TRANSPORT CHOICES

Gautrain has transformed commuter behaviour. This has resulted in modal shift from cars to Gautrain which has generated a number of social, economic and environmental benefits.

Just over **14m trips** were taken on Gautrain in 2018 - this was a 28% increase on the number of trips in 2012

In total, **98m** trips have been taken during Gautrain's lifetime

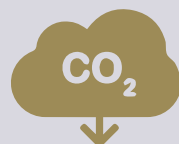
Source: Gautrain Management Agency

Each person who has chosen to make a trip on Gautrain instead of by car has delivered...

R74 OF ECONOMIC BENEFIT PER TRIP



Reduced costs
from fatal
accidents



CO₂ emission
savings



22 minutes of
time saved on
average

"While there may be some reservations about whether or not South Africans will leave their cars at home for the commute, the success of the Gautrain has shown that many are prepared to do just that"

Mail & Guardian, 2013



Part two | Impacts to date 2006-2018

REINFORCING DEVELOPMENT NODES

REINFORCING DEVELOPMENT NODES

The arrival of a Gautrain station influences local development and commercialisation decisions. It presents new opportunities for developers and can have a profound impact on the value of land immediately surrounding the station.

Net Floorspace Change (2010-17)

Commercial space has increased within 2km of Gautrain stations since 2010. We estimate this new space is well occupied (87%) and supports a significant number of jobs.

Office + 820,000 m²

Retail + 31,000 m²

Other Commercial + 805,000 m²

(Includes new office space under construction and not yet classified)

Total + 1,656,000 m²

Jobs Uplift + 66,000

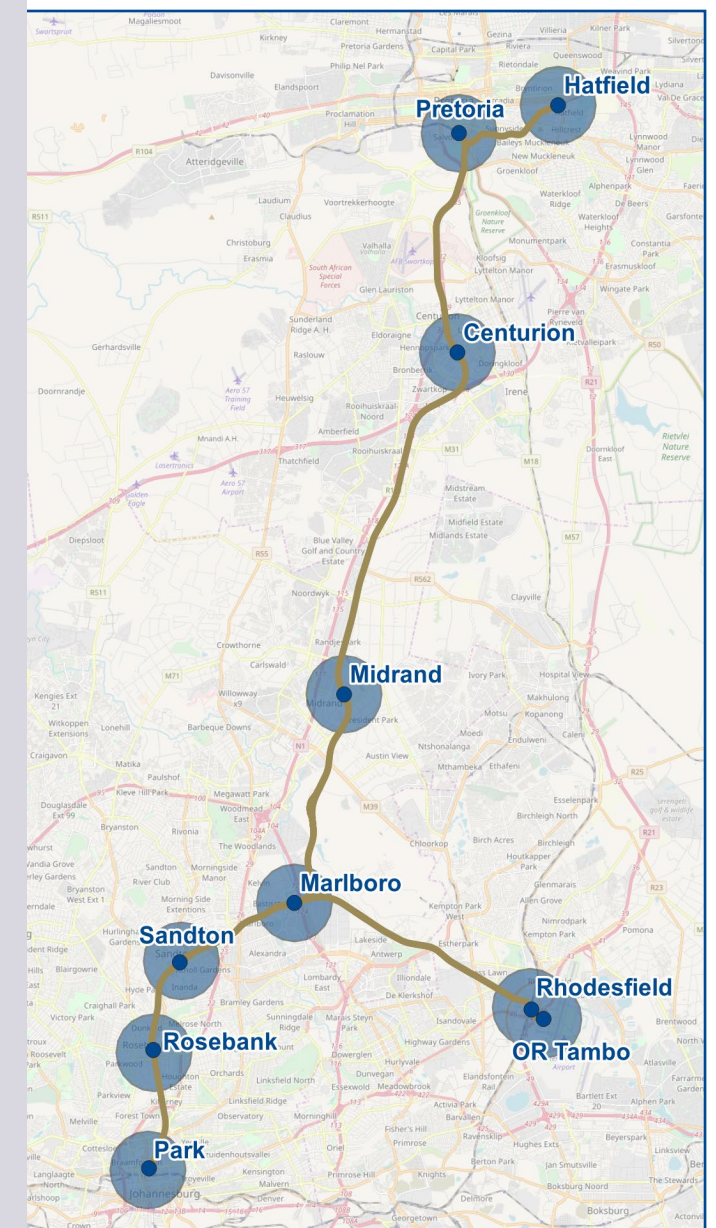
New residential space has also been catalysed around stations and residential night time population has increased by over 3,000 since 2010.

Residential + 138,000 m²



**2km buffer around
Gautrain Stations**

Source: GeoTerra, Homes and Communities Agency Employment Density Guidance, South African Property Owners Association





REINFORCING DEVELOPMENT NODES



Office Within 2km radius

- Median **sales values per m²** have increased by **45%** around stations since 2010, higher than the change across Gauteng which was **22%**
- Gautrain is catalysing new commercial nodes – office floorspace has increased more rapidly around Centurion (**15%**), Rhodesfield (**11%**), O.R. Tambo International (**11%**) and Marlboro (**9%**) since 2010 than the 8% observed across Gauteng
- Gautrain is helping to consolidate existing commercial nodes – office floorspace has increased around all other stations by an average of **4%** since 2010

Source: Lightstone and GeoTerra



Other Commercial Within 2km radius

- This category includes industrial, light industrial, warehousing, distribution and commercial space under construction (including office)
- Median **sales values per m²** have increased by **109%** around stations since 2010, higher than the change across Gauteng which was **10%**
- Most floorspace growth has been within the catchments of Midrand (**18%**), Marlboro (**20%**) and Sandton (**48%**) since 2010
- All other stations have experienced similar or lower average floorspace growth than the Gauteng level since 2010

Source: Lightstone and GeoTerra



Retail Within 2km radius

- Median **sales values per m²** have increased by **32%** around stations since 2010, higher than the change across Gauteng which was **-10%**
- Only modest retail floorspace growth has occurred around stations since 2010
- The fastest retail floorspace growth has been within the Midrand catchment (**8%**)

Source: Lightstone and GeoTerra



Residential Within 2km radius

- Median **sales values** have increased by **52%** around stations since 2010, which is higher than the **34%** observed across Gauteng over the same period
- Median sales value have increased significantly around Rhodesfield (**47%**), Midrand (**40%**) and Sandton (**36%**)
- There has been a **10%** increase in residential floorspace since 2010, supporting an additional 3,000 people to live in these areas

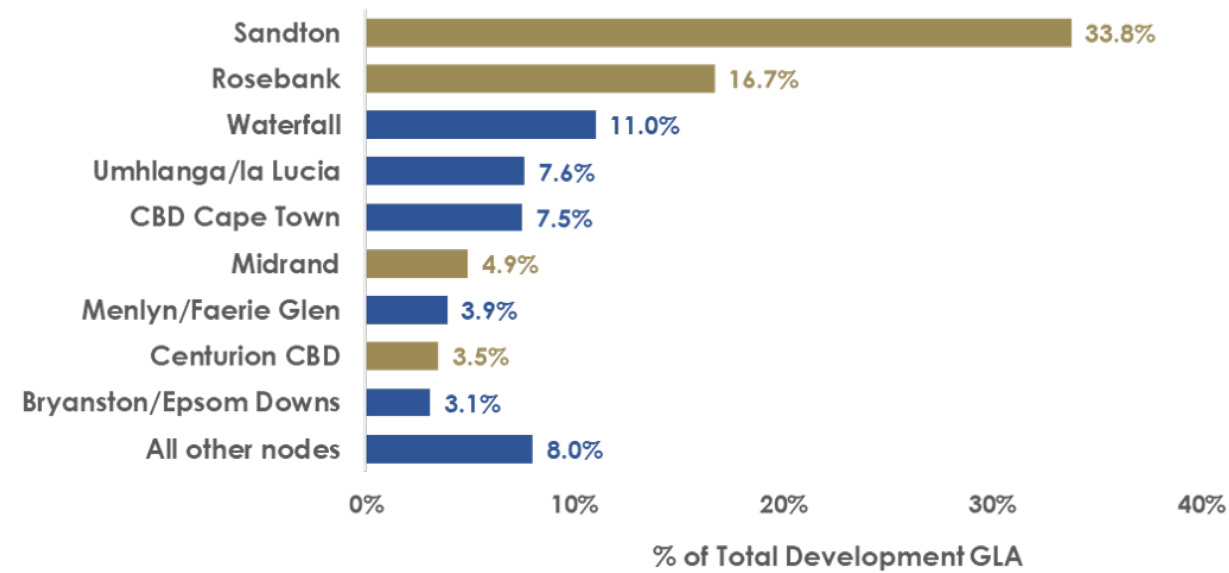
Source: Lightstone and GeoTerra



REINFORCING DEVELOPMENT NODES

A significant proportion of office development at the national level has occurred in Gauteng, particularly in places where there are Gautrain stations. This is because businesses want to locate in places that are easy for employees and clients to access and are well-connected to other nodes and services.

Office Development Activity by Node, June 2018



Source: South African Property Owners Association

59% OF ALL OFFICE DEVELOPMENT ACTIVITY IN MAJOR SOUTH AFRICAN NODES IS LOCATED AROUND GAUTRAIN STATIONS



Credit: Paul Saad



Reinforcing development nodes

ROSEBANK

Key developments around Rosebank (2010-2017)

All in a 2km radius of station

1 THE CAPITAL

- Commercial/Hotel
- 52 apartments
- R100m
- 72 Bath Avenue, Rosebank
- 1km from Rosebank Station
- Completed in 2015



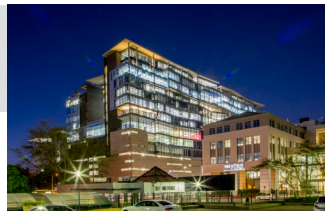
2 THE MEDIAN

- Residential
- 15 Stories
- N/A
- 23 Cradock Avenue, Rosebank
- 500m from Rosebank Station
- Completed in 2018



3 ROSEBANK TOWERS

- Office
- 25 000m²
- R300m
- 15 Blemann Avenue, Rosebank
- 300m from Rosebank Station
- Completed in 2017



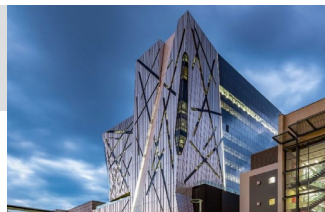
4 STANDARD BANK CENTRE

- Commercial
- 65 000m²
- R300m
- 30 Baker Street, Rosebank
- 500m from Rosebank Station
- Completed in 2013



5 THE LINK

- Office/Retail
- 20 297m²
- R1bn
- 173 Oxford Road, Rosebank
- Direct access to the station via walkway
- Completed in 2018



6 144 OXFORD ROAD

- Office
- 35 000m²
- N/A
- 144 Oxford Road, Rosebank
- 600m from Rosebank Station
- Completed in 2018



7 OXFORD & GLENHOVE

- Office
- 22 000m²
- N/A
- 114 Oxford Road, Rosebank
- 500m from Rosebank Station
- Completed in 2017



8 PARK CENTRAL

- Commercial
- 20 Storeys
- N/A
- 6 Keyes Avenue, Rosebank
- Direct access to the station via walkway
- Completed in 2018



Gautrain has stimulated a tremendous amount of new development around Rosebank. The area has been transformed since 2010.

Reinforcing development nodes

SANDTON

Key developments around Sandton (2010-2017)

All in a 2km radius of station

1 SIGNATURE LUX

- Commercial
- N/A
- N/A
- 135 West Street, Sandown, Sandton
- N/A



2 THE LEONARDO

- Residential
- N/A
- R2bn
- 75 Madue Street, Sandton
- Completed in 2019



3 ADVOCATES

- Commercial
- 13 500m²
- R476m
- 2 Pybus Street, Sandton
- Completed in 2019



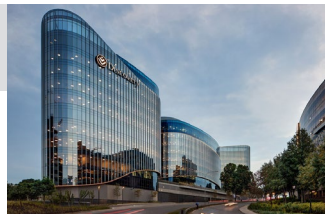
4 THE CAPITAL

- Hotel/Residential
- 25 000m²
- R500m
- 101 Catherine Street, Sandton
- Completed in 2018



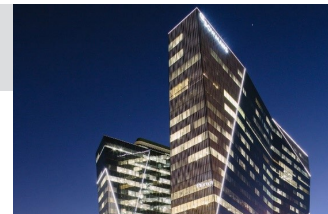
5 DISCOVERY

- Commercial/Retail
- 110 000m²
- R3bn
- 1 Discovery Place, Sandton
- Completed in 2018



6 BOWMAN GILFILLIAN

- Commercial
- 35 000m²
- N/A
- 165 West Street, Sandton
- Completed in 2017



7 HOGAN LOVELLS

- Commercial
- 67 000m²
- R2bn
- 140 West Street, Sandton
- Completed in 2017



8 OLD MUTUAL

- Commercial
- 120 000m²
- R1.2bn
- 93 Grayston Drive, Benmore Gardens
- Completed in 2017









Sandton is Africa's "richest square mile" and is South Africa's primary financial and business hub. Gautrain has supported significant growth and connected the area to international markets.

Reinforcing development nodes



MIDRAND

Key developments around Midrand (2010-2017)

All in a 2km radius of station

1 GALLAGHER CONVENTIONS  <ul style="list-style-type: none"> Commercial 32ha N/A 19 Richards Dr, Halfway House Under Construction 	2 CHINA TOWN MALL  <ul style="list-style-type: none"> Retail Over 400 units N/A Old Pretoria Road, Halfway House Completed in 2019
3 RIVERVIEW OFFICE PARK  <ul style="list-style-type: none"> Commercial N/A N/A Janadel Avenue, Halfway Gardens Under Construction 	4 SPARK SCHOOL  <ul style="list-style-type: none"> Private School N/A N/A Corner Alexandra Avenue/Aitken Street Completed in 2016
5 GRAND CENTRAL  <ul style="list-style-type: none"> Residential N/A N/A Exchange Road Grand Central Completed in 2017 	6 MIDRAND BUSINESS PARK  <ul style="list-style-type: none"> Commercial 13,500m² N/A Exchange Road Grand Central Completed in 2017



7 CO.SPACE  <ul style="list-style-type: none"> Commercial 355 office units N/A Brand Road & Swart Dr, President Park AH Completed in 2017 	8 SIEMENS  <ul style="list-style-type: none"> Commercial N/A Refurbishment Janadel Ave, Halfway Gardens Completed in 2018
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Gautrain has started to turn Midrand into a thriving business and residential node situated between the economic centres of Johannesburg and Pretoria.

Reinforcing development nodes

CENTURION

Key developments around Centurion (2010-2017)

All in a 2km radius of station

1 CENTURION MALL

- Retail
- N/A
- R298m
- Longlake, Modderfontein, Lethabong
- Completed in 2018



2 OAKTREE (CLUBVIEW)

- Residential
- 128 units
- N/A
- 212-224 End Street, Lyttelton AH
- Completed in 2019



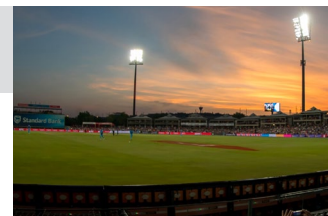
3 OUTSURANCE

- Commercial
- N/A
- N/A
- 1241 Embankment Road, Zwartkop
- Completed in 2012



4 SUPERSPORT PARK

- Commercial
- 22,000 capacity
- N/A
- 283 West Avenue, Die Hoewes
- Completed in 2017



5 AFGRI

- Commercial
- N/A
- N/A
- 12 Byls Bridge Boulevard, Highveld Ext 73
- Completed in 2017



6 BYLS BRIDGE OFFICE PARK

- Commercial
- N/A
- N/A
- 212-224 End Street, Lyttelton AH
- Under Construction



7 SYMBIO CITY

- Mixed Use
- 600,000m²
- N/A
- Centurion Lake, under 400m from station
- Proposed



8 CENTURY SKYE

- Residential
- N/A
- N/A
- Corner of Glover Avenue and Murati Street
- 2019



Centurion is a fast-growing metropolitan economy. With the help of Gautrain, there is a growing concentration of commercial, residential and economic activity.

Reinforcing development nodes PRETORIA

Key developments around Pretoria (2010-2017)

All in a 2km radius of station

1 SHARON'S PLACE

- Residential
- N/A
- N/A
- 89 Lilian Ngoyi Street, Pretoria Central
- Under Construction



2 STATION SQUARE MALL

- Residential
- N/A
- N/A
- 89 Lilian Ngoyi Street, Pretoria Central
- Under Construction



3 STATS SA

- Commercial
- 60 000m²
- N/A
- 563 Old Pretoria Rd, Halfway House
- Completed in 2016



4 OPERA PLAZA

- Retail
- N/A
- N/A
- 230 Pretorius Street, Pretoria Central
- Under Construction



5 MERCEDEZ-BENZ FOUNTAINS

- Commercial
- N/A
- N/A
- 609 Thabo Sehume Street, Pretoria Central
- Completed in 2015



6 CENTRE FORUM

- Retail
- N/A
- N/A
- Corner Lilian Ngoyi/Johannes Ramakhoase St
- N/A



7 BATHO PELE HOUSE

- Office
- Ten Storeys
- R459m
- Lilian Ngoyi Street, Pretoria Central
- Completed 2016



8 FREEDOM PARK

- Mixed Use
- 52,000m²
- R1.4bn
- Freedom Park, Salvokop
- 2016



Gautrain has helped to consolidate Pretoria as a node for business and leisure as well as its traditional government and public service role.

Reinforcing development nodes

PARK

Key developments around Park (2010-2017)

All in a 2km radius of station

1 MABONENG PRECINCT

- Mixed Use
- N/A
- N/A
- 278 Fox Street, Johannesburg CBD
- Opened 2009, with ongoing development



2 NEWTOWN JUNCTION

- Mixed Use
- 85,000m²
- R1.4bn
- 100 Carr Street, Newtown
- Completed 2014



3 STATION DEVELOPMENTS

- Commercial
- 60 000m²
- R1.2bn
- Park Station, Rissik St, Johannesburg
- 2012, with more investment expected



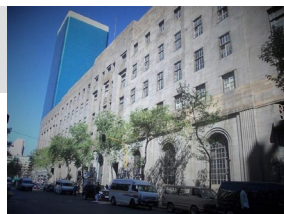
4 STUTTAFORDS HOUSE

- Residential
- 133 Units
- R65m
- 46 Rissik St, Johannesburg CBD
- Renovation Completed in 2012



5 POST OFFICE CONVERSION

- Residential
- 500 Units
- R450m
- Corner of Jeppe and Smal Street
- 2018/19



6 JEWEL CITY AND ABSA TOWERS

- Mixed Use
- 2,700 Flats
- R2bn
- Corner of Joe Slovo Drive and Fox Street
- Planned



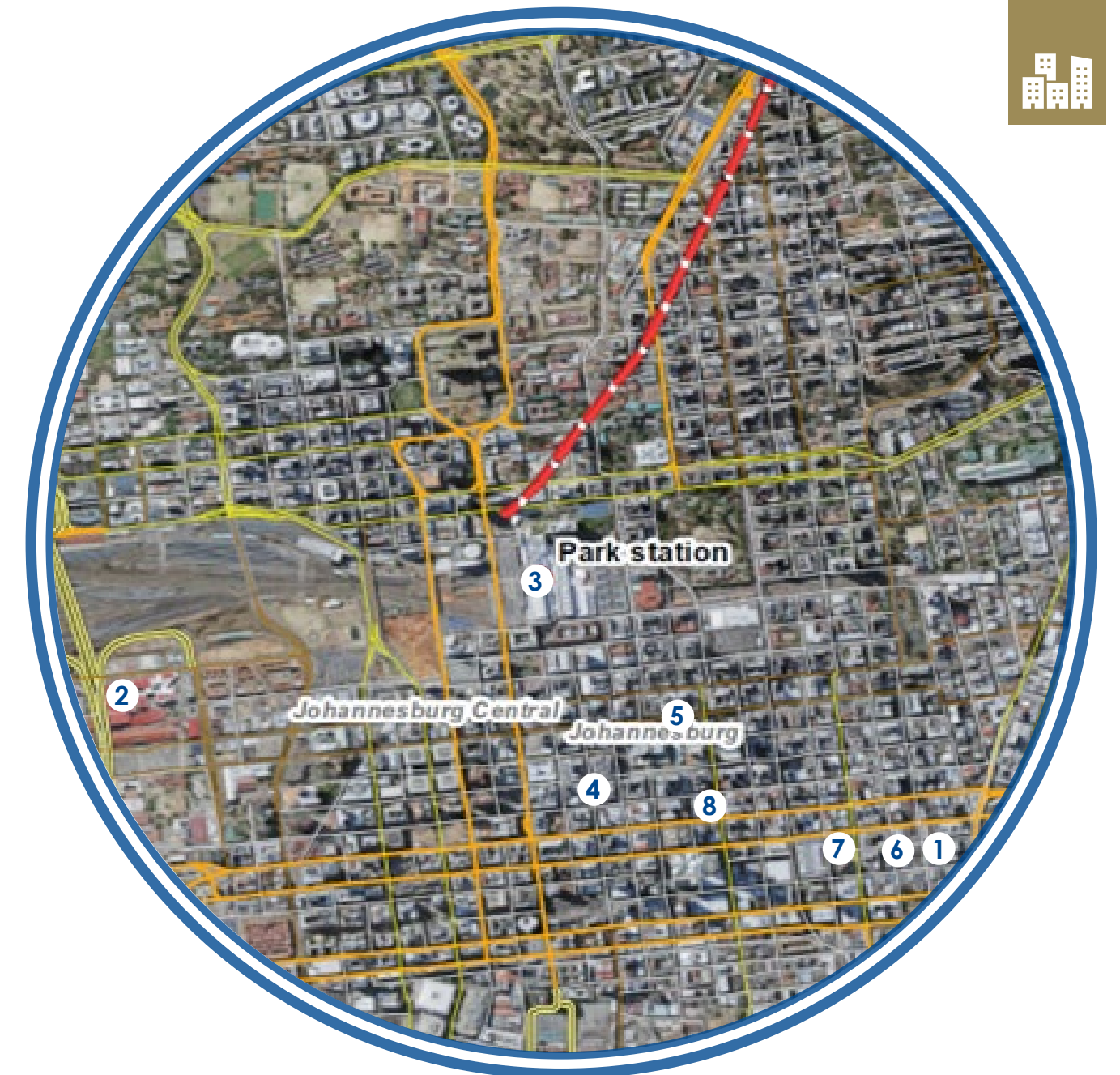
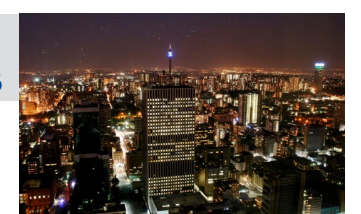
7 PUBLIC REALM UPGRADES

- Public Realm
- N/A
- N/A
- Polly, Fox, Troye and Main Streets
- Under Construction



8 CARLTON CENTRE REFURB

- Office
- 68,000m²
- N/A
- 150 Commissioner St, Marshalltown
- Planned 2019



Significant regeneration has been catalysed in the Johannesburg CBD since the arrival of Gautrain. The area's status as a business and tourism hub is being revived.

Part two | Impacts to date 2006-2018

INTEGRATING THE REGION AND ITS COMMUNITIES



INTEGRATING THE REGION AND ITS COMMUNITIES

Gautrain is supporting the economic integration of the Gauteng City Region and represents a key step in bringing the cities of Johannesburg, Tshwane and Ekurhuleni closer together.

LARGE CITIES AND INTEGRATED CITY REGIONS HAVE...

BROADER CATCHMENT AREAS FOR MARKETS AND TALENT

which helps attract and grow businesses

BROADER AND DEEPER POOLS OF LABOUR

which helps businesses find and recruit talent

More scope for INTEGRATED SUPPLY CHAINS, CLUSTERING AND INNOVATION

HIGHER WAGES PER CAPITA

than smaller and less densely populated cities

MORE COMPETITIVE MARKETS

leading to greater efficiency and innovation

BIGGER AND DEEPER POPULATIONS

which justify investment in hard and soft infrastructure

Research from the Federal Reserve Bank of New York also demonstrates that there is a direct and positive relationship between the density of human capital and productivity.

SECTOR

PRODUCTIVITY INCREASE IF LABOUR POOL DOUBLES

Real Estate, Rental and Leasing	16.8%
Professional, Scientific and Technical	15.5%
Management of Companies	14.5%
Arts, Entertainment and Recreation	14%
Information and Cultural Industries	13%
Finance and Insurance	11.5%
Wholesale and Retail Trade	10.5%

Source: Federal Reserve Bank of New York, 2011



INTEGRATING THE REGION AND ITS COMMUNITIES

Gautrain is making a significant contribution to creating a larger and more economically powerful Gauteng region.

Why do people use Gautrain to cross city boundaries?

Shifting from car to Gautrain typically saves

43 minutes

between Pretoria Station (Tshwane) and Sandton Station (Johannesburg) at a typical 7am peak

Source: Gautrain Management Agency and Google Maps

Shifting from car to Gautrain typically saves

44 minutes

between Rhodesfield Station (Ekurhuleni) and Sandton Station (Johannesburg) at a typical 7am peak

Source: Gautrain Management Agency and Google Maps

Shifting from car to Gautrain typically saves

31 minutes

between Pretoria Station (Tshwane) and Rhodesfield Station (Ekurhuleni) at a typical 7am peak

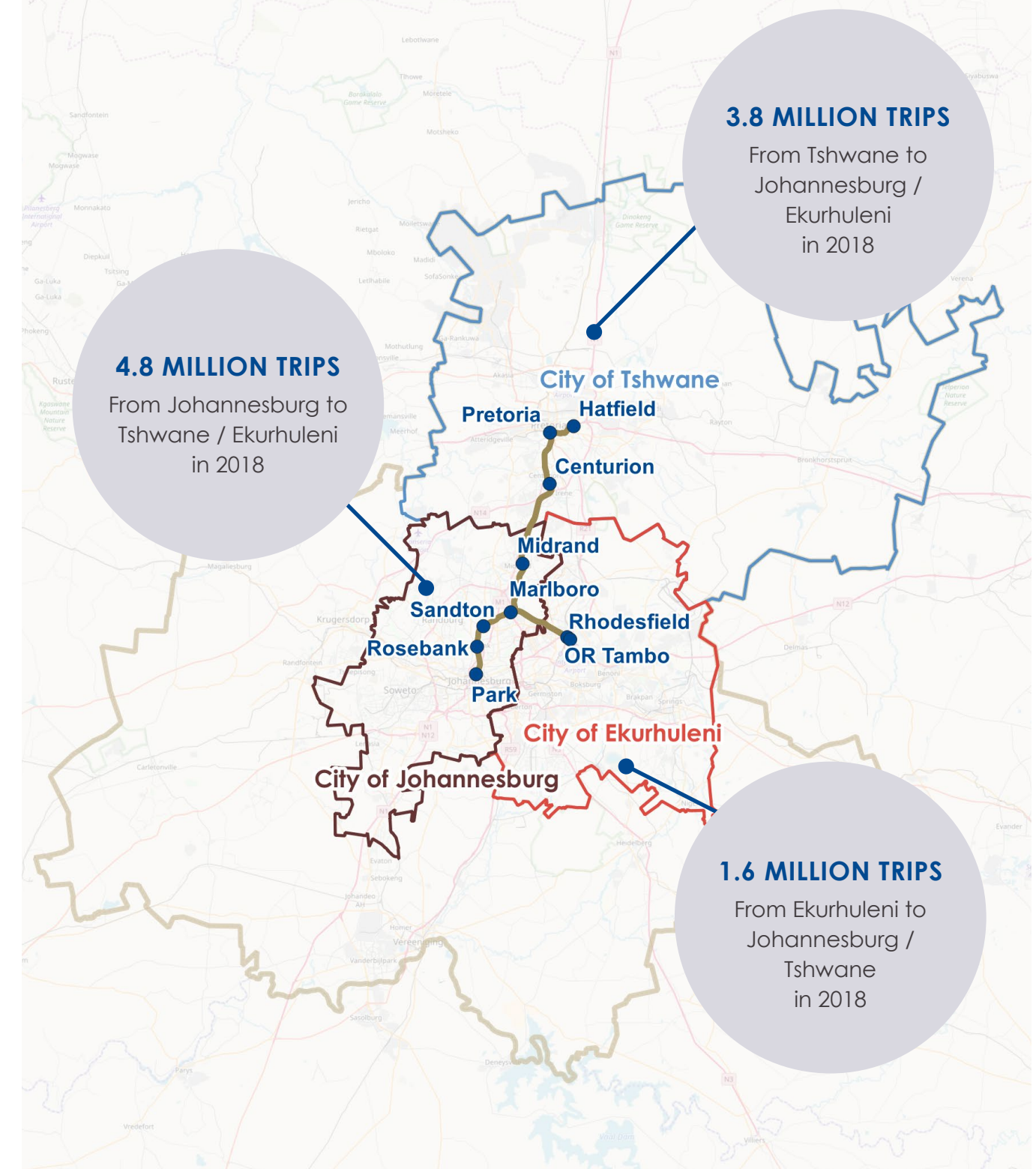
Source: Gautrain Management Agency and Google Maps

“Transport has played a role in shaping the Gauteng City Region for most of its history... The Gautrain can be understood as a natural continuation of this... [It connects] the scattered urban centres of Johannesburg, Pretoria and Ekurhuleni into a highly accessible network, the likes of which the region has never seen before”.

Mobility in the Gauteng City Region, Gauteng City Region Observatory, 2014

c.70% OF ALL TRIPS on Gautrain cross a city boundary

Source: Gautrain Management Agency. Of the current 14m trips per annum, c.10m cross a city boundary.



Source: Gautrain Management Agency Ticket Data

CHANGING PERCEPTIONS AND ATTRACTING INVESTMENT



CHANGING PERCEPTIONS AND ATTRACTING INVESTMENT

Gauteng is rapidly becoming a globally attractive destination for business, investment and leisure. While there are a range of factors that have influenced this, Gautrain has been an integral part of putting the province on the map. It is a modern, safe, efficient and reliable transit system that visitors and investors expect to see and be able to use.

FOREIGN DIRECT INVESTMENT (FDI)

OVER R44BN
of FDI into Gauteng in
2016

Source: Gauteng Province, Socio-Economic Review and Outlook 2018

This was the highest recorded in Gauteng since 2003

**Johannesburg was the
2ND HIGHEST RECIPIENT**
of FDI in Africa between
2013 and 2016

Source: Gauteng Province, Socio-Economic Review and Outlook 2018

A key driver of this was the number of local and multinational companies headquartered in Gauteng

"The two most important factors highlighted by foreign firms in their decision to locate in Johannesburg are the city's advantageous agglomeration size and the world-class infrastructure that links Johannesburg to the rest of the world"

The State of African Cities, UN Habitat, 2018



CHANGING PERCEPTIONS AND ATTRACTING INVESTMENT

CONFERENCES

**OVER 80 CONFERENCE
CENTRES
in Gauteng**

Source: Gauteng Growth and Development Agency Investment Handbook

Five have capacity for over 4,000 people

VISITORS

**4.3M VISITORS came to
Gauteng in 2016**

Source: Gauteng Tourism Authority 2016/17 Annual Report

This was 43% of all visitors to South Africa

**3 OF THE LARGEST
5 conference centres are
within 3km of Gautrain
stations**

Source: Gauteng Growth and Development Agency Investment Handbook

This makes them easy to get to from the airport and other parts of the city

**45% OF SOUTH AFRICA'S
TOURISM REVENUE
generated in Gauteng**

Source: Gauteng Tourism Authority 2016/17 Annual Report

This demonstrates the strategic and economic importance of the region

"Tourism has emerged as the dominant tool for economic growth [in Gauteng], and a good niche exists in business events for developing and transition economies. Business tourism and events are some of the [Gauteng Tourism Authority's] focal points"

Annual Report, Gauteng Tourism Authority, 2017/18

CHANGING PERCEPTIONS AND ATTRACTING INVESTMENT



RADISON BLU GAUTRAIN, SANDTON

Radison Blu Gautrain report that the station opposite the hotel is "key to the strong trade and high turnover we have". Guests appreciate the convenience, reliability and safety that Gautrain offers, which makes the hotel an attractive place to stay. The hotel report that around 62% of guests use Gautrain to get to/from the hotel. 15% of employees also commute to/from work on Gautrain.

SANDTON CONVENTION CENTRE, SANDTON

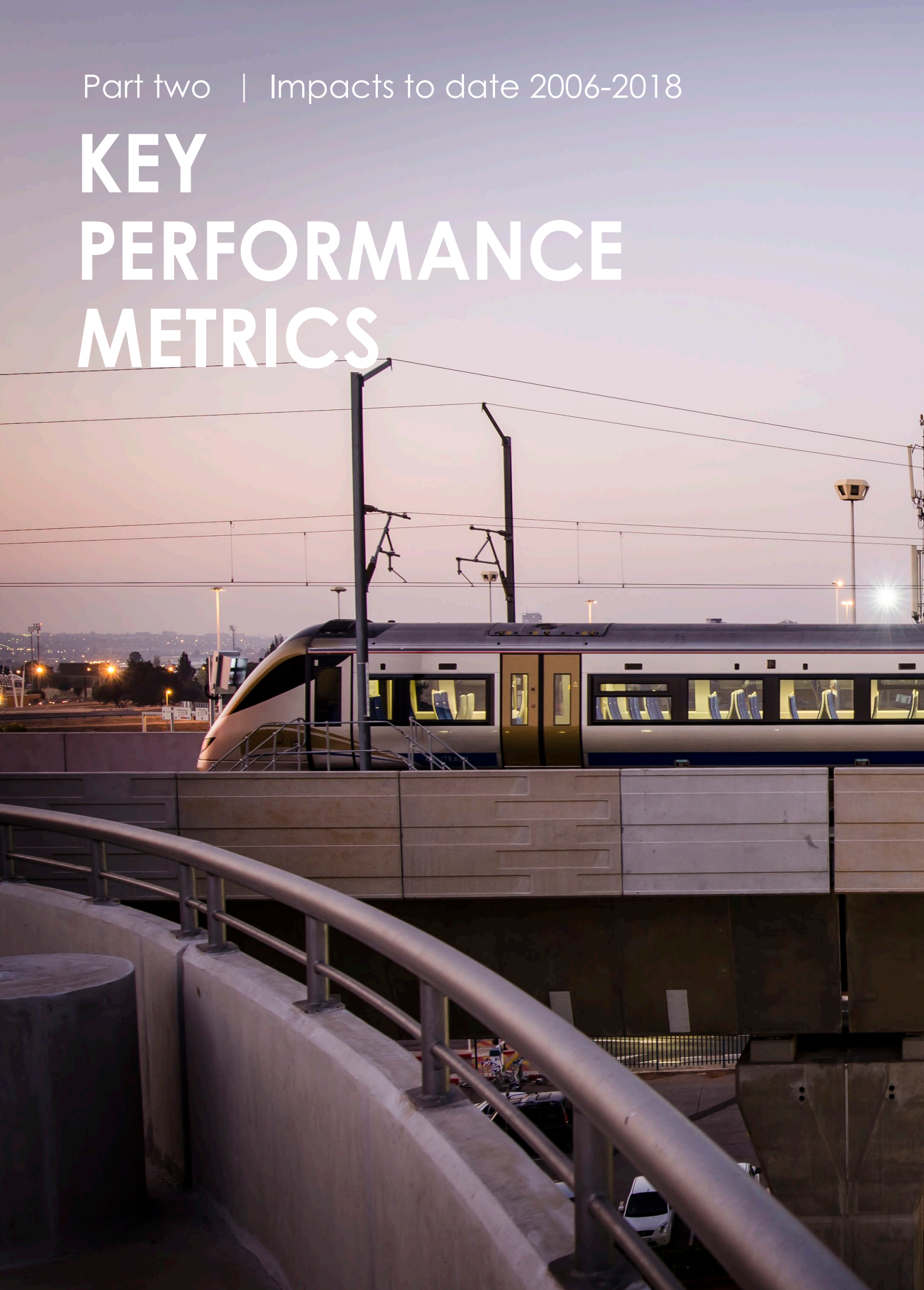
"Gautrain has been very positive for our business. We host both national and international conferences and are connected to three major hotels in Sandton. Many of our guests fly into O.R. Tambo and catch Gautrain into Sandton which is convenient and easy for them, especially as parking and congestion is so bad in Johannesburg. We also have visitors staying all over Gauteng who use Gautrain to get to us. We estimate at least 50% of all our visitors use Gautrain."

FNB STADIUM, NASREC

Gautrain is helping to change perceptions about Johannesburg for night time events. Over 7,500 people used it to travel to and from the Ed Sheeran concerts in 2019 and over 8,000 used it for the Global Citizen Festival in 2018. People use Gautrain to avoid the road congestion around the stadium during events, as well as the safety it provides traveling during the evening and night. Gautrain is helping to change perceptions about Johannesburg as a venue for night time events.



KEY PERFORMANCE METRICS



KEY PERFORMANCE METRICS

Gautrain has delivered a significant economic contribution and a strong return on investment.

Annual Gauteng GDP when construction finished was **R1,174bn**
Source: StatsSA

Average GDP growth over the last ten years has been: **2.4% per year**
Source: StatsSA

ADDING TO ANNUAL GDP

During a typical year the construction phase added:
Source: Sereti and Hatch Calculations

R3.33bn
to GDP per annum

0.28% per year
to GDP of province
Source: Hatch Calculations

A typical year post-construction added:

Direct, supply chain and wage spend jobs
Source: Sereti and Hatch Calculations

R3.40bn
to GDP per annum

0.28%
to annual GDP of province

Jobs supported by catalysed developments
Source: GeoTerra and Hatch Calculations

R2.74bn
to GDP per annum

0.23%
to annual GDP of province

Construction jobs associated with new developments
Source: GeoTerra and Hatch Calculations

R0.50bn
to GDP per annum

0.04%
to annual GDP of province

R6.64bn
to GDP per annum, in total

0.56%
to GDP of province, in total
Source: Hatch Calculations

RETURN ON INVESTMENT (ROI)

- ✓ Typical construction contribution of R3.33bn per annum
- ✓ Typical operational contribution of R6.64bn per annum
- ✓ 10 year value (undiscounted) = **R99.7bn** vs public sector investment of R26.5bn for construction and R12.5bn for operations over ten years

R1 : 2.6
Gautrain ROI
Source: Hatch Calculations

£1 : 3.0
UK Crossrail ROI
Source: UK DfT and Crossrail

AUD\$1 : 2.0
Australia Inland Rail ROI
Source: Inland Rail

Note: Analysis excludes economic assessment of travel time savings





The Gautrain has presented the Gauteng Province with an opportunity to empower its citizens and to expand the economic activity of the Province...

It has successfully turned and translated economic growth into the creation of new employment opportunities which has facilitated skills transfer, reduced inequality and rolled the tide of poverty backward”.

Jack Van der Merwe, Gautrain Management Agency CEO, 2011



Part three

UPLIFTING THE TOWNSHIPS



UPLIFTING THE TOWNSHIPS

Gautrain makes a direct and indirect economic contribution to township economies via the provision of employment and the stimulation of new commercial developments around stations. The Gautrain Management Agency also spends money with township businesses through its supply chain.

GAUTRAIN PROVIDES SIGNIFICANT BENEFITS TO TOWNSHIP ECONOMIES

Creation of jobs through Gautrain stimulated development close to townships

Direct and Indirect Construction Jobs

E.g. engineers, labourers, technical specialists, managerial roles etc.

Direct and Indirect Operational Jobs

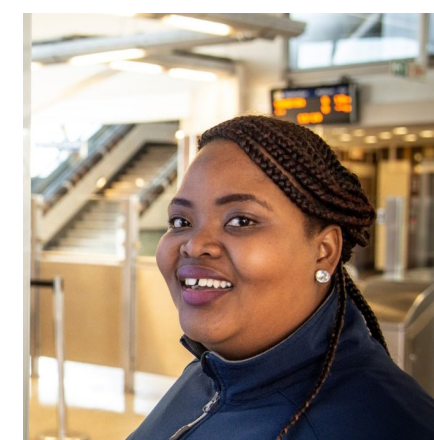
E.g. drivers, managers, cleaners, guards, engineers, ticket operators etc

7,600 direct construction jobs taken by people from lower income households

Source: KPMG and Hatch Estimations

7,000 direct operational jobs taken by people from lower income households

Source: Bombela Operating Company



*1 job = 1 full year of employment.

Uplifting the townships

BRIDGING ECONOMIES

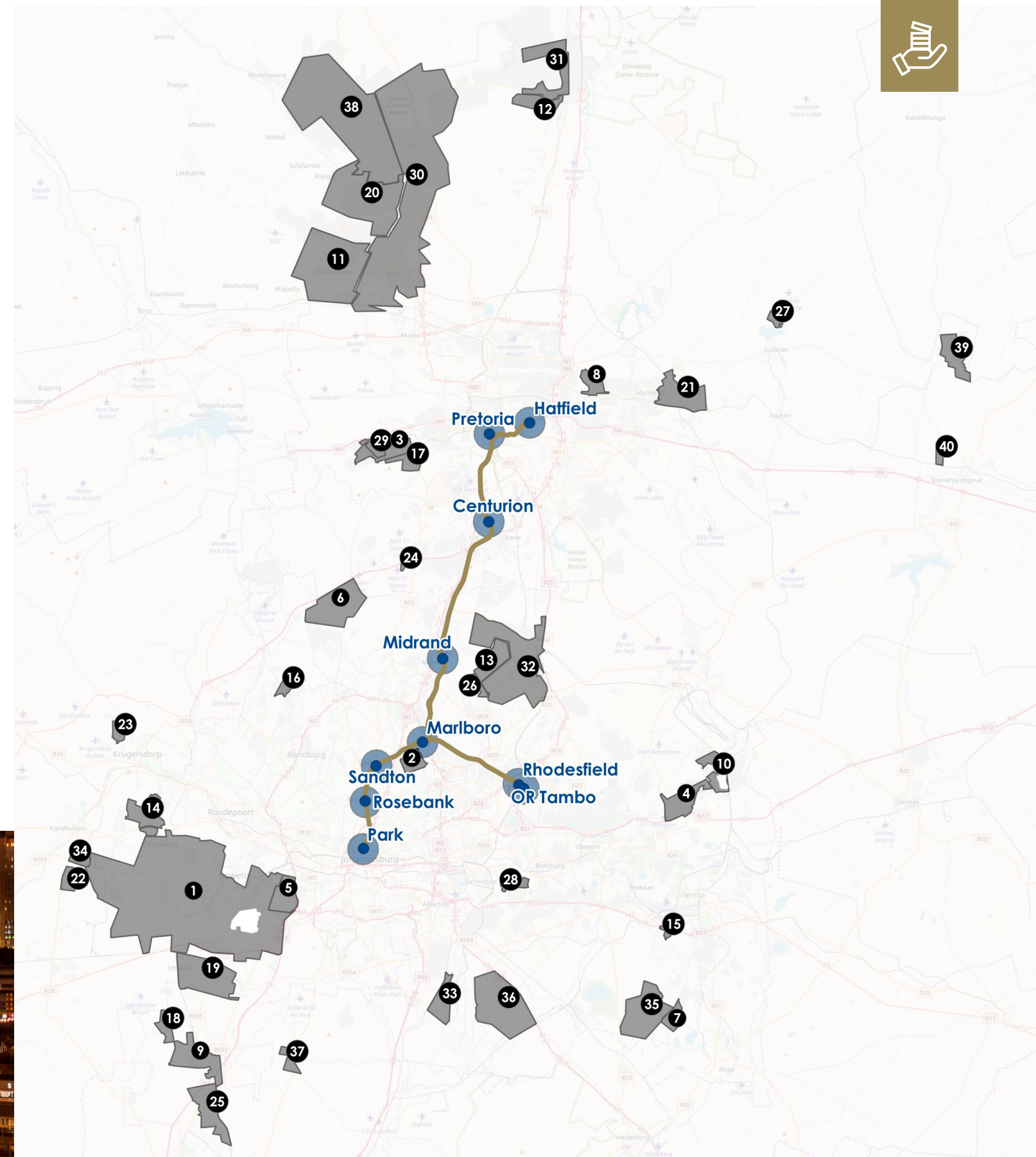
Alexandra

Alexandra is one of Gauteng's most prominent townships.

Sandton is easily accessible to residents of Alexandra due to the recent construction of the Grayston Drive pedestrian and cycle footbridge. Marlboro is also easily accessible. Commercial floorspace around Sandton and Marlboro stations has grown by **+506,000m²** since 2012. This additional space supports **18,400 jobs**, a proportion of which will be taken by people from Alexandra.

The increase in footfall has also led to the development of a successful informal economy close to the stations.

Sources: Bombela Operating Company, Geoterra and Homes and Communities Agency



Key: 1 Soweto, 2 Alexandra, 3 Atteridgeville, 4 Daveyton, 5 Diepkloof, 6 Diepsloot, 7 Duduza, 8 Eersterust, 9 Ennerdale, 10 Etwatwa, 11 Ga-Rankuwa, 12 Hammanskraal, 13 Ivory Park, 14 Kagiso, 15 Kwa-Thema, 16 Kya Sand, 17 Laudium, 18 Lawley, 19 Lenasia, 20 Mabopane, 21 Mamelodi, 22 Mohlakeng, 23 Munsieville, 24 Olivenhoutbosch, 25 Orange Farm, 26 Rabie Ridge, 27 Refilwe, 28 Reiger Park, 29 Saulsville, 30 Soshanguve, 31 Temba, 32 Tembisa, 33 Thokoza, 34 Toekomsrus, 35 Tsakane, 36 Vosloorus, 37 Walkerville, 38 Winterveld, 39 Ekangala, 40 Zithobeni

Uplifting the townships

BRIDGING ECONOMIES

RADISON BLU GAUTRAIN, SANDTON

Around **50%** of Radison Blu Gautrain's staff live in Alexandra. Employees from Alexandra work in every operational department in the hotel, occupying a range of jobs including waiters, housekeepers, maintenance and kitchen porters. All staff receive detailed training with Radison Blu to help them reach the required skill level to work in the hospitality industry.

SAINT RESTAURANT AND BAR, SANDTON

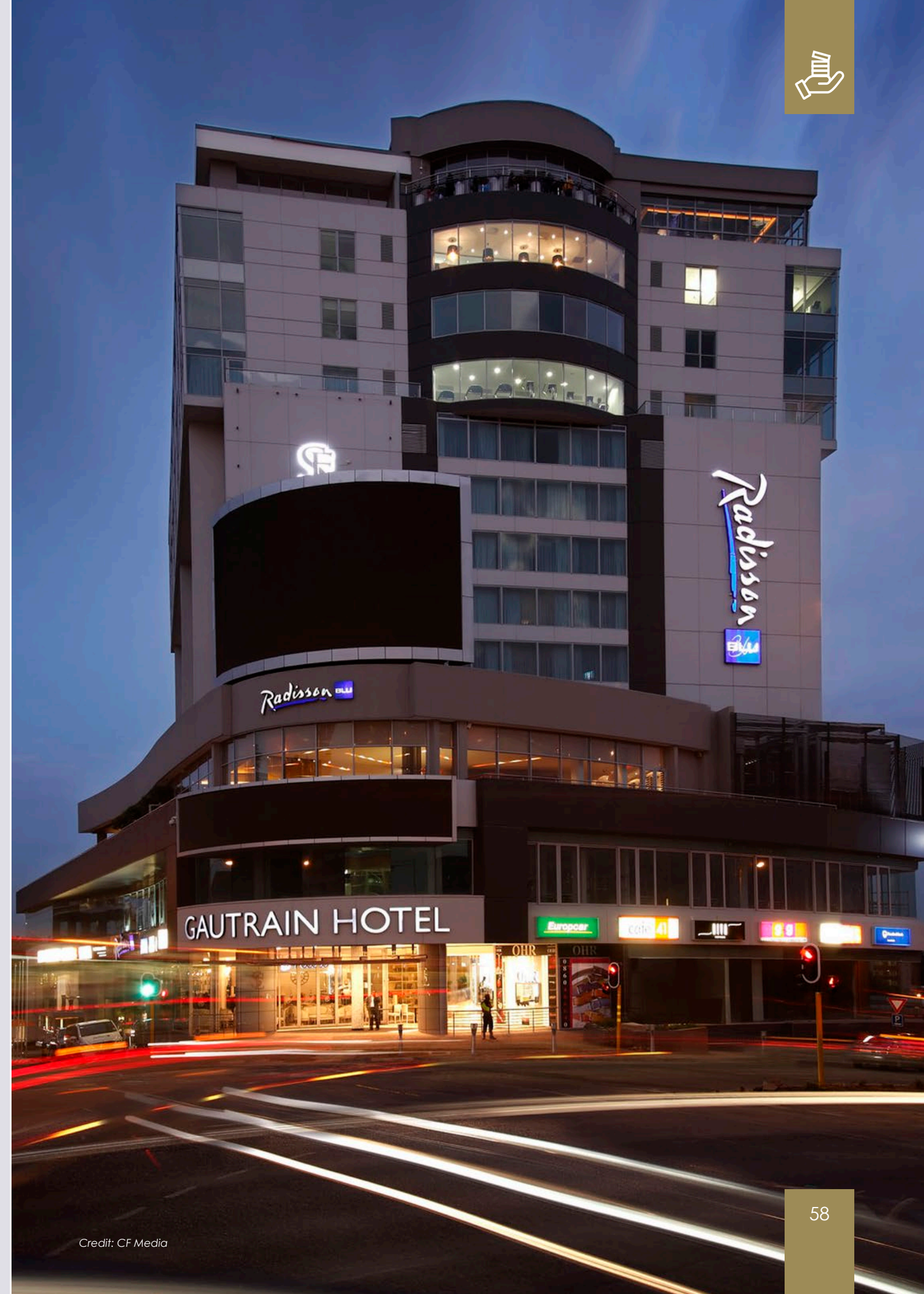
Saint is a large and popular restaurant and bar within the Marc development. Around **40%** of their staff live in Alexandra, and occupy roles across all areas, including kitchen staff and waiters.

PROOF CAFE, SANDTON

Proof Cafe offers sandwiches, salads and coffee. They are popular with commuters traveling to and from Sandton regularly for work. Just over **33%** of their staff live in Alexandra and they are involved in daily food preparation as well as making and serving coffee.



Credit: Sandton Magazine



Credit: CF Media





The development of new transport infrastructure is essential to improve accessibility, safety and convenience to Gauteng's residents. Expanded and improved networks will promote greater use of public transport and may also result in fundamental shifts to settlement patterns...

The Gautrain has made rapid travel between major commercial nodes accross the province possible... [but] more needs to be done to improve non-motorised transport infrastructure".

Gauteng City Region Observatory: Transforming Transport in the Gauteng City Region, 2015

Part four

SHAPING GAUTENG'S FUTURE

Shaping Gauteng's future

THE TRANSPORT CHALLENGES

Gautrain has started to shape perceptions and behaviours related to public transport in Gauteng and is encouraging more sustainable land use and development patterns which are centered around transport nodes and infrastructure. However, significant challenges persist:

18.7M PEOPLE

will be living in Gauteng by 2037 if
current projected annual growth
rates (+1.7%) continue

Source: Gauteng City Region Observatory

More than
**TWICE AS MANY CARS
ON THE ROAD**

Source: Deloitte

Negative economic impacts -
traffic congestion cost
South Africa

**OVER R1BN
IN 2015**

Source: Gauteng City Region Observatory

Average road speeds could
deteriorate from 48km/hr to as low
as

10KM/HR BY 2037

Source: Deloitte

"By continuing with the existing trends and not intervening in the present urban structure and the manner in which land is developed, not changing people's travel patterns and travel choices and not investing in more friendly technologies, Gauteng will increasingly become a far less pleasant and healthy urban area to live in"

Gauteng Integrated Transport Master Plan, 2013



Shaping Gauteng's future

GAUTENG'S SUSTAINABLE FUTURE

The Gautrain Management Agency is planning to upgrade the Gautrain network to help deal with future challenges such as population growth and increasing car usage.

A key ambition is to invest an additional **R24.4bn** in improving the existing Gautrain network, though...

Unlocking Development

- New stations at Modderfontein, Samrand and Waterfall
- Commercialisation of Centurion and Marlboro

Improving Line Capacity

- New rolling stock, depot and operator facilities
- Upgrades to system capacity
- Additional new buses
- Y-link to connect northern part of system directly to O.R. Tambo International Airport

Enhancing Station Access

- Parking enhancements at Rosebank, Pretoria and Hatfield

The Gautrain Management Agency is also planning to **extend** the system through the construction of new track and stations. The network will extend further across the province and support better regional integration.

149km of new dual track and **19 new stations** are being proposed. It will involve extensions to all three existing routes and it is expected that over **R110bn** will be spent (at current prices).



Shaping Gauteng's future

INCLUSIVE EMPLOYMENT FOR ALL

Planned investment into the Gautrain network will deliver additional jobs to support the Gauteng economy. These will be good quality, secure and formal jobs that will help to improve livelihoods and help to reduce poverty across the province.



Construction Phase Impacts

c.R110bn will be spent on the extension and **c.R24.4bn** will be used to improve the existing network

Spend could create up to **175,000** additional direct jobs for South African people

Around **438,000** additional jobs could be supported through supply chain and wage spend

Over **R60bn** of salary would be delivered to support this many workers

c.R100bn contribution to GDP over twenty years

Source: Seriti and Hatch Calculations



Operational Phase Impacts

Operation of the new complete network could deliver an additional **68,000** jobs to South African people over twenty years of operation

Around **380,000** additional jobs could be supported through supply chain and wage spend over twenty years

Around **R74bn** of salary would be delivered to support these workers over twenty years

c.R126bn contribution to GDP over twenty years

Source: Seriti and Hatch Calculations

**1 job = 1 full year of employment. This is a typical approach for monitoring employment impact in South Africa.*

Shaping Gauteng's future AN EVEN MORE INTEGRATED REGION

Gautrain extensions will create wider and deeper connections between the cities of Johannesburg, Tshwane and Ekurhuleni.

This will allow residents to access more employment, education and training opportunities, while also allowing businesses, training providers and educational insititutions to attract new workers and customers.

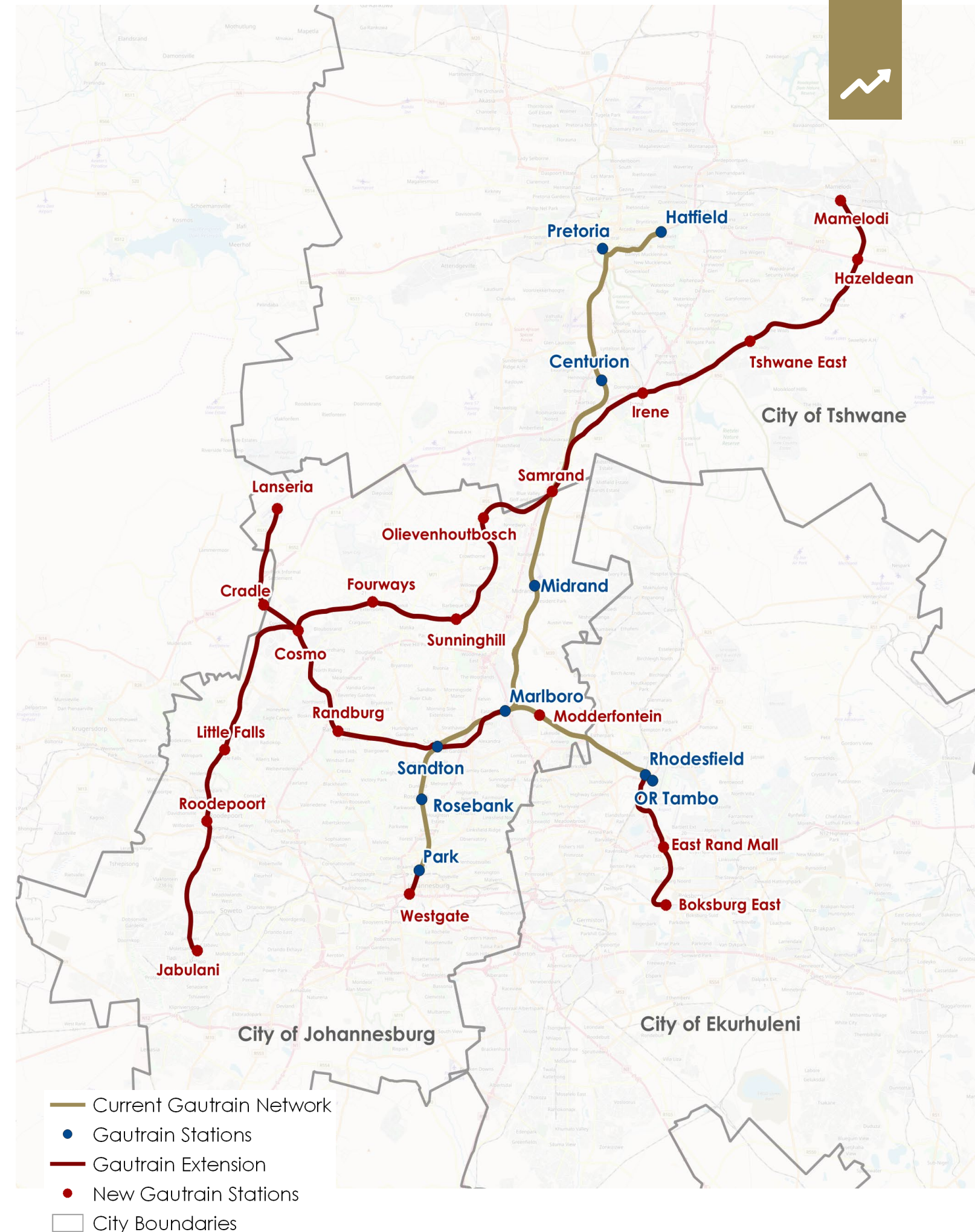
With this new infrastructure in place **2.2m** more people will live within 2km of the line, which is **18%** of the total population of the cities of Johanesburg, Tshwane and Ekurhuleni.

It will also support economic development, diversification and increased prosperity. This is because well integrated city regions have:

- ✓ More scope for clustering and innovation
- ✓ More competitive markets which lead to greater efficiency and innovation
- ✓ Higher wages per capita
- ✓ Bigger populations which justify and attract investment in hard and soft infrastructure
- ✓ Higher levels of productivity

“The extension of rail services would add significantly to area-wide accessibility [in Gauteng] and should be pursued where it is economically and technically feasible...”

GCRO Mobility in the Gauteng City-Region



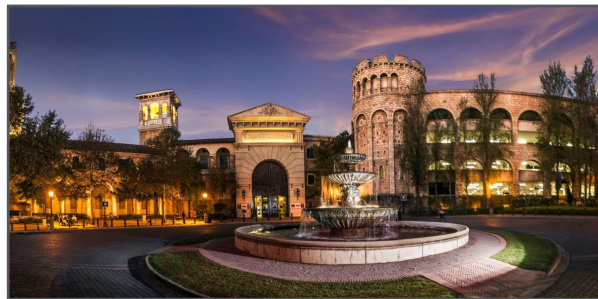
Shaping Gauteng's future

AN EVEN MORE INTEGRATED REGION

Gautrain extensions will link up some of the most important attractions, facilities and services across the region and will allow people to access them quickly, efficiently and safely.



Lanseria Airport



Monte Casino



Cradle of Humankind World Heritage Site



Jabulani Mall



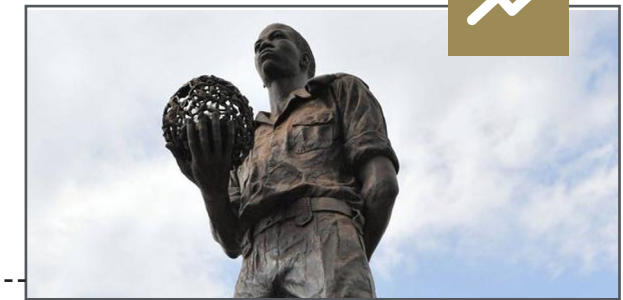
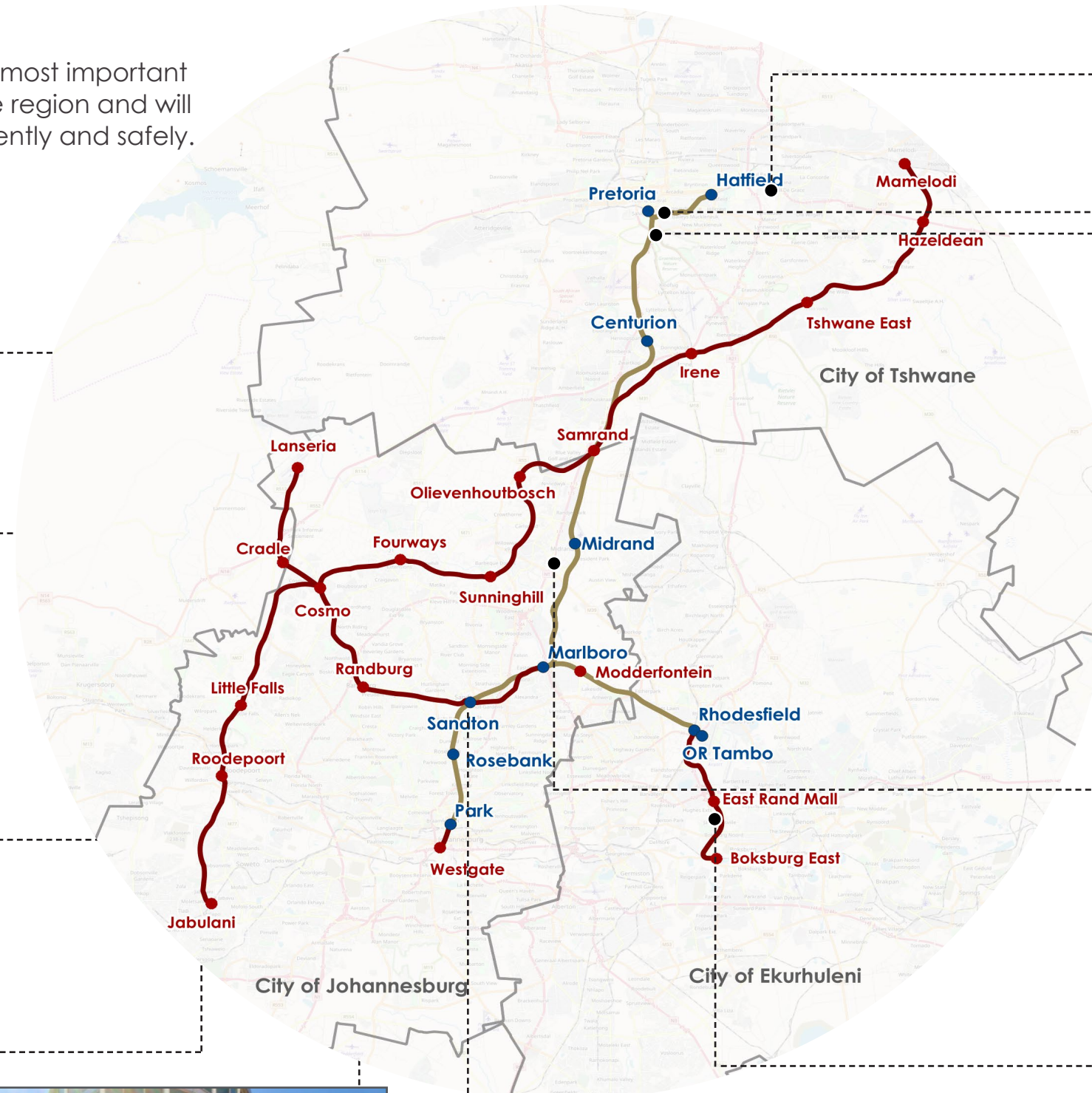
Rosebank Mall



Sandton City Mall



East Rand Mall



Solomon Mahlangu



Union Buildings



Freedom Park



Mall of Africa



Shaping Gauteng's future TRANSFORMING TOWNSHIPS

The extension of Gautrain will connect several important townships to the centre of Gauteng and the wider region.

Gautrain will eventually link an additional **2m** township residents to **better employment, training and education opportunities** in nodes in the centre of the province (e.g. Sandton and Rosebank). Examples include:

- ✓ **1.27m** in Soweto
- ✓ **334,600** in Mamelodi
- ✓ **138,000** in Diepsloot
- ✓ **115,800** in Kagiso
- ✓ **70,800** in Olievenhoutbosch

Source: Census, 2011

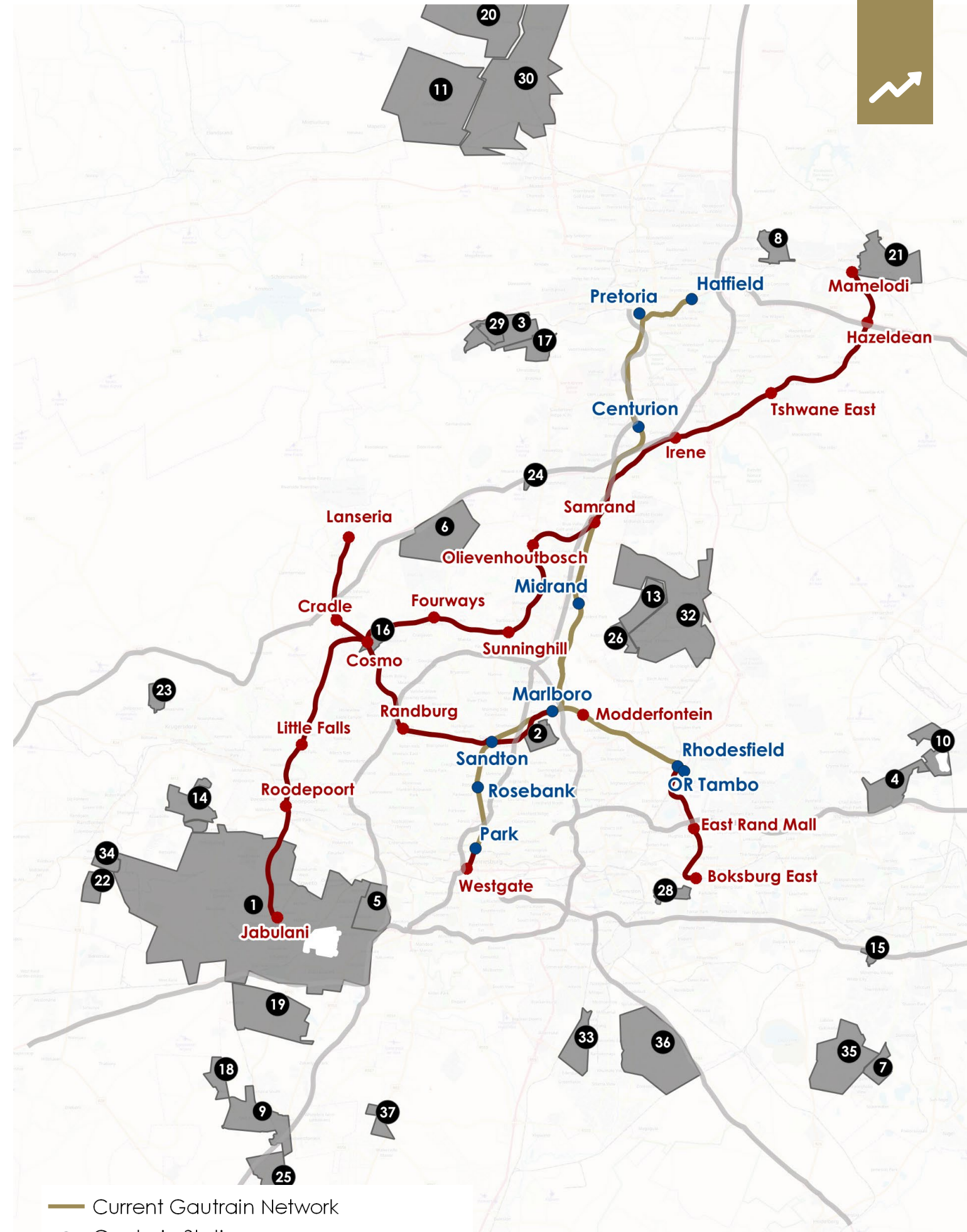
It will also provide township residents with a **safer, faster and more reliable transport option**. Currently over **52%** of people use informal modes of transport or walk as their primary mode of transport in Gauteng.

Commercial and residential development will also be stimulated in and around new stations, which will provide opportunities for job and business growth.

If trends observed at Marlboro station over the last five years are reflected across all of new stations, around **3m m² of new commercial floorspace** could be created in the 2km radius around stations supporting up to **182,000 new jobs** for local people.

Sources: Gauteng City Region Observatory, Geoterra and Homes and Communities Agency

Key: 1 Soweto, 2 Alexandra, 3 Atteridgeville, 4 Daveyton, 5 Diepkloof, 6 Diepsloot, 7 Duduza, 8 Eersterust, 9 Ennerdale, 10 Etwatwa, 11 Ga-Rankuwa, 12 Hammanskraal, 13 Ivory Park, 14 Kagiso, 15 Kwa-Thema, 16 Kya Sand, 17 Laudium, 18 Lawley, 19 Lenasia, 20 Mabopane, 21 Mamelodi, 22 Mohlakeng, 23 Munsieville, 24 Olievenhoutbosch, 25 Orange Farm, 26 Rabie Ridge, 27 Refilwe, 28 Reiger Park, 29 Saulsville, 30 Soshanguve, 31 Temba, 32 Tembisa, 33 Thokoza, 34 Toekomsrus, 35 Tsakane, 36 Vosloorus, 37 Walkerville, 38 Winterveld, 39 Ekangala, 40 Zithobeni



- Current Gautrain Network
- Gautrain Stations
- Gautrain Extension (delivered in phases)
- New Gautrain Stations
- Townships
- Highways (N & M roads)

Shaping Gauteng's future

AN INTEGRATED TRANSPORT NETWORK

Investment in Gautrain will help to create a better-integrated transport network by linking together the BRT, new bus networks and existing bus and rail systems. Gautrain will become the lynchpin that augments and ultimately enhances these services.

Evidence demonstrates that integrated, multi-modal transport systems have a number of benefits, including:

- ✓ Increased patronage from modal shift
- ✓ More reliable and faster journeys
- ✓ Increased revenue and reduced administrative costs
- ✓ Increased passenger satisfaction
- ✓ Greater economic benefits

Source: Booz&Co, 2011

Gauteng's public transport network at 2037 will embrace:

- ✓ A 28 station Gautrain system
- ✓ A more extensive feeder bus system
- ✓ Links with MetroRail at eight of these stations
- ✓ Integration with BRT across the region
- ✓ A world class public transport system that residents are proud of





KEY PERFORMANCE METRICS

Further investment in Gautrain will continue to drive economic growth in Gauteng.

Current annual GDP in Gauteng is around:
R1,507bn
Source: StatsSA

Average GDP growth over the last ten years has been:
2.4% per year
Source: StatsSA

ADDING TO ANNUAL GDP

During a typical future year the construction phase is expected to add:
Source: Sereti and Hatch Calculations

R5.01bn
to GDP per annum

0.33% per year
to GDP of province
Source: Hatch Calculations

A typical future year post-construction is expected to add:

Direct, supply chain and wage spend jobs
Source: Sereti and Hatch Calculations

R6.29bn
to GDP per annum

Around 0.42%
to annual GDP of province

Employment supported within catalysed developments
Source: GeoTerra and Hatch Calculations

R5.20bn
to GDP per annum

Around 0.35%
to annual GDP of province

Construction jobs associated with new developments
Source: GeoTerra and Hatch Calculations

R0.95bn
to GDP per annum

Around 0.06%
to annual GDP of province

R12.44bn
to GDP per annum, in total

0.83%
to GDP of province, in total
Source: Hatch Calculations

Future year estimations are based on scaling up existing impacts. It is likely that the intensity of impacts at/around each station will grow and the subsequent impact numbers will be greater than set out here.

Note: Analysis excludes economic assessment of travel time savings

Part five

SUMMARY

Significant Impacts to Date - Ready to
Deliver More





Summary

GAUTENG FACES PROFOUND ECONOMIC AND SOCIAL CHALLENGES

Severe congestion in Gauteng is damaging the economy and environment

- The number of cars on the road will more than double by 2037 without action
- Average **road speeds could deteriorate from 48km/hr to 10km/hr** by 2037
- Since 2006 the concentration of PM10 in Gauteng's atmosphere has increased by c.20%

Gauteng has extremely high rates of poverty and inequality

- Gauteng's **unemployment rate is high at 29%**, which is above the South African rate of 27%
- Employment in the formal sector declined from 85% in 1997 to around 77% today
- Unemployment is highest among women and young people

Gauteng urgently needs more sustainable patterns of land use development

- Around the world, city regions are prioritising transit related development around public transport nodes
- Gauteng needs to be part of this process - without transit related development **land use patterns will damage the environment, absorb much needed public investment and miss out on the benefits of agglomeration**

Gauteng must compete better on the international stage

- Johannesburg **is ranked 42nd out of 44 cities on the Global Power City Index (2018)** - this ranking is too low
- Gauteng needs to invest in infrastructure to better compete on the global stage

Gautrain has responded to these challenges and delivered an impressive range of socio-economic benefits...





Summary

GAUTRAIN HAS ALREADY DELIVERED SIGNIFICANT ECONOMIC AND SOCIAL BENEFITS

Gautrain has directly delivered employment and is helping to reduce poverty and inequality

- Provided **35,000 direct jobs during construction** and c.87,300 were supported via supply chain and wage spend
- Over **10,900 direct jobs operational jobs** have been created to date and c.61,000 have been supported through supply chain and wage spend
- Around **7,600 direct construction jobs** and **7,000 direct operational jobs** held by **lower income residents**
- A significant number of operational jobs are held by women (3,000), young people (5,800) and HDIs (10,100)

Gautrain has fundamentally improved perceptions of public transport

- Over **98m** trips have been made on Gautrain since 2010
- **87%** of Gauteng residents think it is a good idea
- Each person who has taken a trip on Gautrain instead of a car has delivered **R74 in economic value**



Gautrain is helping to make the city region far more integrated

- Around **70% of trips on Gautrain cross a city boundary**
- Shifting from car to Gautrain saves a significant amount of time traveling between cities (e.g. 43 minutes saved between Pretoria and Sandton at 7am peak)

Gautrain has begun to shape far more efficient land use patterns

- **Commercial floorspace has increased by over 1.6m m²** around stations since 2010 which provides space to support **66,000 jobs**
- Median sales values per m² have increased for office (45%) and retail (32%) space around stations
- Residential floorspace has grown by over 138,000 m² around stations



New patterns of development are benefiting township residents

- Over **50% of the workforce** at Raddison Blu live in Alexandra
- It is estimated that around **30-40%** of the 150 staff at Saint Restaurant are from Alexandra
- There are many more examples of this

Gautrain is improving the image of Gauteng and is helping to attract investment

- Over **R44bn FDI** into the region in 2016, which is the highest recorded amount since 2003
- Around **4.3m visitors** came to Gauteng in 2016 which was 43% of all visitors to the country
- Gautrain is driving these numbers - around 50% of visitors to Sandton Convention Centre use Gautrain

Gautrain has made a significant contribution to Gauteng's economy

- During a typical year the construction phase added **R3.33bn** to GDP, which added **0.28%** to Gauteng's annual GDP
- During a typical year the operation of Gautrain adds **R6.64bn** to GDP, which adds around **0.56%** to Gauteng's annual GDP
- For every Rand spent on Gautrain's original construction, around **R2.6** of economic benefit has been delivered to Gauteng over ten years



Summary

IN THE FUTURE GAUTRAIN WILL HAVE A TRANSFORMATIVE IMPACT

Future Gautrain investments will create thousands of new jobs

- c.**175,000 new direct construction jobs** will be created and c.438,000 should be supported through wider spend if all future investments are made
- c.**68,000 new direct operational jobs** will be created over twenty years and c.380,000 should be supported through wider spend when all investments are made
- If future impacts reflect current operations, around 21,000 operational jobs will be held by township residents over ten years

Future Gautrain investments will help to transform township economies

- Over **2m township residents** will be linked to better employment, training and education opportunities to nodes in the centre of the province (e.g. Sandton and Rosebank)
- Currently over 52% of people use informal modes of transport or walking as their primary mode of transport in Gauteng - linking them into Gautrain will provide them with a safer, faster and more reliable option

Future Gautrain investments will build a truly integrated city region

- With new infrastructure in place **2.2m more people will live within 2km of the line**, which is **18% of the total population** of the cities of Johannesburg, Tshwane and Ekurhuleni
- The new Gautrain infrastructure will allow residents to access more employment, education and training opportunities, while also allowing businesses, training providers and educational institutions to attract new workers and customers

Future Gautrain investments will anchor a fundamentally better public transport network by 2037

- Gauteng's transport networks will become more integrated and accessible which should increase patronage, reduce journey times and deliver economic benefits
- It is proposed that the Gautrain network will expand by **149km** and **19 new stations**
- The expanded Gautrain network will link extensively with MetroRail and BRT across the province

Future investment will continue to drive the Gauteng economy

- During a typical year it is expected that the future construction phase will add **R5.01n** to GDP, which will add **0.33%** to Gauteng's annual GDP
- During a typical year it is expected that future operations will add **R12.44bn** to GDP, which will add c.**0.83%** to Gauteng's annual GDP
- The contribution to GDP is likely to rise further as the property impacts around stations intensifies and the ratio of users per station increases





TECHNICAL NOTES

INTRODUCTION



This section of the report provides an overview of the approaches used for the quantitative aspects of the commission. It focuses on elements of the work that have required data to be processed and manipulated, rather than on how all information was obtained.

WHY GAUTENG NEEDS GAUTRAIN (P.2)

The information sources for the data set out in this section are below.

Rapid Population Growth

- *Gauteng Department of Roads and Transport, 2013: 25-Year Integrated Transport Masterplan*
- *Stats SA, 2019: Dataset 'Province Population Projections by Sex and Age 2019-2023'*

Significant Traffic Congestion

- *Deloitte, 2016: Feasibility Study for GMA*

Deep Poverty and Inequality

- *StatsSA, 2018: Labour Force Survey (Oct-Dec)*

Poor and Deteriorating Air Quality

- *GCRO, 2014: The GCRO Barometer*

Intense Global Competition

- *MMF Institute for Urban Studies, 2018: Global City Power Index*

DELIVERING JOBS AND SOCIAL IMPACT (P.9-15)



CONSTRUCTION PHASE IMPACTS

BCC, BOC and the GMA have commissioned Seriti as the Independent Socio Economic Monitor for Gautrain. Seriti provide monthly Socio Economic Development (SED) reports for both BCC and BOC to track each organisation's progress against a number of key measures.

To work out the number of direct construction phase jobs, the reported number of local people employed was summed for the construction period (months 0-69) for both BCC and BOC. The jobs associated with subsequent construction projects (e.g. at Centurion, Orfia and Rhodesfield) were also added using Seriti project close-out reports.

A multiplier was applied to the total direct jobs figure to calculate the additional jobs supported through supply chain and wage spend during the construction phase. This multiplier was based on the original 2014 economic impact assessment and was drawn from a localised input-output model. A salary multiplier from the same report was then applied to the total number of direct, supply chain and wage spend jobs supported by Gautrain to estimate the total salary paid out over the construction period.

It is important to note that each job reported refers to one full year of employment rather than one job role. This approach has been adopted because it is the typical way for employment to be monitored in South Africa and is the mechanism that has been used by Seriti. This is the case for all employment figures across the report.

GDP impact was calculated by taking the salary spend across all jobs and multiplying it by the salary to GDP ratio for construction jobs used in the original 2014 economic impact report. This was also drawn from a localised input-output model.

Construction spend figures were used to work out how many jobs have been supported per R10m spent on construction.

OPERATIONAL PHASE IMPACTS

BCC and BOC Seriti reports for months 69-144 were used to determine the number of local direct jobs supported by Gautrain during its operation to date. A multiplier was applied to this figure to calculate the additional jobs supported through supply chain and wage spend over this period – this is the same multiplier used in the original 2014 impact assessment based on a localised input-output model.

A salary multiplier from the same report was applied to the total number of direct, supply chain and wage spend jobs to calculate the total salary paid out to date. This figure was then used to determine the number of jobs supported per R10m spent on salary.

GDP impact was calculated by taking the salary spend across all jobs and multiplying it by the salary to GDP ratio for operational jobs in the original economic impact assessment.

PROVIDING A WIDE RANGE OF LONG-TERM JOBS

Data about the proportion of operational jobs by qualification level was provided directly by BOC.

To estimate the proportion of construction jobs by qualification level, national level data about the qualification mix of construction workers was obtained from the South African Construction Industry Board's 2011 Contractor Skills Survey. It has been assumed that the qualification mix during the construction phase of Gautrain roughly mirrored the national picture in 2011 and this has been supplemented by qualitative discussions with staff and the Concessionaire.

INFLUENCING TRANSPORT CHOICES (P.21)

The economic impact of a user switching from a car to Gautrain was derived from the summation of a series of calculations related to fatal accidents, CO2 emissions and journey time savings. The methodology for each of these is set out below and is based on a bespoke User Benefits Model developed by Hatch.

CO₂ EMISSIONS

The Gautrain's CO2 emissions per km was firstly deduced by multiplying energy consumption by combustion rate.

This was then used to determine the CO2 output per passenger per km by dividing it by the average number of passengers per four carriage Gautrain.

Alongside this, the CO2 emissions per car user in Gauteng was calculated by dividing the average CO2 per vehicle by the average number of passengers in a car.

The difference between the two figures was used to determine the carbon emissions saved per switcher.

The economic cost associated with each tonne of carbon released into the atmosphere (according to UK's Department for Transport's WebTAG guidance) was then used to work out the monetary value of the carbon saved from switching from a car to Gautrain per switcher.



FATAL ACCIDENTS



The number of fatal accidents per 1 billion vehicle kms was firstly determined using South African accident data from the World Health Organisation.

The average number of car kms reduced per switcher to the Gautrain was then calculated in billion kms using distance data from Google Maps and origin-destination pairs.

These figures were then multiplied together to estimate the reduction in accidents associated with each switcher.

A figure of R1.3m (which represents the costs associated with a fatal accident in South Africa according to the South African Department of Transport) was then applied to this figure to determine the monetary value of each switcher in terms of reduced accidents.

TIME SAVINGS

Journey times on the Gautrain at the 7am peak were firstly calculated for each origin-destination pair using GMA timetables (in-vehicle time, interchange time and headway were all considered).

The same was then done for a typical car user by plotting the drive time between each origin-destination pair using data from Google Maps at the 7am peak.

The journey time difference between car and Gautrain was then calculated for each origin-destination pair .

This data was then converted into annual hours saved per trip, which was done by dividing the difference in journey time between Gautrain and car by the overall number of trips taken on the Gautrain per year and then dividing by 60.

The final step was to calculate the average monetary value of time saved per trip - to be consistent with previous studies we used the value of time used in the Deloitte Cost-Benefit Analysis and Economic Development Report. This was based on salary data for Gautrain users. We verified this value using the UK's Department of Transport WebTAG values of time for travel for work and for leisure, weighted based on the Gautrain user survey of reason for travel.

REINFORCING DEVELOPMENT NODES (P.24-27)

NET FLOORSPACE CHANGE

GeoTerra provided commercial and residential floorspace figures within 2km zones around each Gautrain station in 2010 (when Gautrain began operation) and 2017.

Estimated vacancy figures were calculated using data from SAPOA's July 2018 Office Vacancy report.

Density Guidance from the UK's Homes and Communities Agency was used to calculate the number of jobs supported by the new commercial space. The following employment densities were applied to the floorspace figures:

- Office: 15m² per full time job
- Retail: 17m² per full time job
- Other commercial: 40 m² per full time job

The number of jobs supported by this new floorspace was then adjusted to take into account the estimated vacancy levels of 87%.

Day and night time population data was also provided by GeoTerra.

SALES VALUES

Median sales value figures were provided by Lightstone for 2010 and 2017 for residential and commercial property within 2km areas around Gautrain stations. Residential values were reported as received, but median sales values by m² were calculated by Lightstone for commercial property trends as sales values alone had significant fluctuations and were being skewed by sales of large properties. All data was processed to remove extreme high and low figures.

OFFICE DEVELOPMENT ACTIVITY

Figures related to office development activity by node were from SAPOA's July 2018 Office Vacancy Report. Data from the report was used to work out the proportion of office development that has occurred around Gautrain stations versus other major nodes in South Africa. The report provides information related to 52 nodes across Johannesburg, Port Elizabeth, Cape Town, Durban and Pretoria.

INTEGRATING THE REGION (P.41-42)



TRIPS ACROSS CITY BOUNDARIES

Data on the number of Gautrain trips which cross city boundaries was provided by the Gautrain Management Agency. This data came in the format of a matrix showing the number of trips between all origin-destination pairs. To calculate the number of trips crossing a city boundary, all the Gautrain trips which start and finish at stations in different cities were totalled. The trips that cross a city boundary totalled 10.25m, or circa 70% of the overall total trips. The data was sense checked and verified against ridership figures reported in the latest GMA Annual Report.

TIME SAVINGS

Journey times on Gautrain at the 7am peak were calculated for origin-destination pairs which cross city boundaries using GMA timetables (in-vehicle time, interchange time and headway were all considered).

The same was then done for a typical car user by plotting the drive time between the same origin-destination pairs which cross city boundaries using data from Google Maps at the 7am peak.

The journey time difference between car and Gautrain was then calculated for each origin-destination pair which crosses a city boundary.

Three prominent examples were chosen to be referenced in the report.



KEY PERFORMANCE METRICS - TO DATE (P.50)



CONSTRUCTION PHASE CONTRIBUTION

To determine the contribution of the construction phase to GDP during a typical year, the total GDP contribution of the construction phase set out in the 2014 economic impact assessment was divided by the length of the construction phase.

The GDP contribution was then divided by the 2013 GDP figure for Gauteng (according to StatSA) (R1174bn) to determine the proportion of provincial GDP this represents during a typical year.

POST-CONSTRUCTION PHASE CONTRIBUTION

Direct, Supply Chain and Wage Spend Jobs

- The total salary paid out via the direct, supply chain and wage spend jobs supported by Gautrain over the operational period was firstly divided by the length of the operational period to date to work out the salary paid during a typical year
- The salary to GDP ratio used in the 2014 economic impact assessment was then used to determine the GDP contribution of direct, supply chain and wage spend jobs supported by Gautrain during a typical year
- The annual GDP contribution of these jobs was then divided by the 2013 GDP figure for Gauteng (according to StatSA) (R1174bn) to determine the proportion of provincial GDP this represents during a typical year

Employment Supported by Catalysed Developments

- The number of jobs supported by new developments within a 2km radius of existing Gautrain stations between 2010 and 2017 (66,000) was firstly divided by the seven year period of change to determine the number of workers supported during a typical year
- This figure was multiplied by a GDP per worker figure to work out the GDP contribution of these jobs during a typical year - GDP per worker was calculated by dividing the 2016 Gauteng GDP figure by the number of people employed in Gauteng in 2017 according to StatsSA
- The annual GDP contribution of these jobs was then divided by the 2013 GDP figure for Gauteng (according to StatSA) (R1174bn) to determine the proportion of provincial GDP this represents during a typical year (0.23%)

Construction Jobs Associated with Catalysed Developments

- The total floorspace delivered by commercial and residential developments between 2010 and 2017 within 2km of Gautrain stations was firstly determined using data from Geoterra
- This figure was then multiplied by a blended construction cost per m2 figure in Gauteng (for office, retail, flats, town houses and general housing) using data from StatsSA
- The estimated total cost was used alongside HCA Labour Coefficients to work out the total jobs supported over seven years – this was then divided seven to demonstrate that around 1,730 construction jobs would have been supported per year
- The previously referenced figure for average GDP per worker in Gauteng was applied to the number of jobs to calculate the annual contribution of construction jobs associated with commercial and residential development to GDP during a typical year
- The annual GDP contribution was then divided by the 2013 GDP figure for Gauteng (according to StatSA) (R1174bn) to determine the proportion of provincial GDP this represents during a typical year

RETURN ON INVESTMENT

To determine the 10 year GDP contribution, the typical annual GDP contribution was multiplied by ten

This figure was then divided by total investment from the public sector (R26.5bn on construction and R12.5bn for operations over ten years) to work out the Return on Investment

The Return on Investment from other major rail schemes around the world has been calculated by dividing the project construction costs by the GDP contributions of the schemes:

- Crossrail (UK): ROI of roughly £3 for every £1 spent - (although this is now likely to be closer to a ratio of 1:2 due to recent budget overruns) -Project cost: £14.8bn; GDP contribution: £42bn (Source: UK Department of Transport and Crossrail)
- Inland Rail (Australia): ROI of around AUS\$2 (rounded up) for every AUS\$1 - Project cost: AUS\$9.3bn; GDP contribution: AUS\$16bn (Source: Inland Rail)

UPLIFTING THE TOWNSHIPS (P.53)

CONSTRUCTION PHASE JOBS

The proportion of salary going to low income households as reported in the original 2014 economic impact assessment was used as a proxy to estimate the proportion of direct, supply chain and wage spend jobs taken by lower income households during Gautrain's construction phase.

OPERATIONAL PHASE JOBS

The proportion of salary going to low income households during the operational phase was deduced from data that was provided directly by Bombela Operating Company.



SHAPING GAUTENG'S FUTURE



INCLUSIVE EMPLOYMENT FOR ALL (PAGE 64)

Construction Phase Impact

A cost per construction job figure drawn from the previous economic assessment was used with the reported cost of the expansion and extension projects to determine the number of direct construction phase jobs that could be supported. The same construction multipliers used for the impact of the original construction phase were used to work out the number of additional jobs that would be supported through supply chain and wage spend and the overall salary that would be paid out.

Operational Phase Impact

A method based on the number of jobs delivered to date was used to determine the operational employment impacts of investments over 20 years:

- The average number of operational jobs supported per month for current operations was determined for months 69-144 using Seriti reports
- This figure was divided by ten to estimate the average number of jobs supported per month for each existing Gautrain station
- This was then multiplied by the 19 new stations that will be built as part of the planned investments and grossed up to annual and 20 year figures
- The same multipliers used to work out the impact of the operational phase to date were used to calculate the number of additional jobs that will be supported through supply chain and wage spend and the amount of salary that would be paid out

AN EVEN MORE INTEGRATED REGION (PAGE 65)

To calculate the population that will be reached by the Gautrain extension, a 2km radius around the complete line (current line and extension phases 1-5) was drawn. The number of people living within this 2km radius was then calculated using 2011 Census data. This gave a figure of c.2 million people, which is 18% of the 2011 Census population of the three cities of Johannesburg, Tshwane and Ekurhuleni.



TRANSFORMING TOWNSHIPS (P.69)

2011 Census data was used to calculate the number of township residents who would be connected by the Gautrain extension. Using the data, township populations were counted if the township fell within around 6km of new stations.

KEY PERFORMANCE METRICS (P.74)

The future GDP figures were derived from a series of calculations which are set out below.

Construction Contribution

- The expected total salary paid out via future construction phase jobs (direct, supply chain and wage spend) by Gautrain was firstly divided by 20 to work out the estimated salary that is likely to be paid during a typical year – 20 years is the estimated build time according to Deloitte's feasibility study
- The salary to GDP ratio used in the 2014 economic impact assessment was then used to estimate the GDP contribution of direct, supply chain and wage spend construction phase jobs during a typical year
- The typical annual GDP contribution was then divided by the 2016 GDP figure for Gauteng (according to StatSA) (R1507bn) to determine the proportion of provincial GDP this is likely to represent during a typical year

Post Construction Contribution

Direct, Supply Chain and Wage Spend Jobs

- The expected total salary paid out via the direct, supply chain and wage spend jobs supported by an upgraded and extended Gautrain network over ten years of full operation was firstly divided by ten to work out the estimated salary that is likely to be paid during a typical year
- The salary to GDP ratio used in the 2014 economic impact assessment was then used to estimate the GDP contribution of direct, supply chain and wage spend jobs supported by a fully operational extended Gautrain network during a typical year
- The typical annual GDP contribution was then divided by the 2016 GDP figure for Gauteng (according to StatSA) (R1507bn) to determine the proportion of provincial GDP this is likely to represent during a typical year (0.42%)

Employment Supported by Catalysed Developments

- The number of jobs supported by new developments within a 2km radius of existing Gautrain stations between 2010 and 2017 was firstly divided by the seven year period of change to determine the number of workers supported during a typical year
- This number was then divided by ten to estimate the proportion of workers supported per existing station per year
- This number was multiplied by 19 (as 19 new stations will be built) to determine the number of workers new developments around stations will support during a typical year
- This figure was multiplied by GDP per worker figure to work out the GDP contribution that these jobs are likely make during a typical year - GDP per worker was calculated by dividing the 2016 Gauteng GDP figure by the number of people employed in Gauteng in 2017 according to StatsSA
- The annual GDP contribution of these jobs was then divided by the 2016 GDP figure for Gauteng (according to StatSA) (R1507bn) to determine the proportion of provincial GDP this is likely to represent during a typical year

Construction Jobs from Catalysed Developments

- The total floorspace delivered by commercial and residential developments between 2010-2017 within 2km of existing Gautrain stations was firstly determined using data from Geoterra
- This figure was then divided by the seven year period to work out the total development uplift during a typical year
- The development uplift during a typical year was divided by ten to work out the typical uplift per existing station - this was subsequently multiplied by the nineteen new stations that will be delivered
- This figure was then multiplied by a blended construction cost per m2 (for office, retail, flats, town houses and general housing) in Gauteng using data from StatsSA
- The estimated total cost of new developments was used alongside HCA Labour Coefficients to work out that around 3,320 construction jobs are likely to be supported per year
- The previously used figure for average GDP per worker in Gauteng was applied to the number of jobs to calculate the annual contribution of construction jobs associated with new commercial and residential development to GDP during a typical year
- This was then divided by the 2016 GDP figure for Gauteng (according to StatSA) (R1507bn) to determine the proportion of provincial GDP this represents during a typical year

IMAGE CREDITS



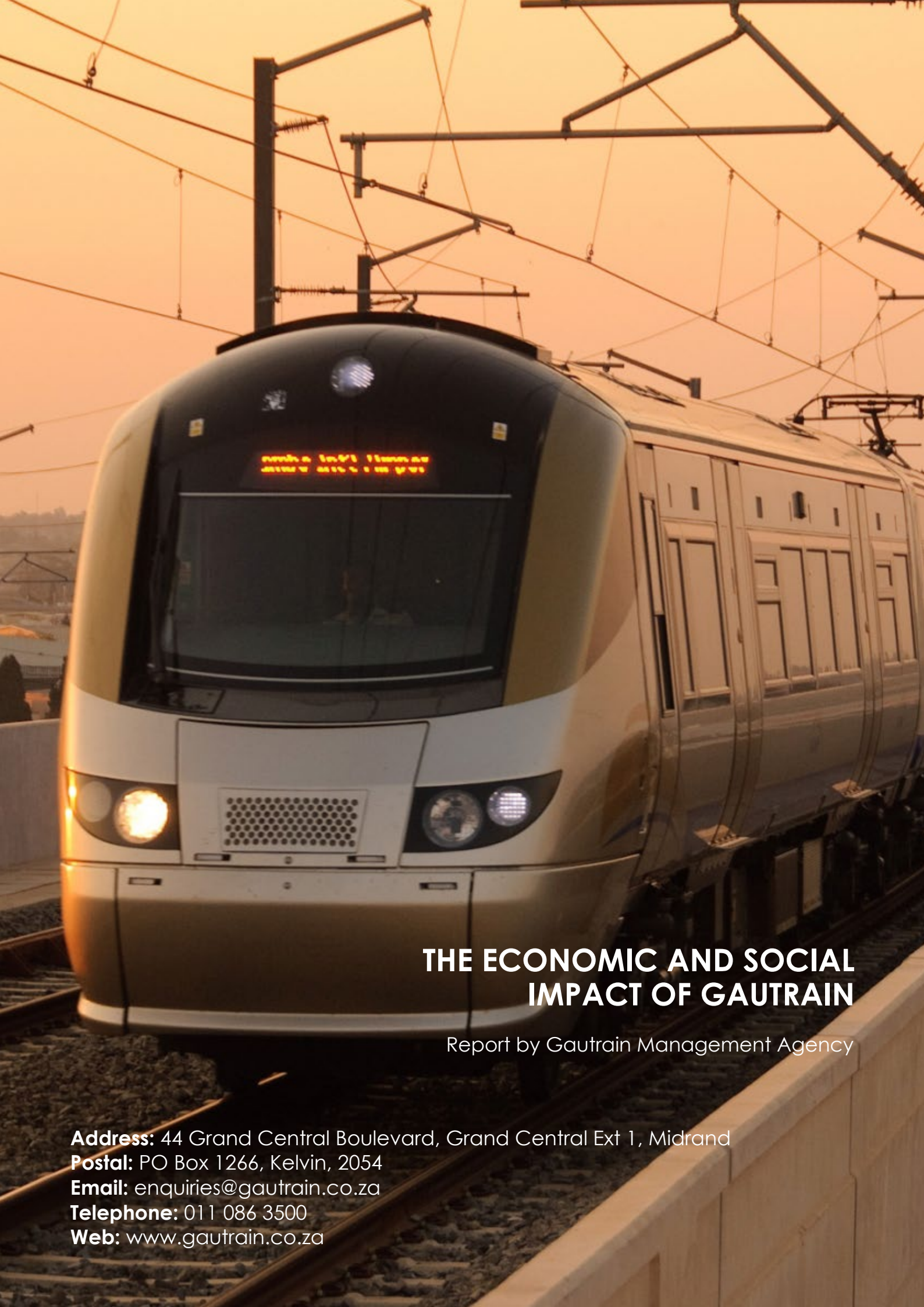
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p.29	Rosebank Towers	L&S Consulting	http://lsgauteng.co.za/rosebank-towers.html
p.29	The Median	Chateaudetienne	http://www.chateaudetienne.com/the-median.html
p.29	Standard Bank Centre	Brand South Africa	https://www.brandsouthafrica.com/investments-immigration/business/exploring-standard-bank-s-glass-fronted-green-building
p.29	144 Oxford Road	Property Wheel	https://propertywheel.co.za/2018/03/growthpoint-breaks-ground-for-rosebanks-144-oxford-development/
p.30	Oxford and Glenhove	5th Avenue Properties	https://www.5thavenue.co.za/commercial-property/rental/gauteng/johannesburg/rosebank/oxford-glenhove-building-2-1st-floor-suite-14/
p.30	Park Central	IoL	https://www.iol.co.za/business-report/economy/would-you-pay-r20mn-to-be-in-the-tallest-building-in-rosebank-16612930
p.31	Signature Lux Hotel	Booking.com	https://www.booking.com/hotel/za/signature-lux-sandton.html
p.31	The Leonardo	Businesstech	https://businesstech.co.za/news/property/265727/a-look-at-sandtons-new-tallest-building-the-leonardo/
p.31	Advocates	Redefine	https://www.redefine.co.za/our-properties/our-developments/advocates
p.31	The Capital	Sandton Chronicle	https://sandtonchronicle.co.za/208422/capital-park-welcome-addition-sandton-skyline/
p.31	Discovery	Business Insider	https://www.businessinsider.co.za/discovery-group-pays-r23-million-per-month-for-new-sandton-hq-2019-2
p.31	Bowman Gillfillian	Refrigeration and Aircon	https://www.refrigerationandaircon.co.za/index.php/projects/103-alice-lane-building-3-a-beacon-of-light
p.32	Hogan Lovells	Biz News	https://www.biznews.com/briefs/2018/11/14/hogan-lovells-sars-green-light
p.31	Old Mutual	Snupit	https://www.snupit.co.za/sandton/sandown/old-mutual-personal-financial-advice/398753#photo[gallery]/0/
p.33	Gallagher Convention Centre	My Broadband	https://mybroadband.co.za/news/industry-news/271029-gallagher-offers-unmatched-service-and-quality.html

p.33	China Town Mall	Darren B	https://www.google.co.za/
p.33	Riverview Office park	Field Space Property Group	https://fieldspace.co.za/blog/space/7-river-road-office-space-midrand/
p.33	Spark School	Spark Schools	https://www.sparkschools.co.za/schools/spark-midrand/
p.34	Grand Central	Caliber	http://www.caliber.co.za/portfolio-item/midrand-grand-central/
p.34	Midrand Business Park	Shiny Rock Properties	https://shinyrock.co.za/listings/location/midrand/halfway-house/midrand-business-park-halfway-house/
p.34	Co.Space	Locanto	https://gauteng.locanto.co.za/ID_3168828630/Office-Space-to-Rent-in-Co-Space-Midrand.html
p.34	Siemens	Siemens	https://new.siemens.com/global/en/company/about/history/news/corporate-architecture.html
p.35	Centurion Mall	George Herald	https://www.georgeherald.com/News/Article/National/shoot-out-at-centurion-mall-20170711
p.35	Oaktree	Property24	https://www.property24.com/for-sale/clubview/centurion/gauteng/440/107219354
p.35	Outsurance	Snupit	https://www.snupit.co.za/centurion/wierdapark/outsurance-insurance-company-ltd/331933#photo[gallery]/0/
p.35	Supersport Park	ESPN Cricinfo	http://www.espnricinfo.com/southafrica/content/ground/59079.html
p.35	Afgri	AgriFood News Network	http://iagrifoodnetwork.com/afgri-acquires-bank-athens/
p.35	Byls Bridge Office Park	Pinterest – Tricia Nkosi	https://za.pinterest.com/pin/507288345499762205
p.36	Symbio City	Global African Network	https://www.globalafricanetwork.com/2017/10/18/investment-opportunities/symbio-city-to-provide-a-balanced-mix-of-commercial-and-residential-opportunities/
p.36	Century Skye	Property 24	https://www.property24.com/new-developments/die-hoewes/centurion/gauteng/century-skye-luxury-apartments/433/1616
p.37	Sharon's Place	City Property	https://www.cityproperty.co.za/apartments/pretoria-apartments/sharons-place/
p.37	Station Square Mall	City Property	https://www.cityproperty.co.za/retail/pretoria-retail/station-square/
p.37	Statistics SA	Business Tech	https://businesstech.co.za/news/general/135113/a-look-at-stats-sas-r1-4-billion-new-head-offices-in-pretoria/
p.37	Opera Plaza	Geoview	http://za.geoview.info/the_opera_plaza_building,2895763p
p.37	Mercedes Benz	Riaan Smith	https://www.google.co.za/
p.37	Centre Forum	Infrastructure Projects Africa	http://marketplace.infrastructurephotos.com/downloads/category/pretoria-cbd/
p.38	Batho Pele House	FG Trading	http://www.fgtrading.co.za/projects.php
p.38	Freedom Park	Solid Green	https://www.solidgreen.co.za/stats-sa/

IMAGE CREDITS

Page	Image	Credit	Weblink
p.39	Maboneng Precinct	Mail and Guardian	https://mg.co.za/article/2019-04-12-00-the-heart-of-maboneng-beats-on
p.39	Newton Junction	In Your Pocket	https://blog.inyourpocket.com/south-africa/2017/06/09/behind-the-scenes-of-down-town-joburg-johannesburg-development-agency-jda/
p.39	Park Station	Prasa	http://www.prasa.com/cres/Stations/ParkStation
p.39	Stuttafords House	Africa Housing Co	https://www.afhco.co.za/residential/stuttafords-house/
p.39	The Old Jeppe Street Post Office	The Heritage Portal	http://www.theheritageportal.co.za/thread/postal-tunnels-project-johannesburg
p.39	Jewel City & Absa Towers	Business Insider/ Diversity	https://www.businessinsider.co.za/r2-billion-property-development-jewel-city-absa-towers-main-building-johannesburg-cbd-divercity-atterbury-2018-10
p.40	Public realm improvements on Polly, Fox, Troye and Main streets	Heritage Portal	http://www.theheritageportal.co.za/article/absas-huge-plans-joburg-cbd
p.40	Carlton Centre	Gauteng Tourism	https://www.gauteng.net/attractions/carlton_centre
p.57	Saint Restaurant	Sandton Magazine	https://www.sandtonmagazine.com/saint-restaurant-opens-its-doors-to-much-acclaim/
p.58	Raddison Blu	TripAdvisor	https://www.tripadvisor.co.uk/Hotel_Review-g312586-d1776720-Reviews-Radisson_Blu_Gautrain_Hotel-Sandton_Greater_Johannesburg_Gauteng.html
p.67	Monte Casino	Andy Mitchell	https://www.gauteng.net/attractions/monte_casino
p.67	Lanseria Airport	EWN	https://ewn.co.za/2012/11/18/Lanseria-airport-gets-new-owners
p.67	Cradle of Humankind	Rainbow Cabs	https://rainbowcabs.co.za/product/historical-tours/
p.67	Jabulani Mall	Skhumba Thabede	https://howsouthafrica.com/soweto-global-lounge-cultural-diversity-togetherness/
p.67	Rosebank Mall	Trip Advisor	https://www.tripadvisor.co.za/LocationPhotoDirectLink-g312578-d311495-i265472510-The_Mall_of_Rosebank-Johannesburg_Greater_Johannesburg_Gauteng.html
p.68	Union Buildings	Flickr: Creatives Common	https://fpif.org/like-iran-south-africa-resists-u-s-nuclear-oversight/
p.68	Solomon Mahlengi Freedom Square	Gauteng.net	https://www.gauteng.net/blog/solomon-mahlangu-freedom-square-set-to-boost-tourism-in-mamelodi
p.68	Sandton City Mall	The Blog Box	https://www.theblogbox.co.za/sandton-city-new-fun-district/
p.68	East Rand Mall	Boksburg Advertiser	https://boksburgadvertiser.co.za/326743/jewellery-store-robbed-east-rand-mall/





THE ECONOMIC AND SOCIAL IMPACT OF GAUTRAIN

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