

OUR JOURNEY TO A BETTER GAUTENG



PORTFOLIO COMMITTEE ON ROADS AND TRANSPORT

Background to the Gauteng Rapid Rail
Integrated Network Project
16 August 2021

Contents

1. Gautrain in Context
2. 2018 Assessment of Broader Impact
3. ITMP25
4. Gauteng Rapid Rail Integrated Network
5. Wider Economic Impact and Value Capture
6. Linking to Route Determination



Gautrain in Context



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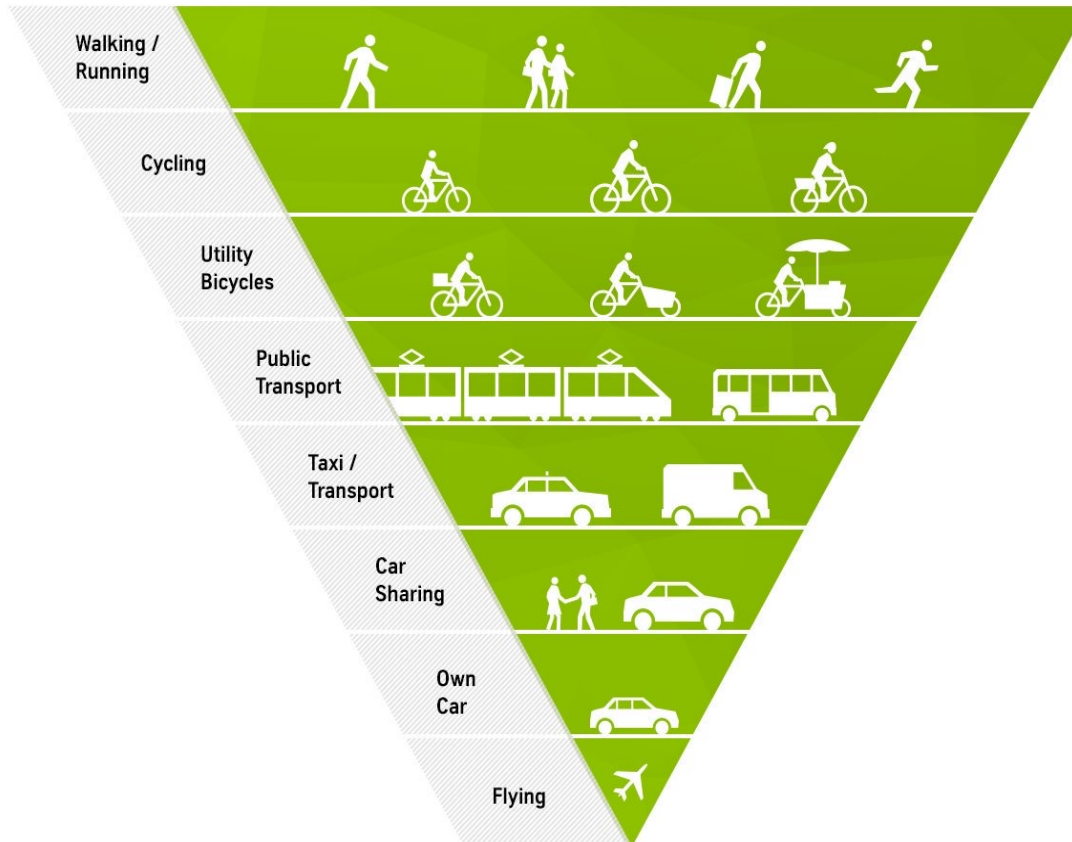


Background

Forces Shaping the Future of Transport

- **Globilisation:**
 - UITP estimates that by 2025, 60% of the World's population will be living in urban areas, this will result in:
 - Rapid urbanisation & economic development that will increase the demand for the movement of people, goods & services;
 - 6.2 billion private motorised trips will be made every day in cities worldwide; and
 - Gridlock, pollution, road traffic accidents & greater dependency on fossil fuels.
- **The Environment, pollution and Greenhouse gasses**
 - the transport sector plays in this matter, since it is responsible for 18% of all man-made greenhouse gas emissions. If we consider that the global car fleet is expected to Triple by 2050, emissions from transport are projected to grow faster than any other sector.
 - Public transport is at the forefront of this fight against climate change, as it is three to four times more energy efficiency per passenger than private cars. It must play a major part in providing greener mobility solutions to reduce CO2 emissions

Green Infrastructure: Priority Modes of Transport



© Bicycle Innovation Lab, Copenhagen, DK

This can only be achieved if there is co-ordination between:

Land-use Planning;

Transport Planning; and

Economic Planning

Gautrain in Context

- In 2000 the Premier of Gauteng announced a long term strategic programme, known as Blue IQ projects, during his State of the Province address. These projects were aimed at stimulating long term, sustainable economic growth in the Province. One of these projects was the Gautrain Rapid Rail Link Project (Gautrain)
- The stated objectives of the Gautrain were:
 - To stimulate economic growth in a Province with declining industrial and mining sectors
 - Create a long term public rail asset with dedicated right of way;
 - Restructure the urban form with densification around nodes;
 - Create jobs;
 - Stimulate local and foreign investment;
 - Improve the image of public transport;
 - Increase environmental benefits; and
 - Support a modal shift from road to rail

Gautrain in Context

- Gauteng faced a challenging future in 2000 (and still does)
 - Highest net population growth of all provinces
 - Increased car ownership
 - Decreased public transport as share of daily trips
 - Decreased rail share of public transport
 - Increasing road congestion
 - Increased environmental pollution and Greenhouse gases
 - Increasing disassociation of employment and residential nodes from the rail network

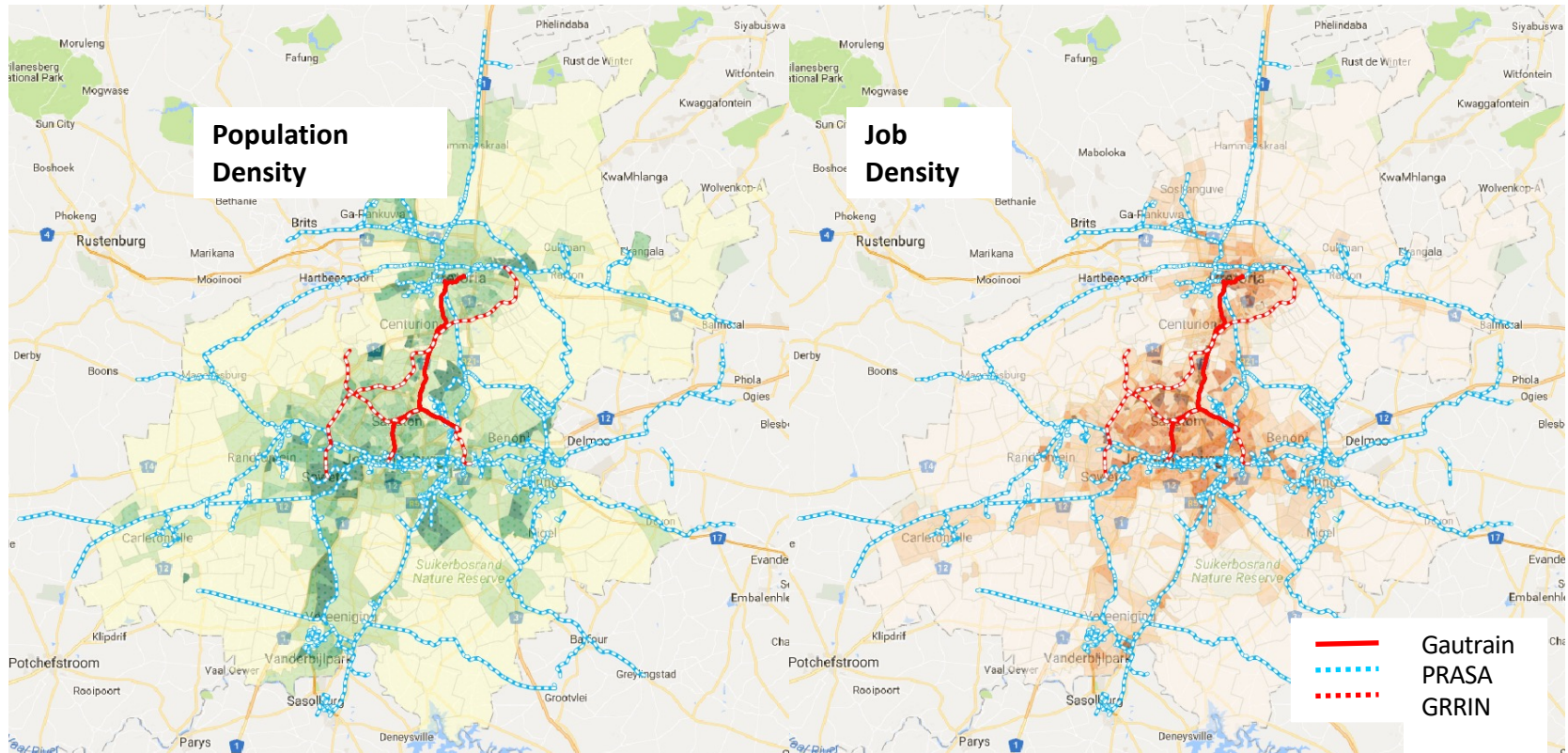
Gautrain in Context

Gauteng Population, Job and Trip Growth Forecast

	2014	2025	2037
Population (Gauteng)	13 000 000	16 800 000	19 100 000
		+ 3,8 million	+ 6,1 million
Formal Jobs (Gauteng)	4 600 000	6 700 000	8 500 000
		+ 2,1m (+45%)	+ 3,9 m (+ 84%)
Formal Jobs Compounded Annual Growth Rate %	-	3.5%	2.0%
AM Peak Hour Person Trips (Gauteng-all modes)	2 000 000	2 700 000	3 200 000
		+ 700 000 (+35%)	+ 1 200 000 (+60 %)

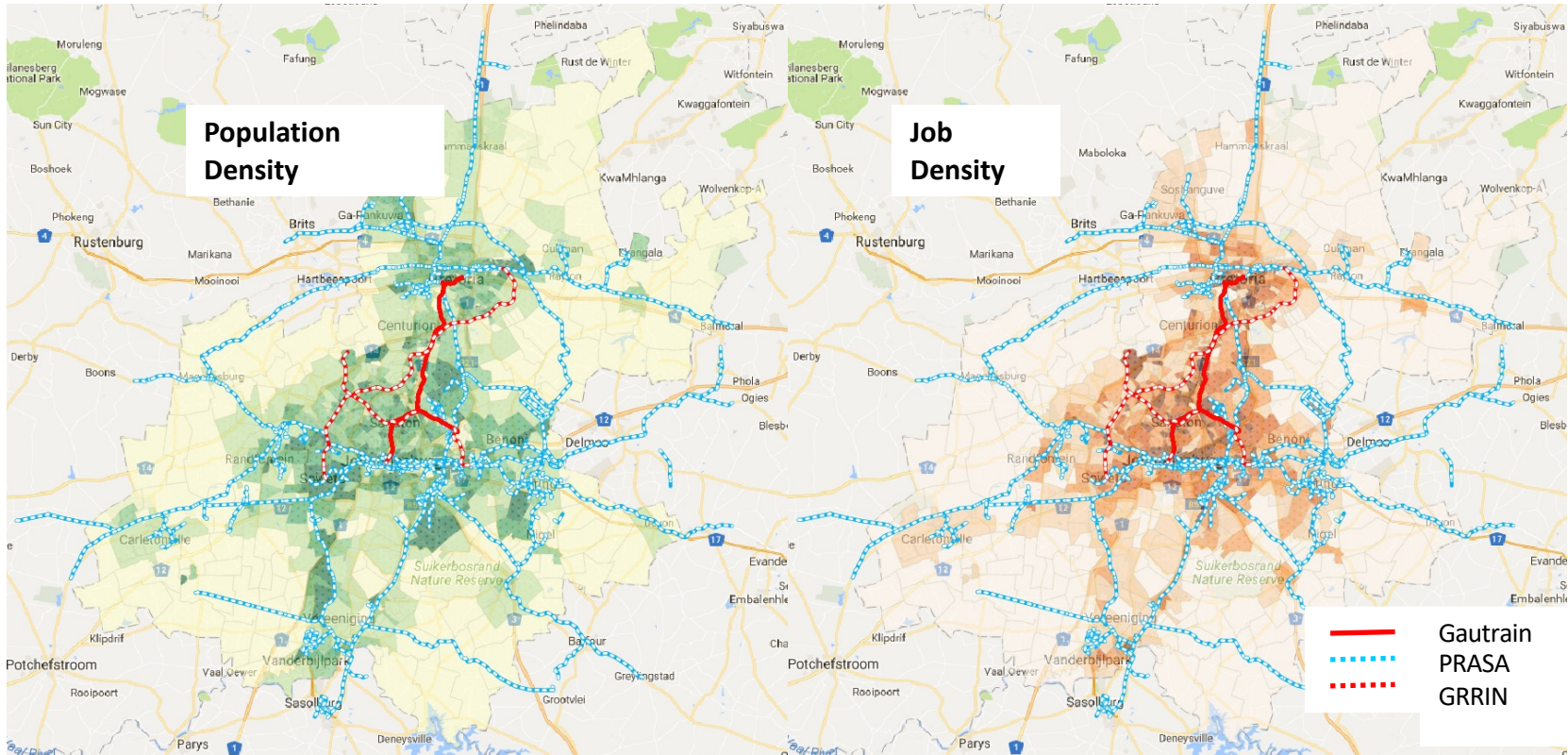
Gautrain in Context

2014 Population and Job Density with Rail Network



Gautrain in Context

2037 Population and Job Density with Rail Network





2018 Economic Assessment

2018 Economic Assessment

In 2018 GMA appointed Hatch to update the Economic Impact of the Gautrain system and assess additional impacts

– The study was centred around:

- Gautrain's contribution to Gauteng's long-term economic development;
- Gautrain's contribution to public transport becoming the mode of choice; and
- Gautrain's contribution to Gauteng's improved spatial development.



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2018 Economic Assessment

Return on Capital Investment (ROI)

Outturn Prices

R99.7 Bn of GDP added via construction and operations over ten years

Public sector cost: R26.5 Bn to construct and R12.5 Bn to operations over ten years

Gautrain = R1 : R2.6

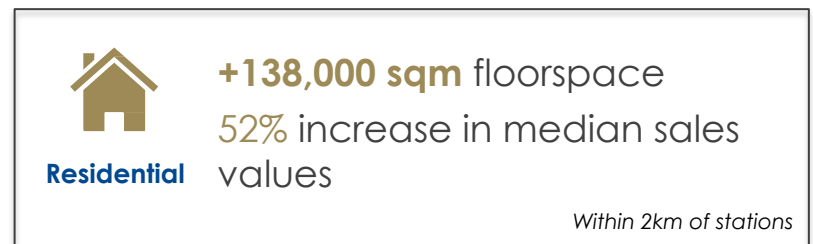
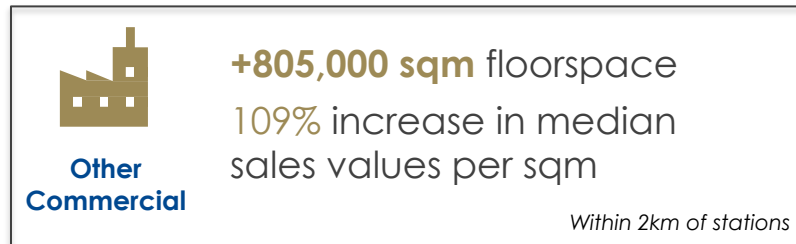
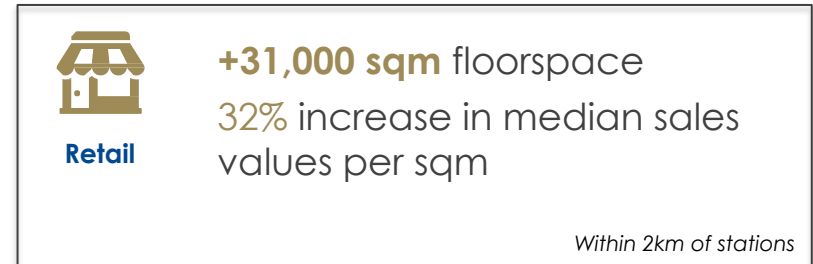
UK Crossrail = £1 : £3.0

Aus Inland Rail = \$1 : \$2.0

2018 Economic Assessment

Reinforcing Development Nodes

Since 2010...



+1,656,000 sqm more commercial space around stations since 2010

87% occupancy rates in new commercial space which supports around **66,000 jobs**



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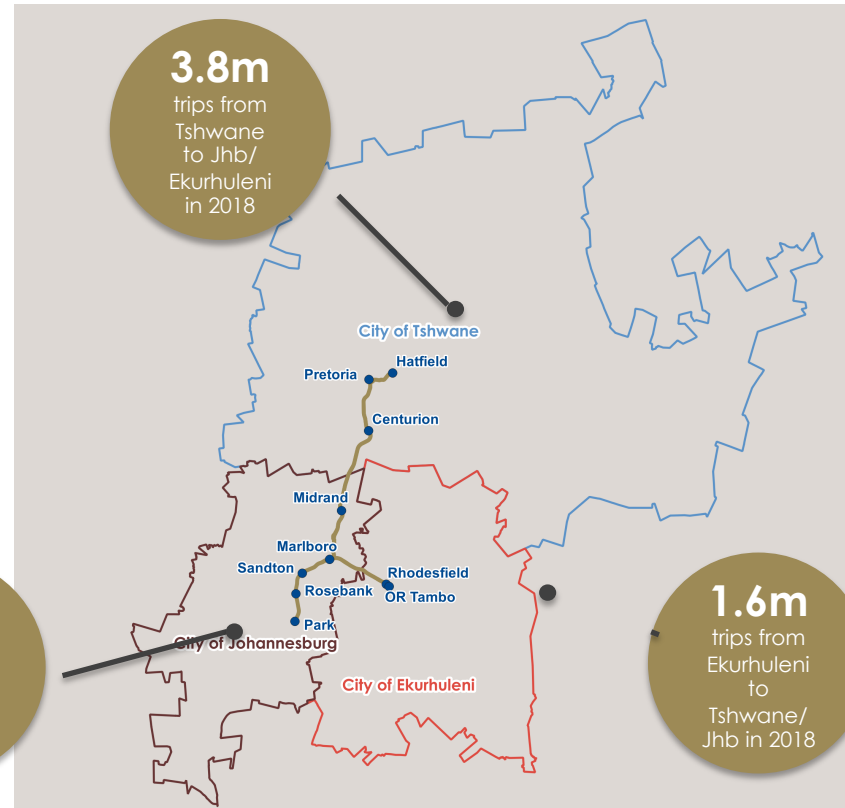
59% of all office development activity in major South African nodes in 2018 was located **around Gautrain stations**

2018 Economic Assessment



Integrating the Region and its Communities

c.70% of all trips on Gautrain cross a city boundary

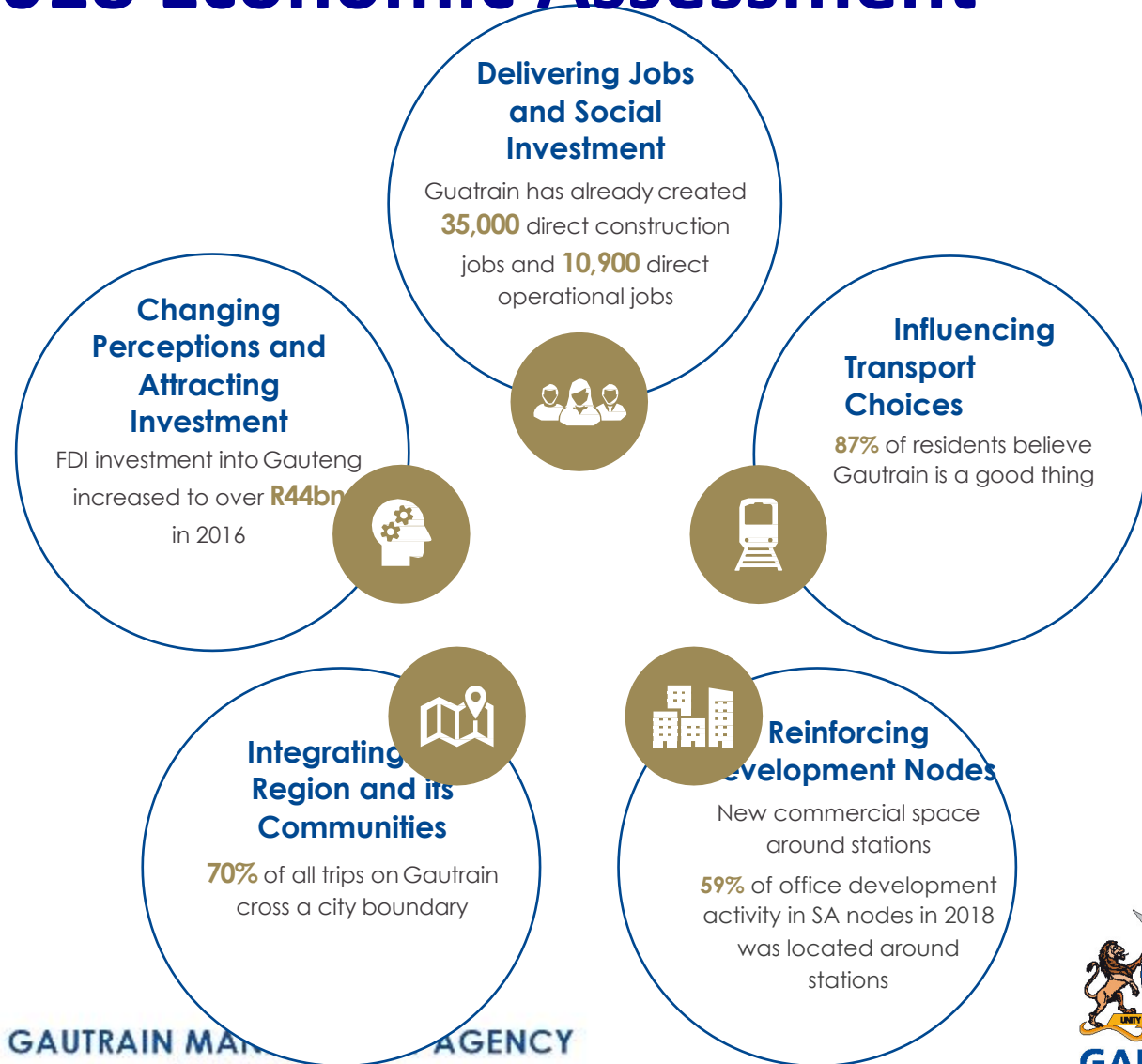


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2018 Economic Assessment

Summary of Key Impacts Achieved to Date



Socio Economic Development

- The socio economic leverage of the Gautrain investment has been significant to date and will continue to create value along its corridors, e.g, stimulate development around stations, generate employment and various levels of revenue for the State
- Contracting with and procurement from Black businesses – R5 billion since 2012
- Procurement of local materials , plant and equipment – R4,3 billion since 2012
- 100% local shareholding in Concessionaire – no offshore dividends
- The economic benefit cost ratio for Gautrain is R2,60 for every R1 spent
- For every R1 Million operational expenditure on Gautrain:
 - The Provincial Economy gains R960 000
 - National Government Revenue increases with R240 000
 - 4 jobs will be sustained per year
 - Employment of local people 20,500 person months of which 6,250 were women plus 61,000 jobs in supply chain and wage spend every year



25 Year Integrated Transport Masterplan for Gauteng (ITMP25)

ITMP25- Integrated Transport Interventions

- Provides a planning framework, which will assist government at all three levels to deliver this transport system over the next 25 years
- To deliver a world class and sustainable transport system that supports Gauteng's economic, social and cultural, and environmental goals
- Empowers the Transport Authority for Gauteng, in collaboration with other spheres of government, to plan, regulate and develop an integrated and efficient transport system that serves general public interest
- Strives to embody the principles of an efficient, competitive and responsive economic infrastructure network that prioritises public transport



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ITMP25- Integrated Transport Interventions

Interventions

Land Use Development

1. Subsidised housing provision within urban core areas
2. Land use densification in support of public transport

Strategic Public Transport Network

3. Mainstreaming non-motorised transport (NMT)
4. Reinforcing passenger rail network as the backbone of the system
5. Extending the integrated rapid and road-based PT networks

Freight Transport

6. Strengthening freight hubs

Road Transport

7. Travel demand management
8. Continued provincial wide mobility

ITMP25- Integrated Transport Interventions

Current Peak Hour Road
Traffic Average speed
43 km/hr

- Assume all road improvements currently planned are built
- 2037 Average key road network speed reduces to 23 km/h (peak and contra-peak directions) spread over 3 hours
- 10 km/h in peak hour if no peak spreading



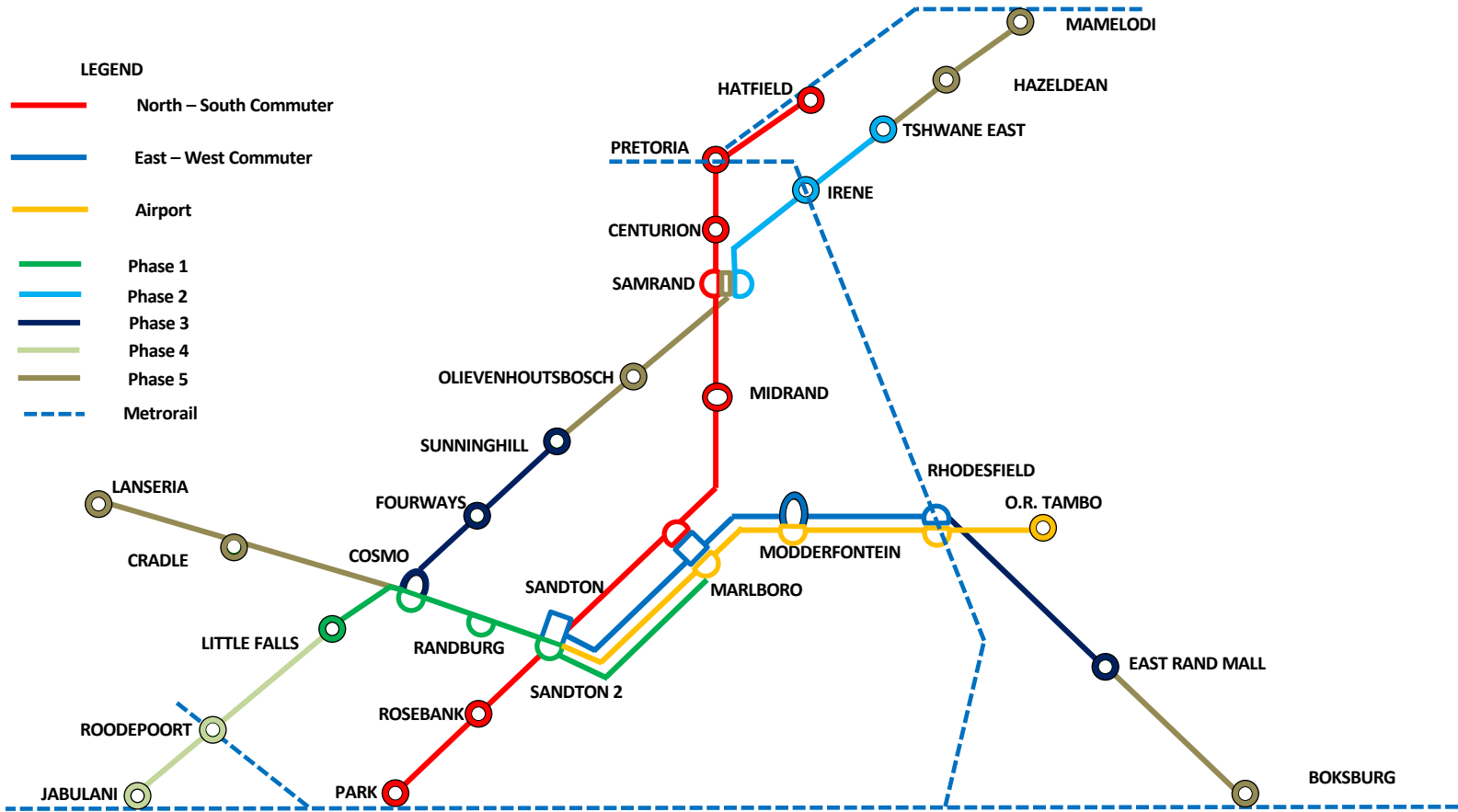
Gauteng Rapid Rail Integrated Network (GRRIN)



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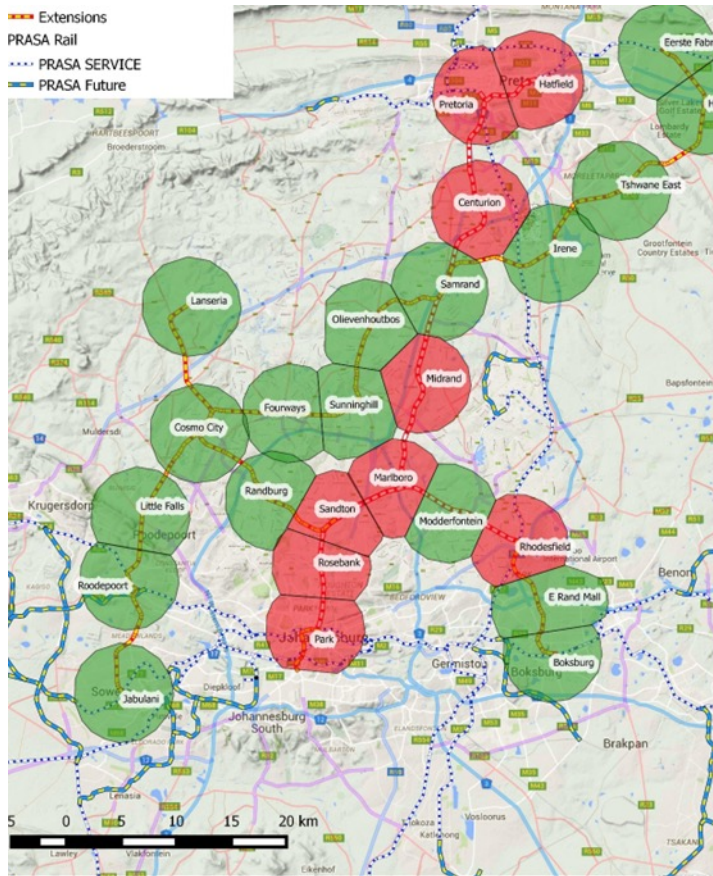
Gauteng Rapid Rail Integrated Network



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Gauteng Rapid Rail Integrated Network

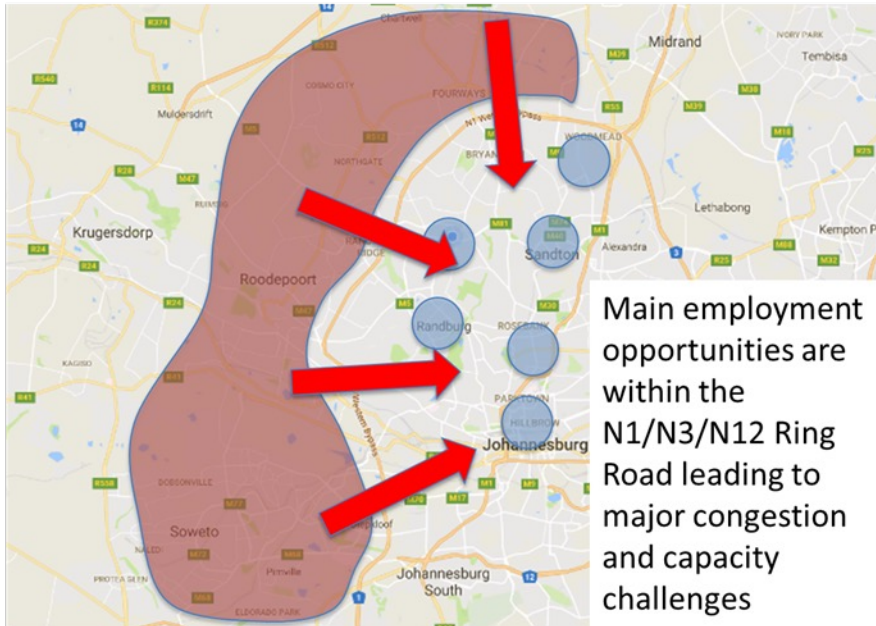


19 New Stations

- CoT 6 New Stations + Samrand
- CoE 3 New Stations + Rhodesfield II
- CoJ 10 New Stations + Modderfontein & Sandton II

Gauteng Rapid Rail Integrated Network

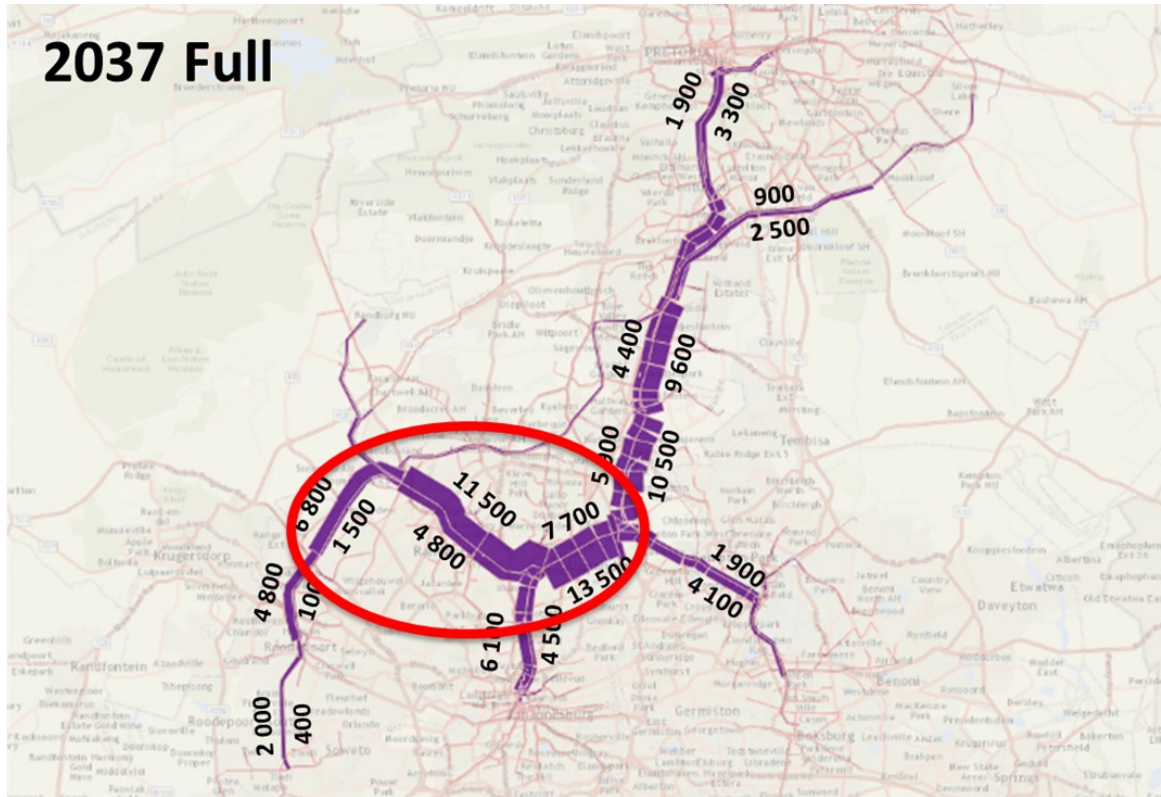
- Main Employment Nodes
- Residential Nodes



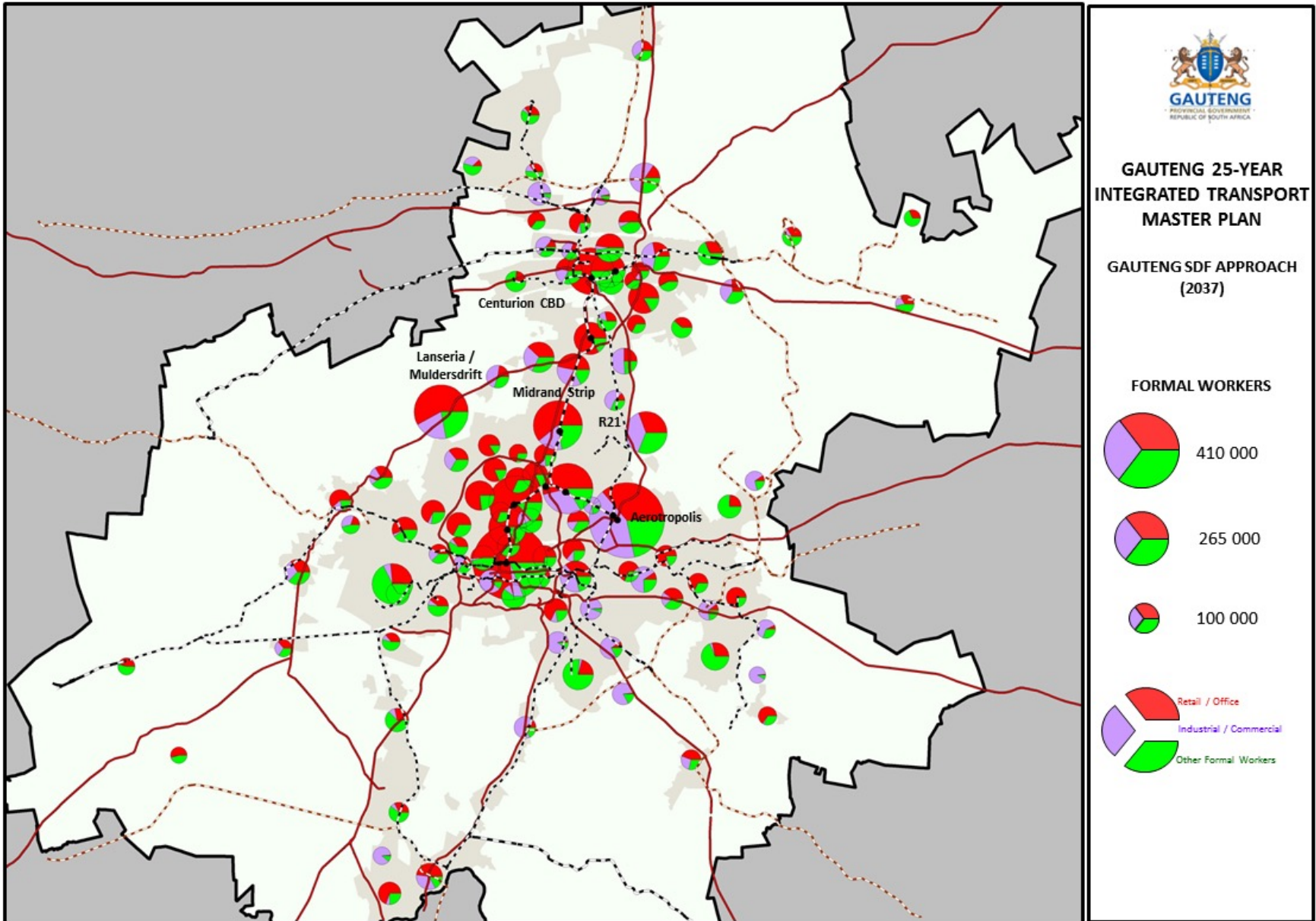
Why Phases 1 & 2

- Highest transport demand from model
- Un-serviced by rail, BRT, and bus public transport mode
- Key connectivity challenges
- Key economic nodes are located within the N1/N3/N12 ring road
- Stations have the highest alighting's and boarding's
- Links with CoJ development planning

Gauteng Rapid Rail Integrated Network



Gauteng Rapid Rail Integrated Network

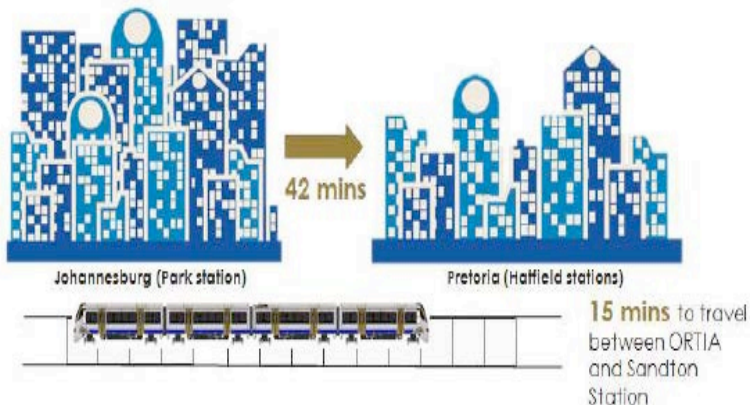


Gauteng Rapid Rail Integrated Network

Additional Benefits from the GRINN Extensions

Travel Time Savings

Gautrain



Source GMA Data 2015

GRRIN

- Soweto – Sandton
 - Travel time saving:
 - **86 mins**
- Soweto – Randburg
 - Travel time saving:
 - **44 mins**
- Cosmo – Sandton
 - Travel time saving:
 - **46 mins**
- Fourways – Sandton
 - Travel time saving:
 - **9 mins**

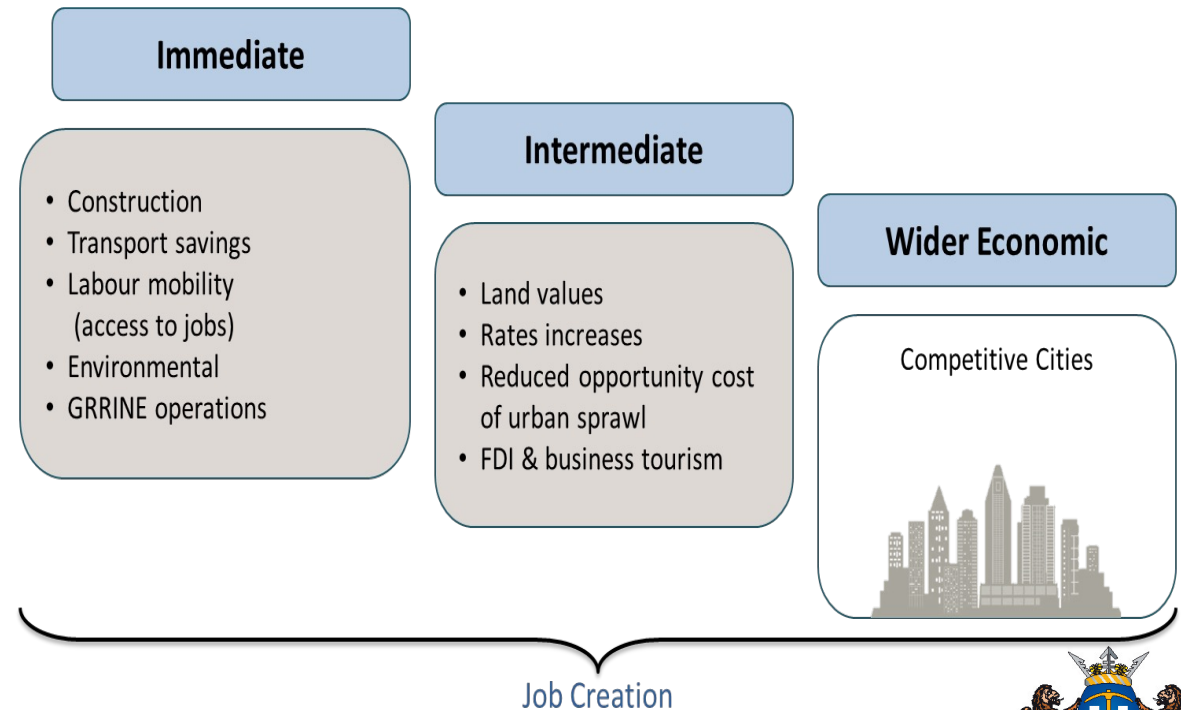


Wider Economic Benefits of GRRIN

Wider Economic Impact of GRRIN




- A third study on Economic Impact of GRRIN was done by Pegasys and Stratecon for the DBSA
- It considers the value created for different parties and examines the ways to get contributions proportional to that benefit

“Gautrain is more than just a Transport Project. It results in structural adjustment which impacts on competitiveness, productivity and job creation, all of which improve equity, access and efficiency within the Province “

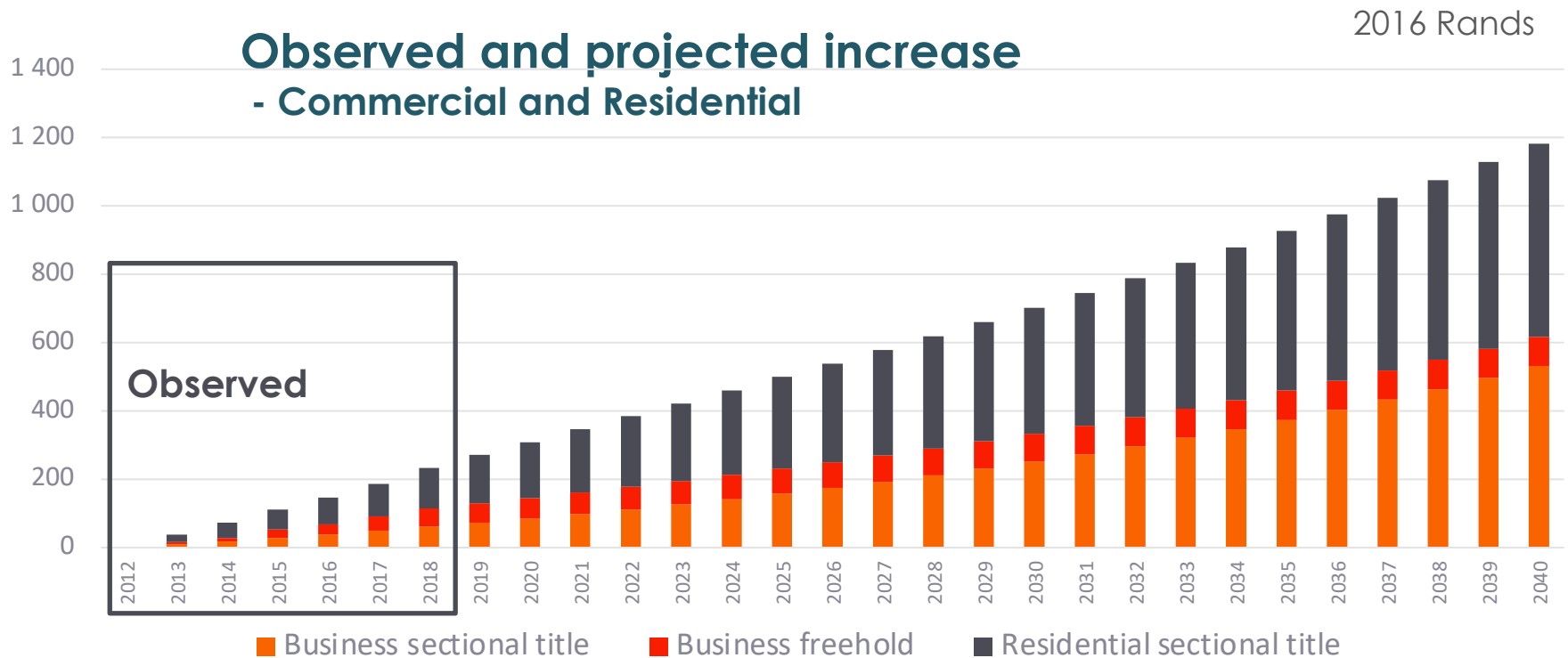


Wider Economic Impact of GRRIN

Summary of Phase 1 Benefits

Contribution		Value	Measure
Financial Benefits		R120bn	NPV 20 years
Contribution to GDP - South Africa		R120bn	NPV 20 years
Contribution to GDP - Gauteng		R85bn	NPV 20 years
Total job years		343 000	Total 20 years
Average annual jobs – South Africa		17 000	Average 20 years
Average annual jobs – Gauteng		12 000	Average 20 years
Tax contribution		R27bn	NPV 20 years

Wider Economic Impact of GRRIN



Study shows that **additional property rates** in nodes which are currently served by rapid rail may reach R700m p.a. by 2030 and **exceed R1bn by 2040**



Summary

Linking to Route Determination

- Why is Route Determination important and why start it now?
 - All roads and railway lines in the Province have to follow the same process – it's the way the urban form is developed in a structured way to provide certainty in the planning and land development processes
 - It is essential to establish a route and create statutory rights over a corridor. Without this there are risks of property speculation, developments and rezonings that make creating a railway line impossible in the future
 - The four stage process under the GTIA takes time. If left to last minute it leads to a rushed, messy process. For example the Gautrain the land process took ten years from 2001 with route determination and only ended in 2011 with construction nearly complete
 - The four stage process allows for structured public participation based on the amount of information available at each stage. For example, after the Route Determination and at the Preliminary Design Stage of Gautrain involved the biggest public participation process in South Africa to date and included numerous focus group meetings, public forums and consultations based on more detailed engineering designs.



Thank You



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