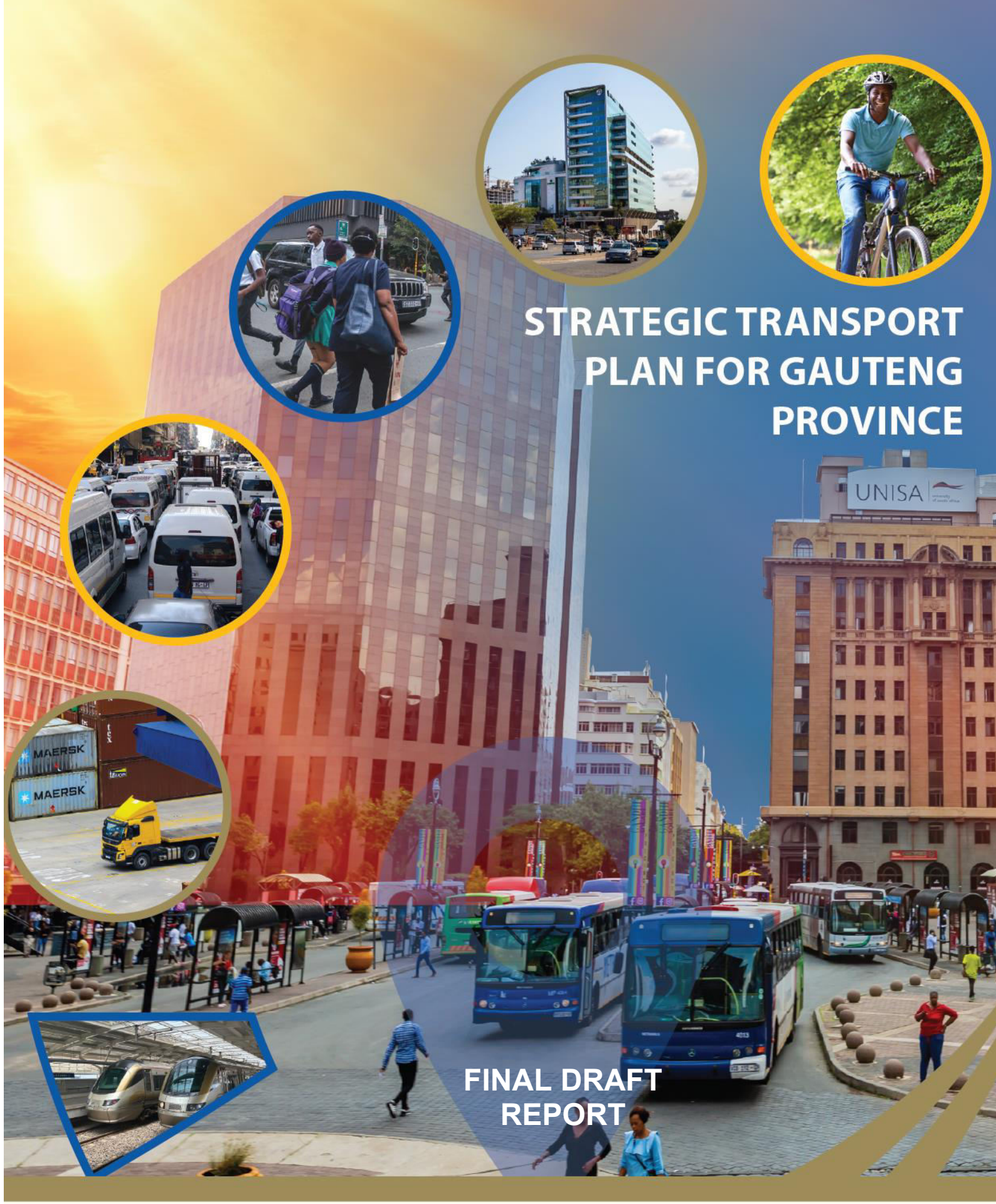

STRATEGIC TRANSPORT PLAN FOR GAUTENG PROVINCE

FINAL DRAFT REPORT

GAUTENG
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

GAUTENG TRANSPORT AUTHORITY
ACCESS GAUTENG 2050
Connecting People, Places and Opportunities Sustainably

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1. Introduction

1.1 About Transport Authority for Gauteng (TAG)

The establishment of the Transport Authority for Gauteng (TAG) was initiated in 2016 by Gauteng MEC for Roads and Transport, Dr Ismail Vadi, with the goal of creating a formal entity to oversee integrated public transport systems in the province. This process culminated in the promulgation of the Gauteng Transport Authority Act 2 of 2019 (TAG Act).

TAG's role is to address the need for an integrated public transport system in Gauteng, ensuring the coordination and consolidation of transport functions across governmental organs. This aligns with the Constitution of South Africa, which mandates cooperative governance between the three tiers of government to foster mutual trust, good faith and collaborative efforts in areas of common interest.

TAG's overarching objectives are to:

- Develop an integrated transport system which contributes to environmental sustainability and social cohesion and promotes economic progress.
- Provide a well-functioning, effective, modern, integrated and safe public transport system for all users in the province.
- Integrate the development of transport infrastructure and services in Gauteng.
- Improve access to the transport system, including public passenger transport services, for all persons, particularly those with disabilities.
- Promote increased use of the public transport system.
- Promote increased use of cycling and walking as means of transport.
- Ensure value for money in public transport initiatives.

1.1.1 Responsibilities and Key Actions Under the TAG Act

To achieve these goals, TAG is responsible for **strategic transport and integrated planning** and for developing two key plans to guide Gauteng's transport future:

- Strategic Transport Plan (STP): A long-term framework for the integrated development of transport infrastructure and services, covering a period of 15 years.
- Integrated Implementation Plan (IIP): A five-year plan that translates the STP's objectives into actionable steps.

To fulfil these responsibilities, TAG assisted in developing the Provincial Land Transport Framework (PLTF) for 2023-2027 and reviews strategic plans such as the Gauteng 25-Year Integrated Transport Master Plan (ITMP25) and the 5-Year Implementation Plan (GTIP5).

TAG's **general functions** are:

- Promoting an accessible public transport network.
- Regulating fares (although this function may now rest with the Transport Economic Regulator after the coming into operation of the Economic Regulation of Transport Act 2024).
- Securing the provision of integrated, public transport services and necessary modern and safe infrastructure.
- Developing an integrated ticketing system and comprehensive information system, thus embracing digital mobility and opportunities offered by 4IR.
- Effectively managing traffic and transport demand.
- Developing and implementing a single public transport insignia.
- Collecting statistical data and information and conducting research on transport.
- Fostering cooperation between public transport authorities, operators and various governmental entities.

By combining long-term strategic planning with actionable, focused initiatives, TAG aims to foster a well-functioning, inclusive and efficient transport network for Gauteng.

1.1.2 Key Transport Stakeholders

Transport is part of an integrated system that is influenced by many factors, often extending beyond municipalities and provincial boundaries into regional and international contexts. To deliver an effective transport system, integration and collaboration with other authorities and stakeholders are essential.

TAG works closely with several role-players, including:

- National: The Minister of Transport and the National Department of Transport (NDoT), South African National Roads Agency SOC Ltd (SANRAL), National Treasury (NT), Passenger Rail Agency of South Africa (PRASA), Transnet SOC Ltd and other national transport bodies.
- Regulatory Bodies: The National Public Transport Regulator (NPTR), Transport Economic Regulator (TER), Road Traffic Management Corporation (RTMC), Gauteng Provincial Regulatory Entity (GPRE) and the Cross-Border Road Transport Agency (CBRTA).
- Provincial: The Gauteng Department of Roads and Transport (GDRT), Gautrain Management Agency (GMA), Gauteng Department of Human Settlement (GDHS), Gauteng Growth and Development Agency (GGDA), Gauteng Department of Environment and other provincial departments.
- Municipal: Municipalities in the Province and the South African Local Government Association (SALGA).
- Private sector stakeholders and transport operators: include minibus taxi associations, bus operator associations, contracted and non-contracted bus operators, metered taxi associations, e-hailing operators, tourism and private sector databases through the Council for Scientific and Industrial Research (CSIR).
- The travelling public, organised labour and commuters who rely on public transport.

TAG further engages relevant national bodies such as ACSA (Airports Company South Africa), Border Management Authority (BDA) and Cross-Border Road Transport Agency (CBRTA) contributing to regional and international transport within the SADC sphere.

TAG plays a critical role in integrating and improving the province's transport systems by serving as an authority, that ensures coordination across various stakeholders. TAG ensures that transport strategies align with national policies, provincial goals and local plans to create a sustainable, accessible and efficient system for all users.

1.2 About the Strategic Transport Plan (STP)

The **Strategic Transport Plan (STP)** is a fundamental pillar of TAG's mandate, guiding the integrated and sustainable development of Gauteng's transport infrastructure and services. Developed in response to the policy direction set by the Provincial Land Transport Framework (PLTF), the STP provides **a long-term strategic planning framework for the integrated development of transport infrastructure and services in the province as well as for shaping the province's transport system.** This document sets out a vision- and principle-led framework for transport in Gauteng, structured around six core themes with a strong focus on the needs and experiences of transport end users. It is intended to guide and frame decision-making across the province by identifying shared priorities, fostering alignment among stakeholders, and encouraging broad-based support, while allowing for discretion and flexibility in implementation.

The STP aligns with the vision and priorities set out in the PLTF and provides **the overarching vision and strategic planning direction to all planning authorities**, including municipalities, SANRAL, PRASA, GMA, ACSA and GDRT. This coordination ensures that transport planning and infrastructure development are aligned across all spheres of government and stakeholders.

The STP operates within a 15-year timeframe and is closely linked to the ITMP25**.** The ITMP25 guides transport investment in Gauteng and directs the development of infrastructure and services, as well as GDRT's allocation of budgets and resources. Municipalities within Gauteng develop Integrated Transport Plans (ITPs), which are guided by the ITMP25 and responds to local transport priorities, direct municipal investments and ensure the integration of various transport modes in each municipality.

Key outputs from the ITMP25 and associated modelling that informed the Integrated Public Transport Network in the ITMP25 (**Figure 1-1** indicating the modelled transport demand), were considered for the STP, ensuring that the ITMP25 and the STP are aligned and address Gauteng's transport needs in a coherent way.

This report constitutes the **Strategic Transport Plan**, which will be followed by the **Integrated Implementation Plan (IIP)**. The IIP, mandated by section 8 of the TAG Act, is a five-year roadmap that will translate the strategic objectives of the STP into actionable steps. It will prioritise initiatives such as the development of an **integrated ticketing system** for public transport across Gauteng. In collaboration with the **Gauteng Department of Roads and Transport (GDRT)** and other stakeholders, TAG will promote the successful implementation of both the STP and IIP to realise a modern, inclusive, sustainable, effective and efficient transport system for the province.

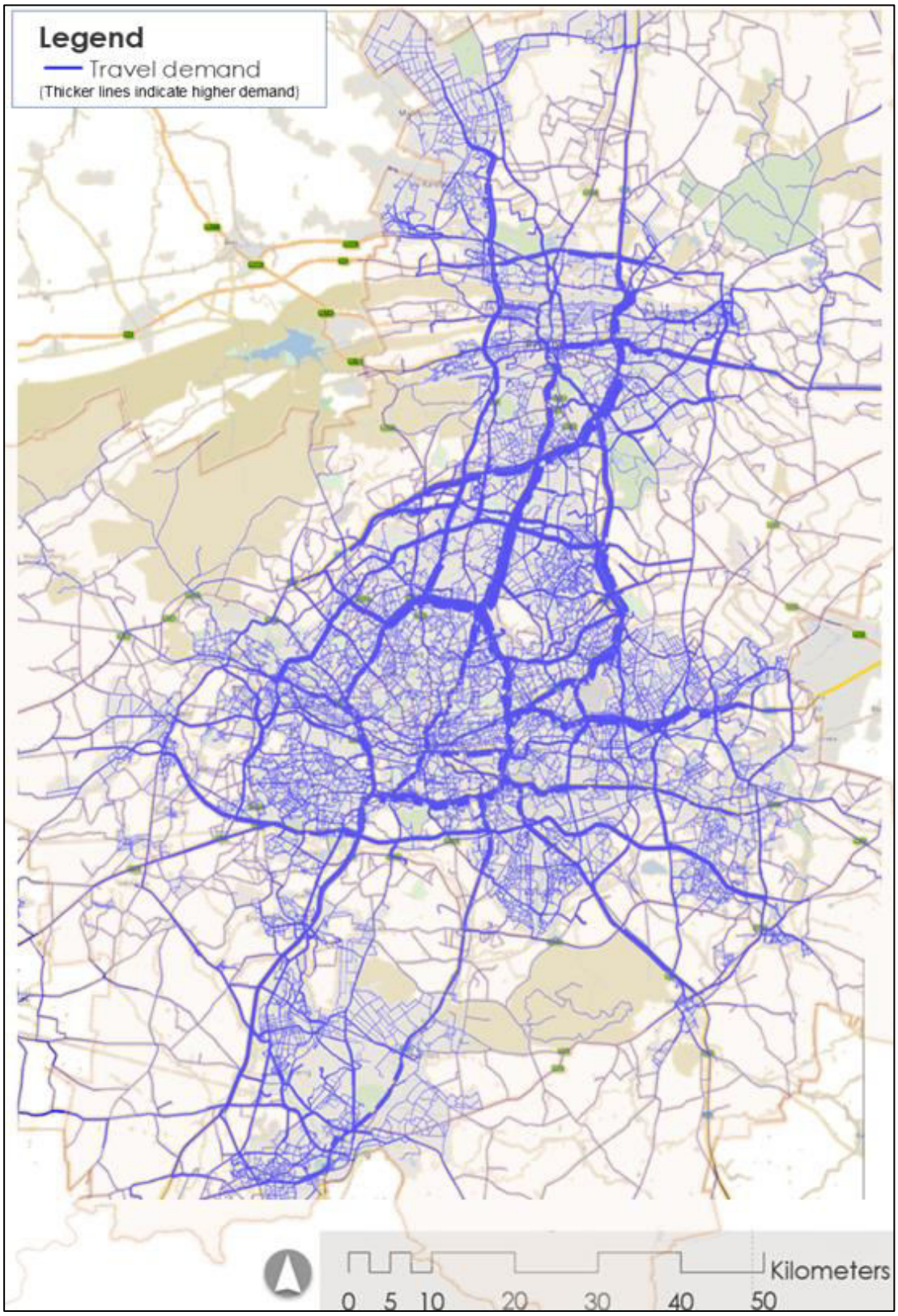

Figure 1-1: Modelled Transport Demand for the Gauteng Province (from the ITMP25)

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1.3 Guiding Visions and Objectives, Policy Directions

The vision for Gauteng Provincial Government is: **A liveable, equitable, inclusive and united Gauteng City-Region**. "The Gauteng We All Want" – *a Nayi le Walk* scenario, where social cohesion, economic expansion and a renewed spirit of constitutionalism gets Gauteng going.

1.3.1 Departure Points from PLTF

The STP and IIP cannot be drafted on a blank canvas - they need to guide choiceful decisions and inform, support and enable the implementation of the PLTF as well as municipal strategies that have already been developed. Therefore, significant **points of leverage** in the existing PLTF and other provincial or municipal strategies need to be identified.

- Planning should focus on integrating land-use, economics, engineering infrastructure and transport to promote public transport as a catalyst for nodal and corridor development. This approach requires collaboration among multiple stakeholders and includes integrated safety and security strategies.
- Public transport initiatives should encompass the Provincial Integrated Public Transport Network (IPTN), cross-border corridors and Transit-Oriented Developments (TODs) that align with the Strategic Public Transport Network (SPTN). Key actions should involve commencing with devolution of passenger rail, acceleration of rail network enhancements through PRASA and Gauteng Rapid Rail Integrated Network (GRRIN), revitalisation of key station precincts and sustainable subsidies for road-based public transport, including support for minibus taxis (MBTs).
- Sustainability and non-motorised transport (NMT) should be prioritised with a focus on urban areas, considering climate change and other environmental impacts. Strategies should aim to reduce travel needs through Travel Demand Management (TDM), promote modal shifts and support sustainable energy sources for transport. Universal access must be integrated into the overall system, influencing trip design and guidelines.
- For road transport infrastructure, a multi-year implementation plan for upgrades and maintenance should be established in collaboration with municipalities. This integrated approach should ensure continued mobility while optimising the use of right-of-way for all modes and utilities, adhering to sustainable modal hierarchies and accommodating technological utilities.
- In freight movement, the focus should be on reducing logistics costs by investing in freight networks, including truck stops, hubs and corridors, as well as last-mile solutions. Optimising these elements should enhance economic advantages while maintaining the shift from road to rail for rail-friendly freight.
- Technological advancements should play a crucial role in transforming transport into a digital environment. This includes integrating data management, creation of a single point of access to mobility data, traffic management centre (TMC) and Intelligent Transport Systems (ITS) to improve public transport operations, payment systems and road management.
- In tourism transport, it was recommended that the feasibility of the devolution of Operating Licences to the Provincial Regulatory Entity (PRE) be investigated to address the backlog.
- Funding strategies should explore alternative sources, such as green funding and assured budgeting for ongoing road maintenance. The user-pay principle should also be re-established.
- Finally, a robust monitoring and evaluation (M&E) framework should be implemented, developed by key implementers in collaboration with key stakeholders, establishing key performance indicators (KPIs) to assess progress effectively.

1.3.2 National and Provincial Themes

The STP responds to the national drive to lift the economy to a higher and more inclusive growth path, which rests on four pillars: maintaining macroeconomic stability; implementing structural reforms; supporting growth-enhancing infrastructure; and building state capability.[1] Three priorities to be addressed from a national perspective are:

- To drive inclusive economic growth and job creation;
- To reduce poverty and the high cost of living; and
- To build a capable, ethical and developmental state.

The themes to be addressed from a provincial perspective are:

- Township, Informal Settlement and Hostel (TISH) programme;
- Central Business District (CBD) revitalisation (such as Pretoria, Johannesburg, Roodepoort and Kempton Park);
- Links to key nodes within and outside the Province (Krugersdorp, Rustenburg and Sasolburg);
- Focusing on Special Economic Zones (SEZs), including the Lanseria node;
- Addressing the issue of taxi violence; and
- Training and capacitation within the Province and its municipalities.

The five elevated priorities[2] for Gauteng Province, anchored on TISH, are as follows:

- Economic recovery and acceleration;
- Improving the living conditions in townships, informal settlements and hostels (TISH);
- Strengthen the battle against crime, corruption, vandalism and lawlessness;
- Focus on incomplete infrastructure investment
- Prioritization of health and wellness of communities; and
- Strengthen the capacity of the state to deliver services.

An increasingly critical theme is the Climate Crisis, which is impacting all aspects of society and the economy. This issue must be incorporated into all planning efforts going forward.

1.3.3 Guiding Policy Documents and Frameworks

The STP and IIP need to guide deliberate decisions and inform, support and enable the implementation of the PLTF as well as municipal strategies that have already been developed. The guiding visions and objectives for the transport strategy in Gauteng are outlined across several key documents and

[1] 2024 Medium-term Budget Policy Statement (MTBPS) in the National Assembly on 30 October 2024

[2] Annual Citizens' Report | 2023/24 Financial Year Gauteng Province https://cmbinary.gauteng.gov.za/Media?path=OOP/Documents/Annual%20Reports/Office%20of%20the%20Premier%20Annual%20Citizens%20Report%202023%20-%202024.pdf&Item=2131&Type=Documents&Location=/OOP

frameworks that collectively guide Gauteng's transport policy toward future-focused, integrated and sustainable transport solutions as illustrated in **Figure 1-2**.

Figure 1-2: Key guiding frameworks and documents

2. Communication and Stakeholder Engagement

The development of the STP involved a structured stakeholder engagement process. This started with preparing a Stakeholder Engagement Plan that outlined the methodology. A stakeholder database was created and key role-players (KRPs) and strategic key role-players (SKRPs) were identified and mapped. All stakeholders were notified of the project.

To ensure comprehensive stakeholder management, a state-of-the-art database software, Darzin's Simply Stakeholders program[3] was used. All stakeholder interactions and records are managed through this software, though physical documentation is also maintained.

The initial phase of developing the Strategic Framework began with a Purpose and Outcomes Workshop on 26 February 2024, involving both the project and client teams. The aim of this workshop was to align the framework with stakeholder needs, ensuring that it remains relevant and impactful for both present and future challenges.

On 22 March 2024, formal notifications were sent to identified stakeholders, inviting them to participate in the strategic visioning process aimed at ensuring that the STP is practical and adaptable to delivering the desired impact. The process involved two key workshops and meetings, namely:

- **Strategic Role-Player Workshop (10 April 2024):** bringing together government officials, transport industry representatives and the project team. The workshop explored an integrated approach to transport planning, aimed at seizing economic opportunities, addressing climate change and improving community well-being. Thought leaders and key role-players also discussed current trends in Gauteng's transport system. Several desired outcomes were identified, including a common understanding of the project, buy-in and commitment from stakeholders, collaborative planning across different disciplines and the acknowledgment of the STP and IIP as viable and desirable processes.
- **Virtual Feedback Meeting (25 April 2024):** This meeting reviewed the outcomes of the previous workshop and refined the "Pictures of Success" for Horizon 2030 (IIP) and 2040 (STP). Discussions centred around transport as a fundamental right, its role in economic development and the need for better integration of transport modes and land use planning.

[3] https://simplystakeholders.com/

The outcome of the initial workshop with SKRPs and KRPs emphasised three key factors to consider in the vision of success for 2030:

- Behaviour change is an incremental process and achieving some change by 2030 will set the stage for the goals set for 2040. Behaviour change will depend on communication and incentives.
- The transport system will be in a progressive evolution towards the 2040 goals. This includes getting freight back to rail for rail-friendly freight where possible and using data effectively to drive innovation in the transport system.
- The importance of renewables and the use of new energy vehicles (NEVs) must be addressed. A realistic approach to the technological hurdles associated with NEVs must be part of the planning cycle, considering all aspects of the shift towards broad acceptance and adoption of NEVs.

The initial consultation process also highlighted key factors for shaping a vision of success for 2040:

- This vision should build on the progress expected by 2030, with a focus on intentional changes that can be directly influenced. A central theme is the application of technology in all areas, including ITS and data-driven systems to support integrated, flexible, adaptable, and accessible transport networks.
- Furthermore, there was a call for strong emphasis on the integration of land use planning and public transport to the extent that public amenities are strategically planned around public transport, with the intention to reduce the necessity for travel, promote NMT and establish safe areas.
- The vision includes a target to halve commuting times, which is bold, but crucial for overall efficiency. Finally, the importance of visible policing to ensure safety within the transport system is emphasized as a key factor for the vision's success.

After completion of the Draft STP, the SKRPs, KRPs and Interested and Affected Parties (I&APs) were notified via email about its availability for public review and comment for a 30-day period (20 February to 24 March 2025). Additionally, newspaper advertorials were published in both print and online editions of *The Sowetan*, *The Star*, and *Die Beeld*, in multiple languages spoken in Gauteng. An advertorial in the Gauteng Provincial Gazette was also published, including the placement of hard copies of the Draft STP and its Executive Summary (in multiple languages spoken in Gauteng) at various government offices and municipalities across Gauteng, accompanied by posters to encourage public input.

Electronic files of the Draft STP and its Executive Summary (in multiple languages spoken in Gauteng), as well as the audio versions of the Executive Summary in the multiple languages, were posted on the project website, and a link was distributed via email and bulk SMS to all SKRPs, KRPs, and I&APs on the stakeholder database.

The following face-to-face workshops were held to gather feedback on the Draft STP and proposed strategic interventions:

- **Hybrid Strategic Role-Player Workshop (4 February 2025):** The purpose of this workshop was to present SKRPs and KRPs with an advanced overview of the Draft STP and to gather initial comments ahead of the formal comment period.
- **Hybrid Strategic Role-Player Workshop (4 March 2025):** Once the Draft STP was made available for public review and comment, a SKRP and KRP Workshop was held to discuss the Draft STP and its strategic interventions.
- **Virtual workshop with Interested and Affected Parties (I&AP) (11 March 2025)**: During the STP public review and comment period, I&APs were invited to participate in a meeting, where feedback on the Draft STP and its strategic interventions was invited.
- **Dedicated workshop with GDRT (25 March 2025):** The aim of this workshop was to equip colleagues from the GDRT with a comprehensive understanding of the Draft STP in order to provide informed strategic direction, ensure alignment with the provincial transport objectives, and serve as a key stakeholder to facilitate meaningful engagement and collaboration.

Written comments received from stakeholders during the comment period were via the dedicated project mailbox. Verbal comments received during the workshops were noted. This process ensured comprehensive stakeholder engagement and input into the development of the STP, in accordance with legal requirements (TAG Act). All comments received were considered and, where relevant, included in the updated STP .

Figure 2-1 provides a summary of the key steps followed in the STP stakeholder engagement process.

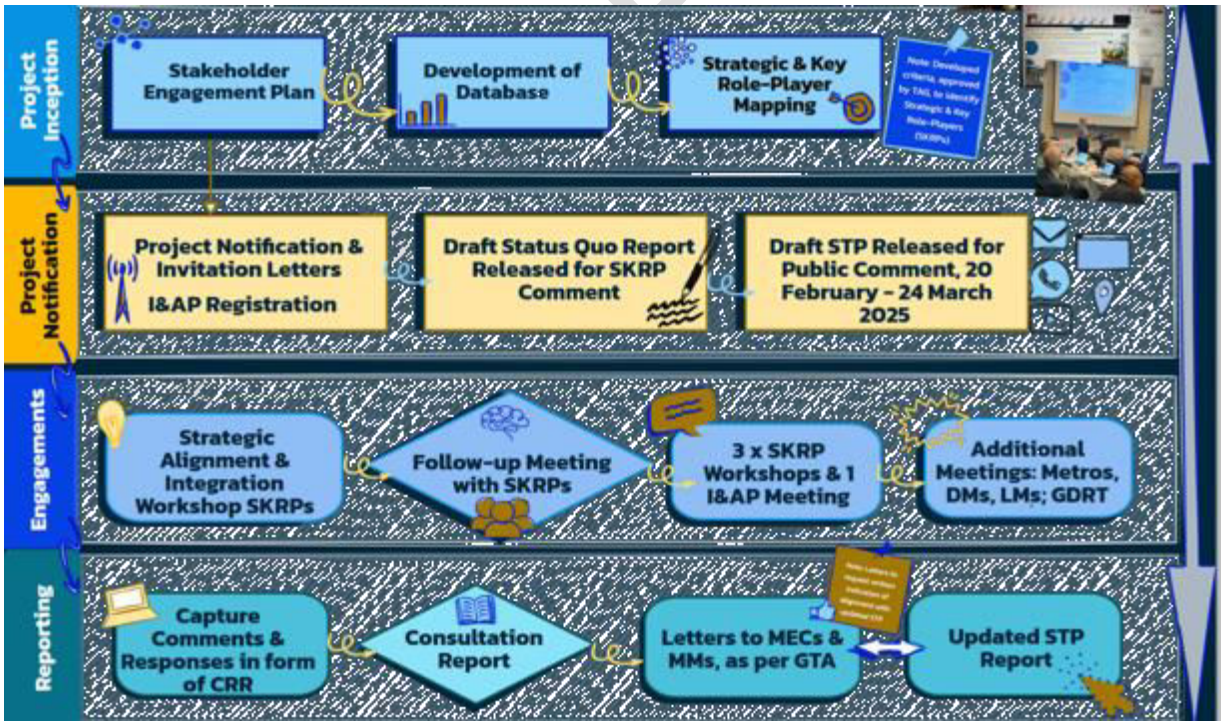

Figure 2-1: Summary of the steps in the STP Stakeholder Engagement process

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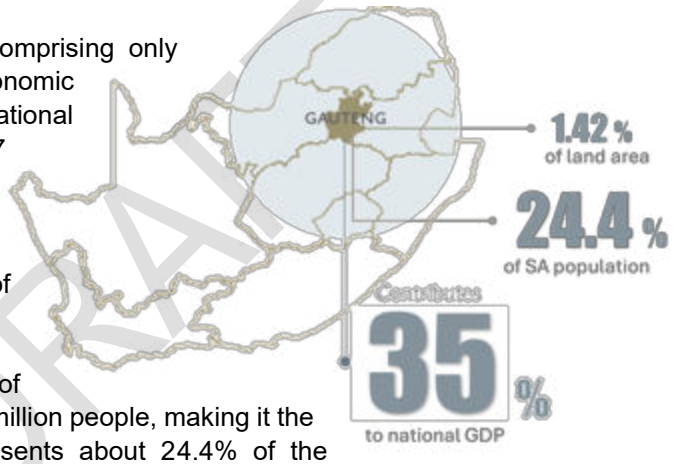
3. The Case for Change: Situation Analysis, Challenges and Opportunities

3.1 The Gauteng Province in Context

Gauteng is the smallest province in South Africa, comprising only 1.42% of the total land area, but stands as an economic powerhouse, making a substantial contribution to the national and regional economies. With a GDP exceeding R1.47 trillion and over 4 million employment opportunities, Gauteng solidifies its position as the nation's economic leader. It surpasses other provinces by a significant margin, accounting for approximately 35% of South Africa's total economic output. [4]



Gauteng is also the province with the largest number of residents. Gauteng's population is approximately 15.1 million people, making it the most populous province in South Africa. This represents about 24.4% of the country's total population, which is around 62 million people.[5]

The Gauteng population is expected to further increase to 19.8 million by 2037. Currently there is a yearly migration of 200 000 people from the other provinces to Gauteng. This growth is making Gauteng one of the largest urban agglomerations in the World (GCRO, 2021).

Of Gauteng's population, the province's three metros account for 87% of the population. In 2021, the City of Johannesburg had the largest population at just over 6 million people, followed by the city of Ekurhuleni (3,8 million) and the City of Tshwane (3,8 million). The Sedibeng and West Rand District Municipalities had the smallest populations at just under 1 million each (refer to **Figure 3-1**Error! Reference source not found.).

Gauteng's total estimated annual GHG CO2eq emissions increased by 4.6% between 2021 and 2022 from 41,332Mt to 43,347Mt. Transport is the highest contributor to GHG emissions (39.7% in 2021 and 42.1% in 2022). Road transport account for 97% of transport emissions.[6]

[4] https://www.gauteng.gov.za/News/NewsDetails/%7B99d3f058-b884-4eb5-a5c1-72f34ba282f1%7D, 2024; https://www.statssa.gov.za/?p=16650, 2022

[5] h https://www.statssa.gov.za/?p=16716, October 2023

[6] Gauteng Greenhouse Gas Inventory and Measurement, Reporting and Verification System: Draft Inventory Report, 12 July 2024

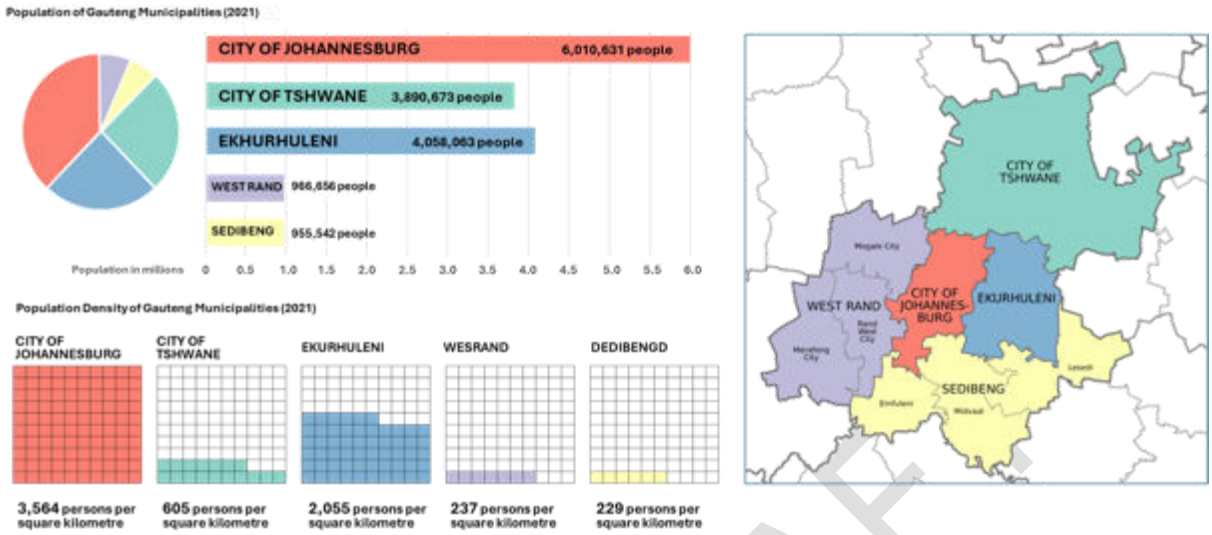


Figure 3-1: Gauteng population distribution and densities (Gauteng SDF 2021)

3.2 External Challenges and Trends Impacting Transport

The transport system in Gauteng faces numerous external pressures, including environmental and economic instability, technological disruption and geopolitical uncertainty. Challenges such as crime, poverty and high living costs, combined with spatial inequalities limit access to safe, affordable transport. Economic marginalisation has fostered the growth of informal businesses and minibus taxis, while rapid urbanisation continues to strain infrastructure, increasing the demand for affordable transport.

A further challenge is the rapidly changing international geopolitical environment, which may significantly escalate key risks[7] both globally and for South Africa as outlined in the Global Risk Report for 2025. These risks include environmental crises, unemployment, lack of economic opportunity, water supply shortages, poverty and inequality as well as economic downturn.

Technological shifts, including increased digitalisation and automation, are also changing how people move and interact with the transport system.

The transport system is influenced by a range of external factors and recent developments. The most relevant for the strategic plan are summarised in **Table 3-1**.

Table 3-1: Developments and trends impacting transport in Gauteng

External Influence	Details
Poverty and Unemployment	High unemployment and inequality impact transport demand and affordability, leading to inadequate transport solutions for lower-income groups. Current available labour skills do not meet market needs for economic growth.
Economy	Economic growth has slowed recently due to factors such as rising consumer debt, global shocks, load shedding, logistics issues, and reduced consumer

[7] The Global Risks Report 2025

External Influence	Details
	spending. Decline in mining and growth in services and manufacturing are key trends.
Climate Change	Increasing greenhouse gas emissions and vulnerability to extreme weather patterns and abrupt events. "*We are on the brink of an irreversible climate disaster. This is a global emergency beyond any doubt. Much of the very fabric of life on Earth is imperilled. We are stepping into a critical and unpredictable new phase of the climate crisis*", according to the 2024 Oxford State of the Climate report.[8]
Geo & Sociopolitical Shifts	Rapid socio and geopolitical changes may significantly impact on the social, political and economic landscapes and thus the economy of Gauteng.
Environmental Collapse	Currently the world is experiencing significant changes in key systems which support humanity. Known as Planetary Boundaries a number of these are at risk of collapse. Potsdam Institute for Climate Research 2024.[9]
Governance Incapacities	Inefficiencies, corruption and lack of coordination across government levels hinder effective transport planning and enforcement.
Funding/Subsidies	Shift from mode-based to transport plan-based subsidies to address backlogs and support social inclusion through capital and operational subsidies.
Informality	Informal businesses dominate township and city economies due to marginalisation and inequality.
Population Growth	Annual net migration of 200,000. Intensification due to economic and environmental refugees expected. Ageing population, leading to skilled labour shortages, unemployment and skills drain.
Urbanisation	Globally, urbanisation and rapid urban growth place significant pressures on infrastructure, driving substantial demand for sustainable housing, transport and essential services, especially in already dense and resource-stressed areas. 86% of Gauteng's population live in the metros.
Bulk Infrastructure Investment and Maintenance	Infrastructure Investment and Maintenance: Persistent issues with aging engineering infrastructure, including roads and public transit facilities and the limited investment affect the ability to upgrade and expand transport networks to meet the growing demand and mean municipalities are unable to reach their density targets
Road Safety	South Africa has one of the highest road traffic fatality rates in the world, mostly affecting pedestrians and passengers.
Alternative Energies	Shift away from fossil fuels and the carbon economy and growing pressure for all countries to conform to lower carbon emissions standards. Increasing use of alternative energy sources like natural gas, hydrogen fuel cells and hybrids for cars, buses and trains as well as e-mobility with electric vehicles using renewable sources.
Micro-mobility	Globally micro-mobility use (defined by the U.S. Federal Highway Administration.as "any small, low-speed, human, or electric-powered transport device, including bicycles, scooters, electric-assist bicycles, electric

[8] https://academic.oup.com/bioscience/advance-article-pdf/doi/10.1093/biosci/biae087/59551278/biae087.pdf

[9] https://www.pik-potsdam.de/en/news/latest-news/earth-exceed-safe-limits-first-planetary-health-check-issues-red-alert

External Influence	Details
	scooters and other small, lightweight, wheeled conveyances") increased by 8.3% between 2022 and 2023 and an 8.6% increase in Q1 2024 versus Q1 2023 (https://inrix.com/scorecard/#city-ranking-list). This growth will require authorities to manage the roadway differently and ensure effective distribution and compliance.
Shared Mobility	On-demand services like car-sharing, ridesharing and bike-sharing reduce the need for personal car ownership and support new models like Mobility-as-a-Service (MaaS).
Advanced Technologies	Digital advancements like AI, robotics, machine learning, data analytics and autonomous systems are transforming transport systems, increasing efficiency and enhancing user experience. These smarter, more efficient systems can predict real-time traffic patterns, reduce congestion and optimise public transport schedules.
Digitised Data	Digitised data is central to modern transport systems, enabling advanced analytics, real-time monitoring and predictive maintenance. Data from sensors, GPS and apps can be used to optimise routes, improve traffic management, enhanced safety and improve user experience. Centralised platforms provide a single point of access to transport data but relies on institutional collaboration.
Automation	The market for connected and autonomous vehicles is projected to grow by 22% annually until 2035. This includes self-driving cars, buses and drones for freight and last-mile deliveries.
Intelligent Systems	Connected vehicles and infrastructure systems (Internet of Things or IoT) combined with shared and real-time data integration. Applications include enhancement of city infrastructure and travel experiences by improving traffic management, public services and infrastructure maintenance.
Smart Cities	IoT, big data and AI are driving smarter, more sustainable urban living by enhancing energy management, transport systems and city planning. The GDRT envisions transforming the province into Smart Cities to address urbanisation challenges.

3.3 Current Status of the Gauteng Transport System

Gauteng's economic potential offers substantial opportunities to tackle issues of social inequity and spatial exclusion. However, current transport trends reinforce an increasingly unsustainable system. Private car usage is rising, public transport remains a mode of force for many, while walking and cycling are not convenient, with insufficient, inadequate or poorly maintained infrastructure, compounded by safety and security concerns.

Traffic congestion in Gauteng, particularly in major hubs like Pretoria and Johannesburg, continues to worsen, leading to increased travel times, higher fuel costs and elevated CO_2 emissions.

To address these challenges by 2030, Gauteng's transport system must align with the Sustainable Development Goals (SDGs), the National Development Plan (NDP) and the Growing Gauteng Together initiative, all of which target significant improvements by 2030. This requires a shift away from business as usual, no longer applying the traditional "Predict and Provide" model, which focuses on accommodating forecasted demand, to a "Vision and Provide" model, which prioritises access and mobility for both people and freight. A 'no longer business as usual' approach must place sustainability at the core of transport and urban planning, ensuring that transport infrastructure is climate-resilient and that carbon emissions from transport are minimised.

For public transport to become viable, high-density development nodes and mixed-use land along transport corridors are essential. TOD and urban regeneration that focus on mixed land use present clear opportunities to reduce both travel distances and times, encourage greater public transport uptake and improve the affordability of the system for the authorities and the users. It is important that the various barriers that hinder progress, such as institutional fragmentation, political constraints, limited funding, complex implementation processes, insufficient data and urban sprawl, are addressed.

3.3.1 Spatial and Land Use Planning Trends

Gauteng is South Africa's most densely populated province, experiencing rapid urbanization and significant spatial transformation. The legacy of apartheid's spatial planning still influences current development patterns, resulting in fragmented urban areas and persistent socio-economic disparities.

Urban sprawl is a significant challenge, particularly in peripheral areas such as the West Rand and Sedibeng. The sprawling urban form is characterized by remote high-density settlements, which place a strain on engineering and transport infrastructure and public services and result in long-distance and costly commutes and fragmented urban form.

The province has seen significant residential and commercial development in response to economic growth and population expansion. However, much of this growth has occurred in a scattered and uncoordinated manner, exacerbating the problems of sprawl and service delivery inefficiencies. Urbanisation is characterised by uneven growth across municipalities. Johannesburg and Tshwane have experienced accelerated growth and densification, particularly in Johannesburg's built-up centre and Tshwane's eastern suburbs, while development in peripheral municipalities remains slow or stagnant. Well-located areas continue to have very low densities in both form and character, with only certain inner-city zones showing notable increases in density. The anomaly of high-density peripheral dormitory townships persists and has expanded, with growing concentrations in townships, downtown areas and informal settlements. Wealthier areas are seeing an expansion of gated communities, which disrupts the urban network and limits future sustainable development.

There is a growing trend towards suburbanization, with new residential developments often located far from employment centres, creating long commutes and increasing transport costs for residents.

Two Land Use Demand Forecast scenarios are presented, to consider the potential effect and spatial implication that economic and demographic growth between 2022 and 2047 could have on residential (e.g. to accommodate demographic/household growth) and non-residential (e.g. economic land uses such as industrial, office, retail and trade, etc.) land uses.

- **A Realistic Land Use Demand Forecast** - based on current trends, existing policies and historical data: Rapid demographic growth drives urban expansion and densification up to the urban edge, while slow economic growth under the realistic land use demand forecast clusters economic land use expansion in the core and central economic productive area.
- **An Optimistic Land-Use Demand Forecast** - moderate demographic growth under the optimistic scenario concentrates urban residential development within infill development and densification priority areas. Economic expansion permeates the core economic centre and enables decentralised economic growth.

The distribution of non-residential growth between 2022 and 2047, for the realistic scenario (grey dots), compared with the optimistic scenario (red dots), is illustrated in **Figure 3-2**.

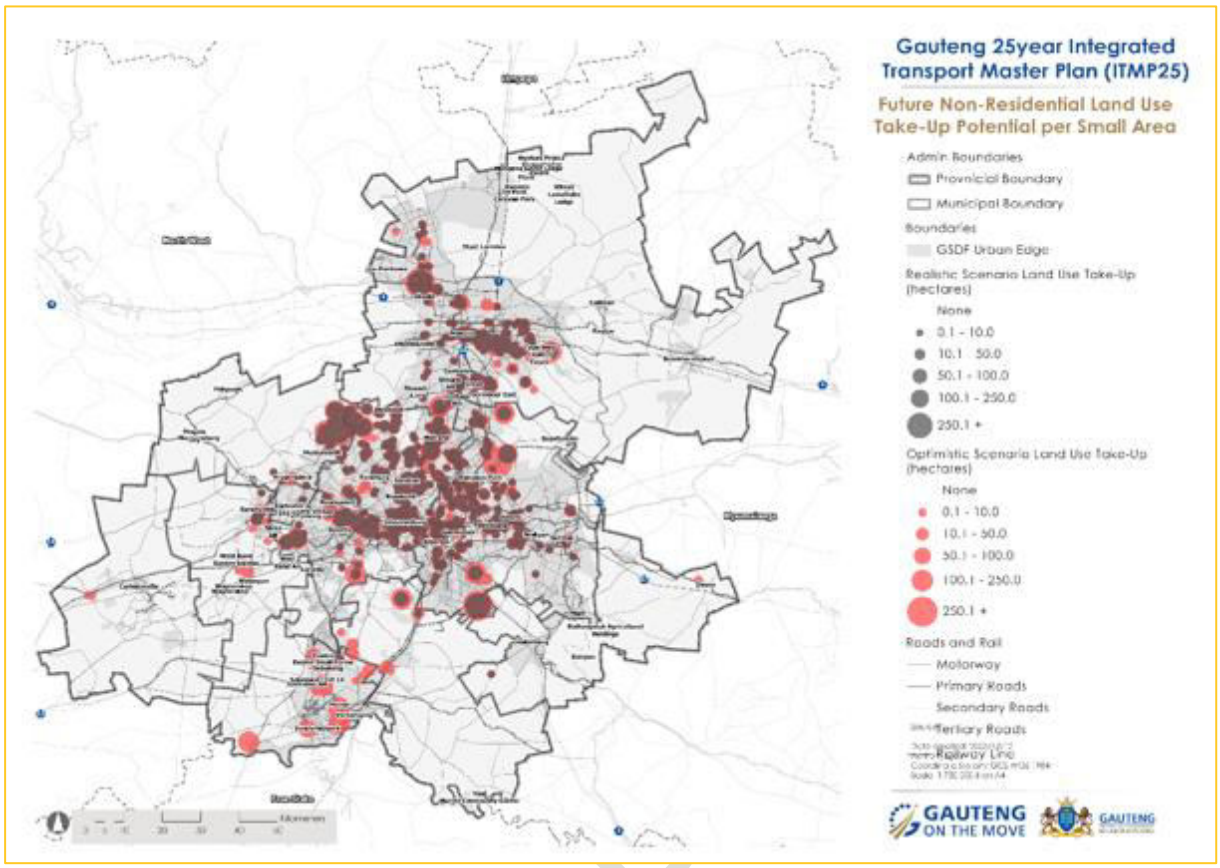


**Figure 3-2: Distribution of non-residential land-use growth for the Realistic and Optimistic Land-Use Demand Forecast scenarios **

Source: DEMACON GIS and Modelling, 2024

3.3.2 Sustainable Transport

Environmental concerns, dramatic change in climate patterns and events and energy shortages highlight the urgent need for sustainable transport solutions. A sustainable transport vision focuses on minimising environmental impacts, reducing greenhouse gas emissions and promoting energy efficiency whilst also helping address social inequity. It encourages the use of cleaner and more efficient modes of transport, such as public transit, cycling and walking.

To avoid further environmental degradation and reduce carbon footprints, a focus on travel demand management is essential. This must be combined with the adoption of electric vehicles, electrified trains, and renewable energy to reduce dependence on fossil fuels.

The 2013 25-year Integrated Transport Master Plan (ITMP25) highlights the need for a policy shift: "*Achieving sustainable transport will require an evolutionary move towards environmentally sustainable transport policies. Policy implementation, particularly in South Africa and Gauteng, has been weak and the proposed Transport Authority could play a critical role in ensuring effective implementation. Sustainable transport also calls for demand management policies rather than supply-oriented ones.*" This policy shift is even more critical today, as the policy changes recommended in 2013 have yet to be fully adopted.

To improve outcomes, sustainable accessibility must be prioritised so that it informs and underpins all strategies, governance frameworks, investment priorities and planning processes that follow. These strategies must extend beyond the transport sector and should reflect integrated thinking with development planning. Collaboration across departments is therefore very important to achieving accessibility objectives.

3.3.3 Non-Motorised Transport

Walking remains the predominant mode in Gauteng (27.7% of all modes, 2019/20 GTHS). The key issue is how to further promote and enhance a sustainable and walkable Gauteng City Region, as the current urban form with low densities results in long walking distances. This requires strong integration between land use and transport planning, to shorten travel distances and to make NMT more viable.

Road reserve designs do in many instances not adequately provide for NMT users. Cycle commuting is growing, but very little is available by way of convenient and safe infrastructure for cyclists. Limited investment is made in first-and-last mile NMT facilities at public transport nodes. New developments do not adequately provide for NMT and private developer investments are mostly focussed on increased accessibility for motorised private vehicles. Universal Access (UA) to cater for the needs of people with physical mobility challenges is mostly not catered for and remains a key concern.

3.3.4 Travel Demand Management

TDM implementation has been slow within municipalities and across the province. Despite the inclusion of TDM strategies in the Comprehensive Integrated Transport Plans (CITPs), little progress has been made in implementing them. The City of Johannesburg (COJ) Transport Department has made strides in TDM, including the development of a Complete Streets Manual and the launch of an extensive TDM programme, Vaya Smart, in October 2023. The 2013 GITMP25 recognised the need for a comprehensive approach to TDM in Gauteng, yet there has been no significant effort by the province to advance the TDM proposals. The lack of coordination structures between municipalities and the province, coupled with insufficient or non-existent funding allocation for TDM initiatives and pilot studies, means there has been no substantial progress in this crucial aspect of the transport plan.

Key components of a successful TDM strategy involve improving public transport, promoting non-motorised transport options and implementing behaviour change programmes. The latest mode share surveys, however, indicate a shift towards more private vehicle and minibus taxis use and away from sustainable modes. Additionally, societal perceptions of car ownership, safety concerns and slow land use and transport integration further hinder public transport adoption. Addressing these challenges requires a multifaceted approach, encompassing a complete overhaul of the Public Transport System, enhancing the attractiveness of active travel modes and behaviour change programmes towards sustainable choices.

Communication and education efforts to drive behaviour change and promote sustainable and active travel modes have not received the necessary attention, considering how important travel demand management is to manage the congestion and inequality. The absence of clear guidelines or enforceable policies that will call for province-wide TDM interventions and behaviour change programmes further limit delivery and resourcing (human and financial) necessary for these initiatives.

3.3.5 Public Transport System

The integration of land use and transport planning remains the biggest challenge for the promotion of an effective and efficient public transport system in the province.

Public transport users are experiencing a severe decline in service quality, caused by various factors that make the overall journey less convenient, uncomfortable and inefficient. Service quality, including reliability, safety and comfort, is crucial for encouraging public transport use. The Gauteng public transport system faces numerous interconnected challenges that negatively impact service quality, user experience and ridership:

- *Service Quality:* Frequent delays and service disruptions in both rail and road-based modes cause users to lose confidence in the system. Reliability issues arise from an ageing fleet and inadequate maintenance, leading to frequent delays. Users endure long waits at poorly equipped facilities, particularly during peak hours with limited or no alternative public transport offerings. The experience is worsened by overloading of vehicles due to limited vehicle availability.
- *Fragmented Planning and Funding:* Siloed approaches mean that Gauteng's public transport networks (SPTNs) are not integrated. The focus is mainly on the three metropolitan areas, with little attention to cross-boundary connections. This inward focus overlooks the roughly 700,000 daily trips that cross municipal borders (GHTS, 2019). Most of these trips occur between the West Rand District Municipality and the City of Johannesburg, yet this corridor is not included in current SPTN planning. To ensure seamless provincial access, SPTN plans must address these cross-boundary trips.
- *Accessibility:* The system does not adequately accommodate passengers with mobility limitations, as existing design standards are poorly implemented, resulting in frustration and costly retrofitting.
- *Information and Communication:* For the choice user obtaining information on road based public transport services in Gauteng is a challenge as service information such as destinations served, schedules and ticket prices are not readily available. Gautrain, which targets the choice user, is the closest to having information readily available through their website and App, as well as communicating service disruptions to its clients on a real time basis.
- *Minibus taxi industry:* Although Minibus Taxis serve 86% of public transport trips, this sector faces severe regulatory and safety issues. A 2019 minibus taxi industry leadership summit identified key issues, including the roadworthiness of vehicles hampered by a lack of operating licences for scrapping (recapitalisation programme), the hiring of unskilled drivers, unprofessional conduct and reckless driving, non-compliance with traffic regulations, insufficient health assessments for drivers, issues with drinking and driving, commuter safety risks from hailing taxis anywhere and poor road conditions contributing to unsafe driving behaviour. A Crime Prevention Commission was established that intends to address taxi violence, amongst other issues.
- *Institutional Challenges with the Planning and Licensing Systems:* A key institutional challenge is the lack of up-to-date planning information available to the Provincial Regulatory Entity (PRE) for issuing public transport operating licences. Although municipalities are required to review their Comprehensive Integrated Transport Plans (CITPs) every five years, many do not comply due to limited capacity and the lengthy preparation process. As a result, the PRE is often forced to make licensing decisions based on outdated or incomplete information, contributing to significant backlogs in the licensing system. This is compounded by outdated systems and capacity constraints within the PRE itself. The static nature of the current approach needs to be reviewed; a more dynamic, responsive system is required to align licensing with the rapidly changing travel demands of commuters in Gauteng.

- *Rail transport:* Mismanagement and vandalism in PRASA have led to declining rail ridership over the past two decades. However, PRASA is reinvesting in Gauteng's Metrorail services and rail infrastructure as part of its nationwide rail revitalisation plan. PRASA is currently in a rebuilding and recovery phase following major losses across the network. Its long-term vision is to transport 1 billion passengers nationally by 2035. Beyond recovery, PRASA aims to expand the network and embrace technology to improve service quality. For 2023/24, PRASA reported a 167% increase in passengers from the previous year (across all national urban rail services). The Gautrain network is well maintained, with quality service delivery but operates well below pre-COVID ridership levels. Gautrain's impact on the fiscus remains a concern.
- *Modal integration:* The lack of modal integration between the different transport modes is a major factor in declining public transport ridership. This issue stems from the way public transport is planned and funded, with each mode being treated in isolation. As a result, planning and funding remain siloed, preventing integration across transport options, including Integrated ticketing, information integration, timetable integration and facilities.
- *Affordability:* Over 60% of commuters spend more than 10% of their disposable income on transport. Buses and trains are generally more affordable than minibus taxis, yet many areas lack access to these alternatives. The spatial and structural fabric of the province result in long travel distances, singular directional demand during peak periods and limited off-peak demand. The situation is made worse by limited or lack of modal integration, economic pressures and insufficient funding.
- *Impact of escalation:* The current PTOG allocation for subsidised bus services has also not increased in line with general inflation, let alone the escalating operating costs for operators (which is generally higher due to components and parts being imported). This resulted in the profitability and sustainability of operations being put under increased pressure for both subsidised buses and even more so for minibus taxi operators.
- *First and last mile access:* Poorly maintained pedestrian and cycling infrastructure limits access to public transport and inadequate design of facilities complicates navigation and user experience.
- *Safety and Security*: Safety is a primary concern for users, with crime, vandalism and harassment adversely affecting perceptions of safety both in transit and at waiting areas.

These challenges necessitate comprehensive reforms to improve the Gauteng transport system's quality, accessibility and attractiveness, ultimately encouraging more users to choose public transport over private vehicles.

3.3.6 Freight Logistics

Supply chains are the critical component that drives economic growth, and competition in the market is effectively between supply chains, rather than individual products or transport modes. The efficiency of these supply chains hinges on the seamless integration of their various parts, which is essential for economic development across sectors, such as agriculture, manufacturing, services and retail. Transport, a crucial logistics function, contributes around 56% to logistics costs in South Africa, significantly higher than the global average of 39%. This high cost is partly due to South Africa's spatially challenged economy and high fuel and wage costs.

In Gauteng, freight transport is predominantly by road, while rail is primarily used for bulk materials over long distances, such as iron ore, coal, containers and automotive trains. Transnet Freight Rail (TFR) has closed most sidings for general freight to urban industrial sites and significantly reduced its general freight services due to infrastructure and maintenance issues and the resulting economic losses. The

shift from rail to road globally and in South Africa has increased the negative impact of freight and cargo on roads.

Key management aspects for road-based freight, include defining and demarcating freight routes (or corridors), providing truck stops, staging areas and integrated safety measures. Current challenges include poor roadworthiness of road vehicle fleet, driver shortages and disruptions of road freight services from looting and arson to the suggested banning of trucks in peak hour. There is also a need for improved road infrastructure and last-mile logistics solutions.

Ensuring adequate and integrated planning for both passenger and urban freight mobility remains compulsory rather than optional. Currently, poor planning and insufficient integration of urban freight contribute directly to congestion, unacceptable delays, and increased pollution in many city centres. Building more roads is not the solution, as this only worsens the problem by attracting additional traffic. Instead, intentional, integrated transport planning for urban freight is essential. Such planning is key to creating pleasant, efficient, and sustainable city environments where urban freight operates without competing with passenger transport.

Sustainability in freight logistics is essential, with a focus on reducing the carbon footprint and exploring alternative sources of energy such as battery, electric and hydrogen in transport.

3.3.7 Airports and Aviation

The South African National Airports Development Plan (NADP) is a comprehensive long-term strategy for enhancing the country's airport network, published by the Department of Transport in August 2015. This plan identifies several capacity constraints within the airport system, including limited capacity at major airports, insufficient connectivity between airports and a lack of investment in secondary airports.

The aviation sector has faced significant challenges due to the COVID-19 pandemic, which led to widespread travel restrictions, decreased consumer confidence and a marked decline in passenger demand. Revised forecasts indicate that the Western Precinct at OR Tambo International Airport (ORTIA) is expected to reach full capacity by 2034. Current entry and exit capacities will be inadequate to accommodate future passenger growth, projected to reach 28 million passengers per annum, necessitating interventions to increase road capacity for the airport approach roads.

3.3.8 Road Network

The Gauteng Department of Roads and Transport manages a road network spanning 5,638 km, including 4,200 km of paved roads and 1,438 km of unpaved roads, as well as 676 bridges and 428 culverts (2022/23 Annual Report). This network constitutes 7.4% of South Africa's overall road infrastructure, covering both existing and planned Class 1, 2 and 3 roads.

Over recent decades, the condition of the road infrastructure has deteriorated significantly due to limited capacity, insufficient rehabilitation and maintenance. The backlog in road maintenance and rehabilitation is partly attributed to funding constraints (GSDF, 2030) combined with ineffective spending and procurement practices. As a result, freight and public transport operators face higher vehicle maintenance costs, with road deterioration exacerbating operational inefficiencies.

A visual assessment of the surfaced and gravel roads, initiated in 2022/23, will provide a clearer picture of the current condition of the Department's assets. However, until the assessment is completed, specific data on road conditions is not available.

Additionally, peak-hour congestion on major routes, combined with the high volume of freight traffic (due to rail inefficiencies), has placed significant pressure on the network. Future projections for 2040 suggest a continued decline in service levels if upgrades and maintenance are not prioritised.

3.3.9 Intelligent Transport Systems, Technology and Data Digitalisation

Over the past decade, following the development of the previous Gauteng Integrated Transport Master Plan (GITMP25) in 2013, progress in the region has been limited despite the implementation of several Intelligent Transport Systems (ITS). Notable advancements include technology applications linked to the various Bus Rapid Transit (BRT) systems, extensive technological support for Gautrain operations, ongoing modernisation of the Freeway Management Systems (FMS) across major freeways and various upgrades to traffic control systems within metropolitan areas. However, several challenges and gaps persist in the realm of data and technology applications:

- *Coordination & Cooperation:* A significant obstacle is the lack of provincial-wide coordination and integration in technology applications, which inhibits the potential for synergies and economies of scale.
- *Transport Data Accessibility & Standardisation:* Although multiple data sources exist, they are often neither accessible nor standardised, limiting their effectiveness.
- *Training, Education & Skills Development:* Continuous upskilling and training are essential to ensure that the requisite skillsets and knowledge are available to support the development and implementation of ITS and Fourth Industrial Revolution (4IR) technologies. Raising awareness of 4IR and its applications can also help to identify and leverage opportunities.
- *Systems and Lifecycle Planning:* Effective planning, encompassing operational concept development and lifecycle costing, is vital for the successful implementation of ITS and 4IR technologies, ensuring their sustainability and efficiency in the long term.

3.4 Summary of Gaps, Challenges and Opportunities

3.4.1 Gaps and Challenges

- Spatial disparities and fragmentation due to urban sprawl led to inefficiencies in transport planning.
- Planning and funding silos lead to a lack of integration of land-use, engineering infrastructure and transport, resulting in poor integration of public transport across modes, municipalities and authorities. As a result, passengers experience fragmented services, facilities, routes, ticketing, passenger information and fares.
- Institutional challenges delay the issuing of operating licences. Limited capacity, resources, and lengthy processes prevent municipalities from regularly updating Comprehensive Integrated Transport Plans (CITPs). The Provincial Regulatory Entity (PRE), also constrained by capacity and outdated systems, has to issue licences based on outdated plans, resulting in backlogs and inefficiencies.
- Increase in car use and reliance on minibus taxis contribute to congestion on key routes.
- The decline of passenger rail, with PRASA experiencing decades of underinvestment and Gautrain passenger numbers having severely reduced due to COVID-19, has led to unsustainable patronage subsidies.
- Regulatory compliance and safety issues experienced in the minibus taxi sector.

- A lack of consistent norms for public transport service quality and passenger satisfaction.
- Transport rights of way seldom provide adequately for NMT and universal access and have not responded to the growth in future and micro-modes.
- Poor road conditions, including potholes and inadequate signage, increase road user, public transport and logistical costs and contribute to unsafe driving behaviour among minibus taxis.
- Businesses still face congestion and delays in reaching their customers.
- Vulnerable groups face significant safety issues in public transport and Gauteng has higher observed rates for road fatalities than most of the world despite having a high standard of road infrastructure.
- Insufficient focus on behaviour change to develop a more sustainable transport approach, including TDM, sustainability and safety initiatives is compounded by a lack of coordination.
- Sustainable funding sources for urban transport initiatives are lacking.
- Inaccessible and inconsistent data hinder integration and efficiency across transport systems.
- Skills gaps in technology, ITS, freight logistics and lifecycle planning delay effective transport system implementation.
- Shortfall in funding required to address climate related incidents (floods, droughts, heatwaves) and their impacts on transport systems.

3.4.2 Opportunities

The following opportunities exist to address the gaps and challenges.

- Realising a transformative vision for public transport, one in which public transport has become a way of life, fostering social cohesion and offering a sense of community. In this vision, people will increasingly enjoy benefits such as enhanced safety, cost and time efficiency, convenience and improved health and environmental outcomes, while effectively overcoming the barriers created by traditional transport systems.
- To strengthen and expand TAG's coordination role over time, establishing effective provincial structures for integrated transport planning is essential. This includes agreeing on a common methodology for projecting public transport demand (modelling) among GDRT, Metros, District Municipalities and PRASA, as well as enhancing cross-boundary linkages.
- Promoting polycentric development, as outlined in the Gauteng Spatial Development Framework 2030, presents a significant opportunity to enhance connectivity across the province.
- Enhance sustainability in freight logistics by adopting performance-based standards and last-mile solutions that foster economic opportunities. Empower the private sector to be involved in the regulation of freight transport, enforce working hours legislation and implement overload control strategies.
- Developing integrated human settlements is critical for addressing socio-economic segregation in Gauteng. By focusing on mixed-income neighbourhoods and strategic land release, these settlements can enhance access to jobs, education, healthcare and public transport, ultimately improving quality of life and fostering social cohesion within communities.
- Transit-oriented development (TOD) offers a pathway to sustainable and liveable communities that reduce reliance on private vehicles.

- Revitalising key economic corridors, as outlined in the GGT2030 plan, presents opportunities for regional economic development, connectivity, movement of goods and services across the province and attracting investment.
- Implementing sustainable land management practices, vital for preserving Gauteng's natural resources and ensuring food security.
- Investing in maintenance and upgrading of engineering infrastructure to achieve the recommended minimum densities of 60 to 80 units per hectare in key nodes and corridors.
- Increasing focus on sustainable transport solutions that address environmental impacts and specifically climate change, support Transit-Oriented Development (TOD) initiatives that reduce travel demand, promote modal shifts towards public transport and encourage the use of renewable energy.
- Identifying pilot projects that leveraging TOD and 15-minute city concepts, to overcome the existing land-use and transport integration challenges. These pilots can help document best practices and guidelines for integrating land use and transport planning.
- Ensuring universal access is integrated into the overall transport system design, emphasising whole-trip planning and inclusive design guidelines, is essential.
- Implementing community engagement strategies will encourage behaviour change towards sustainable transport choices, fostering a culture of public transport use and active transport modes such as walking and cycling.
- Professionalising the minibus taxi industry through technical support and incentive structures will enhance service quality.
- Transforming the public transport system involves developing uniform standards for public transport facilities and service quality. This includes defining essential amenities to be incorporated at public transport facilities, such as crèches, charging facilities for NEVs, satellite police stations, driver rest and meeting rooms, as well as setting clear maintenance and operational standards.
- Establishing multi-year upgrade and implementation programmes will optimise roadway use for all modes of transport and rebalance modal hierarchies.
- Introducing "mobility hubs" in communities provides a focal point in the transport network that seamlessly integrates different modes, especially public transport, shared and active mobility. These hubs combine supportive multimodal infrastructure with other policy goals such as charging points and placemaking strategies.
- Developing targeted transport initiatives that support the tourism sector will boost local economies.
- Leveraging digital and intelligent transport systems (ITS) technologies and MaaS as a tool to enhance multi-modal transport and mobility management, offering users streamlined services, improved traveller information and real-time data to make more informed and sustainable transport choices.
- Improving data collection and accessibility is essential to enable informed decision-making for transport planning and infrastructure development.
- Establishing a provincial transport fund with diverse funding sources, including a green fund to support sustainable transport projects, is essential.

4. Mission and Strategic Ambitions for Gauteng's Transport System

4.1 Towards a Strategy

'A strategy is a mix of policy and action designed to overcome a strategic (high stakes) challenge.' (Richard Rumelt). A **high order or high-stakes challenge** is *'an important and complex, wicked or systemic and society-wide problem with no obvious answer or 'silver bullet' solution.'*

Solutions may also include ways of accessing opportunities informed by the application of the Enable, Avoid, Shift & Improve (EASI) framework, as shown in **Figure 4-1**. They need to reflect a changed way of thinking about transport planning.

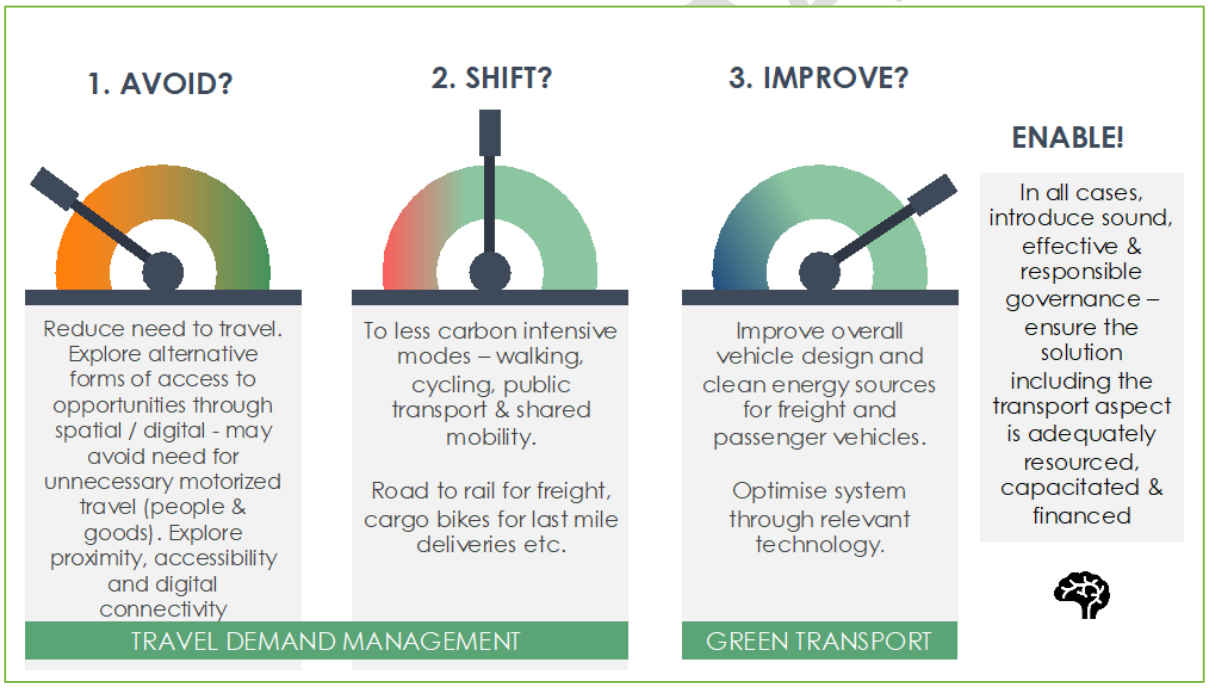


Figure 4-1: EASI Model – Enable, Avoid, Shift & Improve

4.2 A Futures-Led Strategy for Sustainable and Inclusive Transport

> ***Many of life's inequities play out in the transport space.*** *When transport is unaffordable, physically and digitally inaccessible, unsafe and insecure, it directly affects people's ability to find employment or education, participate socially, access healthcare and essential services and improve their quality of life.* **Sustainable Accessibility for All,** The International Transport Forum, Research Report, 2024.[10]

4.2.1 *Shifting Mindsets/ Ways of Thinking*

- **Traditional technocratic approaches** to planning transport have not delivered the impact or results required. There is a need to change existing mindsets and paradigms from linear thinking to complexity science and systems thinking, with ongoing feedback loops to inform iteration **(**Error! Reference source not found.). **Fresh thinking, creativity and innovation** are crucial to guide both planning and implementation.
- Gauteng and South Africa in general, are still locked into apartheid-era paradigms about **spatial planning** which positions the people who can least afford transport on the periphery of cities where land is relatively cheap. This contributes to urban sprawl and long travelling distances. There is a need to adopt a **'Triple Access Approach'** (Glenn Lyons) **(Figure 4-2)** which stresses the need to not only understand the opportunities that are being accessed through transport / mobility but also considers avoiding or reducing the need, distance or frequency of travel. This may be through addressing spatial proximity and digital connectivity as precursors to defaulting to identifying simple physical mobility solutions.

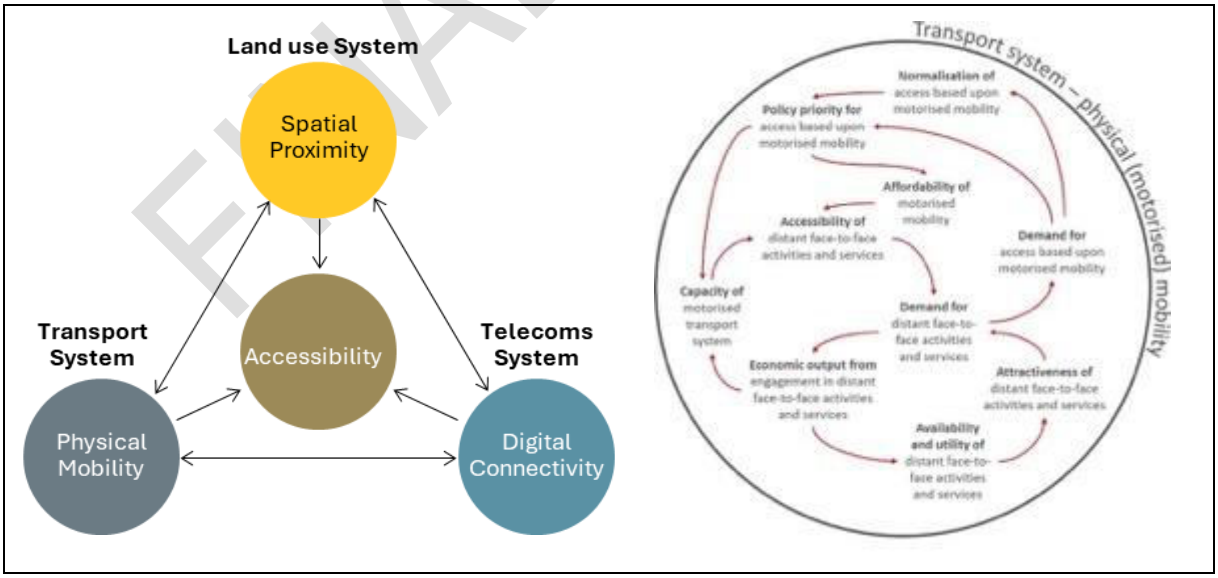


Figure 4-2: The Triple Access System (left) and a causal loop diagram depicting variables and dynamics in the physical mobility transport system (right)

[10] https://www.itf-oecd.org/sites/default/files/docs/sustainable-accessibility-for-all.pdf

- A report titled, '*Growth Through Inclusion in South Africa*' by the Harvard University Growthlab concludes that there are 'two broad classes of problems that undermine inclusive growth in the Rainbow Nation: **collapsing state capacity** and **spatial exclusion**.' Whilst spatial planning and remedial action to address the injustices of the past may not be directly core to TAG's role, it is of utmost importance in the development of a desirable, feasible, sustainable and viable transport system for Gauteng.
- In developing the strategy, a **multi-disciplinary and collaborative approach** was prioritised to tackle both state capacity challenges and spatial exclusion. This approach emphasised the need for innovative, future-focused solutions that would not simply perpetuate existing spatial patterns but instead aim to transform them. The strategy was guided by the recognition that the **cost of transport**, especially for the poorest communities, is not only financial but also time bound. Therefore, considerations went beyond conventional transport planning to address both the financial and time burdens faced by commuters.
- The strategy incorporates '**big picture' thinking**, recognising the urgent need to address climate change, environmental responsibility and sustainability as critical imperatives. This approach requires a holistic view of the **true societal and environmental costs** of transport and mobility, beyond transport operational costs only. Proposed interventions therefore aim not only to mitigate harm but also to positively impact the environment and improve people's quality of life. A strong sustainability focus is embedded within the STP, ensuring that these principles guide every stage of planning and implementation.
- There is a clear need to think about transport or access from a **futures perspective**, not just addressing current problems or to address deficiencies in yesterday's reality. Emerging data, technology and digital solutions coupled with the shift to renewable power sources and autonomous vehicles offer potential game-changing solutions. The potential, positive and negative, of Artificial Intelligence (AI) and its use in planning and decision making should be considered in future planning.

4.2.2 Public Transport

- Many people lack **access to transport and first and last mile access** to their destinations and to their homes. The STP therefore embeds the **Sustainable transport hierarchy** in decision making by promoting walking, cycling, micro-mobility, public transport and shared transport options in preference to single occupancy private car use for the movement of people.
- Access to transport needs to address the challenge of **safety and security** for commuters, people travelling at all hours of the day or night and vulnerable groups. The Gautrain provides concrete examples of leading practice in this regard.
- There is a need for public transport to consider **modal shifts** and ways of achieving better modal integration.
- Effective public transport requires high-density developments and mixed land use along transport corridors or nodes. Progress is however delayed by institutional fragmentation, political constraints, funding limitations, implementation complexities, data inadequacies and urban sprawl. These challenges lead to a **fragmented offer for users**, in terms of services, routes, ticketing, facilities and information.

4.2.3 Approaches to Transport Planning

- There is a tendency for authorities sometimes to **act in silos** which occurs not only between entities but as regards divisions or sub-departments within them. This is natural as officials tend to focus on their own areas of endeavour and expertise and on fulfilling their duties and employment contracts, often without due regard to other sectors. Clear **integration and alignment** between entities for both transport-related strategic planning as well as execution is essential. State capacity may best be built at a provincial and municipal level by leveraging current scarce resources and through collaborative planning that optimises the ultimate benefit to inhabitants and to the economy.
- Transport planning has historically prioritised **new infrastructure** and solutions to the **detriment of maintaining** what is already in place. Effective maintenance of legacy infrastructure must become a key priority. When considering the disposal of outdated or ineffective legacy solutions, it is also essential to account for the costs associated with decommissioning both operations and infrastructure.
- **Land-use and transport systems** have historically promoted and enabled car use, therefore there is an urgent need to shift away from the traditional "Predict and Provide" approach in transport planning. Instead, a significant paradigm shift towards a vision led "Decide and Provide" or "Vision and Validate" approach focusing on sustainability and optimising existing infrastructure is critical and urgently required.
- The tendency in South Africa to **restructure government departments** and redeploy officials after elections (national as well as municipal) leads to delays and uncertainty. Policies developed by one minister or official can often not be implemented before they are replaced by the policies of their successors. Long-term, cross-party policies or frameworks that **transcend election cycles** and focus on continuity and consistency, can help ensure that critical transport initiatives are not disrupted by changes in leadership. Establishing independent oversight bodies or statutory agencies could also help maintain stability and continuity in key policy areas, preventing the frequent reshuffling of priorities. Additionally, strengthening institutional memory and embedding a culture of policy ownership across departments could mitigate the impact of political changes.

4.2.4 Funding and Financing of Transport

- Access to economic opportunities stimulates development and ultimately economic growth. The cost and affordability of freight transport is a critical input cost into the Gauteng economy. The role and impact of transport in the economy and latest thinking regarding freight logistics, including transitions from road to rail for rail-friendly freight are key considerations.
- The minibus taxi industry has been a valuable, reliable source of public transport. It has also been a source of entrepreneurial development, contributing to both social and economic growth. Positioning the taxi industry to contribute formally to the growth of Gauteng's mobility economy in future is an essential consideration.
- The fiscus is severely constrained as illustrated by declining budgets and a consequential **lack of allocation of sufficient funding**. Innovative solutions that leverage real impact and optimal use of human and financial resources, to achieve strategic priorities are required.
- There is a general lack of funding that prevents entities from fulfilling their duties effectively, such as municipalities lacking the capacity or financial resources to update or revamp their Integrated Transport Plans (ITPs) as required by legislation. This sometimes leads to a paucity of information or information that is out of date.

- There is a current 'locked-in' approach to funding that focuses on entity-based requirements and does not **connect capital expenditures (CAPEX) with sustained operating expenses (OPEX) funding** to ensure the viability and feasibility of transport operations over time. Shifting towards a centralised source of revenue/funding, focused on most impactful solutions that best align with Gauteng's strategic transport vision, could address this.

4.3 The Strategic Crux

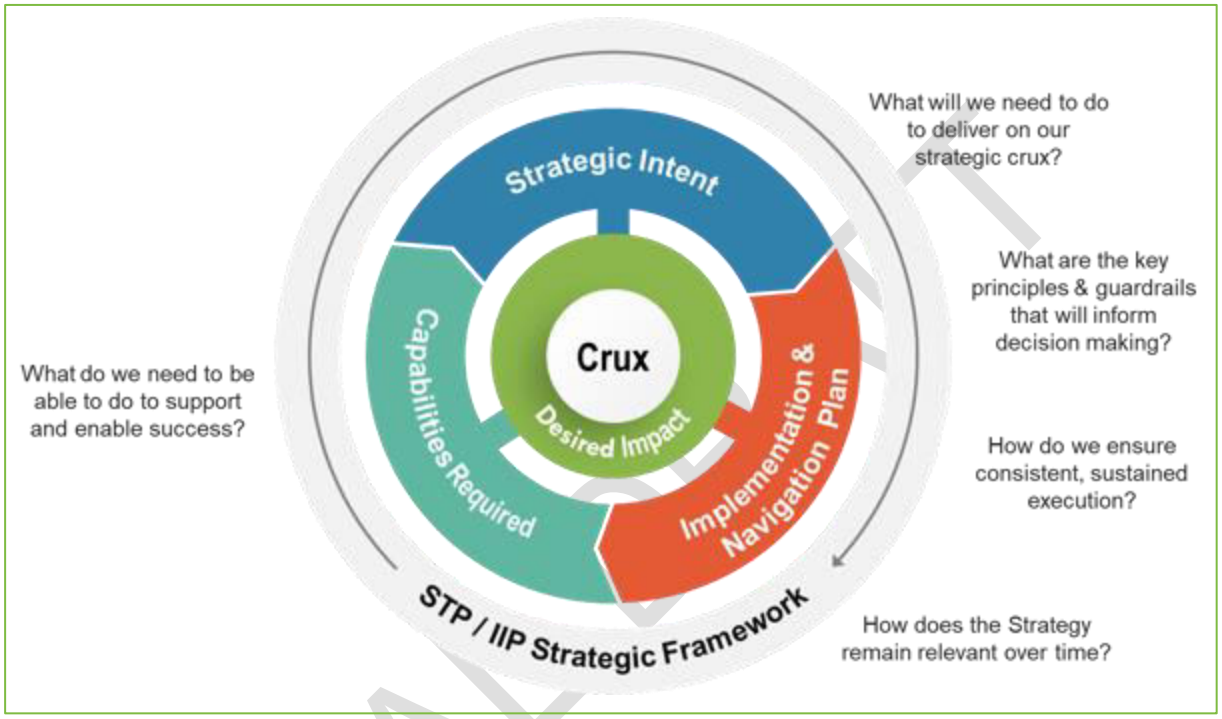


Figure 4-3: Strategic Crux

The strategic **crux** of the STP and IIP (**Figure 4-3**) starts off with an understanding that transport is simply a way in which people in Gauteng access opportunities. Every day, transport connects people to their work, to education, healthcare and to one another. This important 'job to be done' of transport / mobility must be considered within the context of the challenges and opportunities set out in the previous section.

TAG's role is to co-ordinate and provide support to transport planning. This includes ensuring that the 'job' of thinking about how we access opportunities effectively is done in the most optimal manner, even if this requires interventions extending beyond TAG's immediate transport mandate.

The crux of the Gauteng STP and IIP is therefore **'to identify and facilitate assured funding as well as implement sustainable solutions that enable people and communities to access opportunities reliably, safely, timeously and affordably.'**

To successfully **address the identified strategic crux**, the STP and IIP are required to:

- Provide recommendations around **integrated transport, land use and engineering infrastructure** planning;
- Provide thinking around ways of **joining / linking the gaps** between municipal transport infrastructure and operations to create an integrated, holistic transport system for Gauteng;
- Identify and support **potential catalytic solutions** within the PLTF and municipal transport strategies and plans. These may not only be transport solutions, but might include ways of shifting spatial patterns, 'nudging' or changing behaviour or utilising digital or other technologies to deliver changes that impact either the demand or supply of transport;
- Prioritise, fund, support or enable the implementation of transport solutions that support the **just transition** to address climate change and have the **greatest possible sustainable impact** for the future of transport in Gauteng;
- Co-ordinate and facilitate the potential establishment of a **ring-fenced budget** to fund the necessary transport systems and to sustain operations thereafter; and
- Highlight the importance of **data and technology** and their role to inform and develop breakthrough mobility solutions.

4.4 Desired Impact

The **impact** desired from the STP and IIP includes:

- A better **quality of life** for all communities and inhabitants of Gauteng;
- **Enhanced and equitable access to opportunities** for all communities and inhabitants of Gauteng;
- Improved spatial **equity** and inclusion;
- An **inclusive, integrated mobility system** (including seamless connectivity and interoperability between parts of the system) that leverages the contributions of all relevant stakeholders to deliver real impact over time;
- A transport system that is **sustainable addressing environmental impacts** and which **rapidly reduces GHG emissions** resulting from **equitable access to opportunity**;
- **Modal shifts** that optimise mobility effectiveness and efficiency;
- A mobility system that is **adapted to climate impacts**, **resilient and 'fit for purpose'** for today and tomorrow's world;
- **Behavioural shifts** that alter current patterns of demand and contribute to a more sustainable environment for all;
- An **integrated STP and IIP** around which all transport planning and implementation will be **aligned**;
- **Catalytic mobility solutions** which are **sustainable, viable, feasible** and balance competing interests whilst delivering the lowest actual cost to the environment, the fiscus, the economy, communities and inhabitants of Gauteng. (Communities include those that reside in one geographic area and have important social connections with one another and / or communities who share a particular interest and may be transient - for example tourists who visit and utilise transport / mobility systems);

- **Capable, well-capacitated officials** at provincial and municipal level, able to plan transversely, craft well aligned strategies and **navigate** implementation efficiently, effectively and competently over time; and
- An STP and IIP that **respond** in a relevant way to significant **changes** in their context.

4.5 Pictures of Success and Time Horizons

Enabling TAG to identify and facilitate assured funding as well as implement sustainable solutions that enable people and communities to access opportunities reliably, safely, timeously and affordably to grow its economy, is a multi-decade project. To ensure that progress is made in the right direction, pictures of success were invited from key role players for two time horizons, namely 2030 and 2040 (refer to **Figure 4-4** for a context of time horizons in the STP).

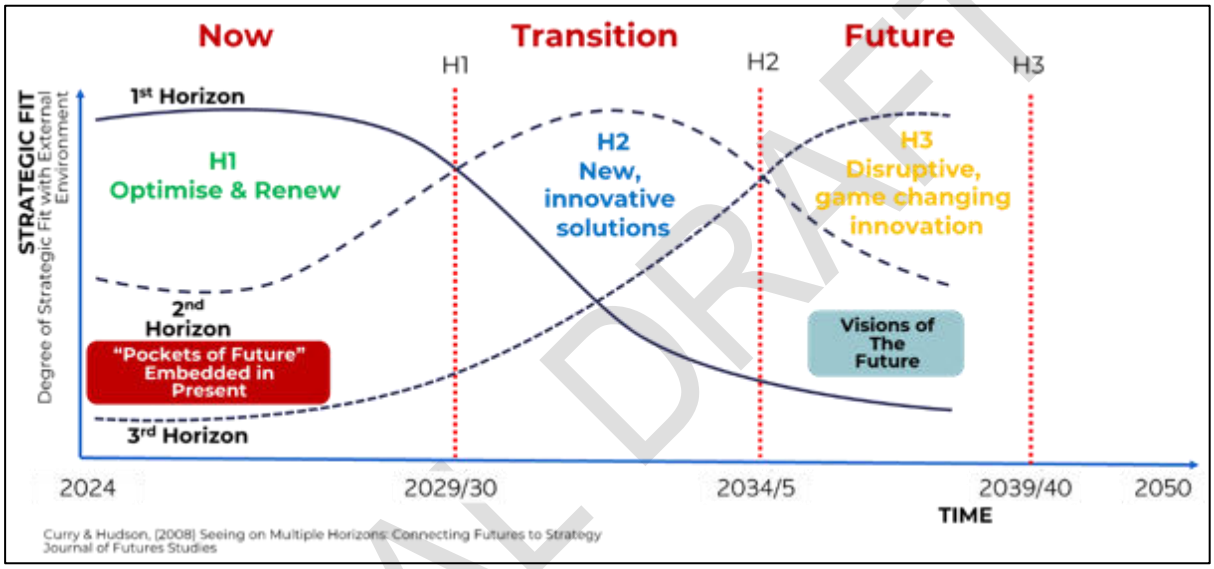


Figure 4-4: The Strategic Transport Plan Time Horizons

The following pictures of success in the 2030 and 2040 horizons were shaped by stakeholders during a facilitated workshop. It captures shared aspirations for a smart, inclusive and sustainable province driven by integrated transport, equitable access and forward-thinking planning.

Economic

By 2040, Gauteng is recognised as a leader in urban transformation. Equitable and affordable access to economic, social and educational opportunities forms the foundation of a resilient, inclusive and sustainable economy. Once characterised by urban sprawl and spatially dislocated communities, Gauteng has evolved into a well-connected province defined by vibrant, 15-minute liveable mixed-use nodes.

Around public transport interchanges and key corridors, Transit-Oriented Developments and the strategic expansion of Special Economic Zones have stimulated clustered retail, commercial and residential growth, providing well-located opportunities and accommodation for all.

Advanced land-use planning and zoning reforms, that were prioritised through the STP, enable Gauteng to balance higher-density living with the preservation and enhancement of open spaces and peri-urban agricultural land, safeguarding biodiversity and ecosystem services.

By 2040, Gauteng's CBDs have been transformed into vibrant, clean and predominantly traffic-free precincts that serve as dynamic hubs for living, working, shopping and recreation. For decades, inner-city areas suffered from urban decay, congestion, pollution and social decline. However, proactive and continuous urban management and the implementation of traffic-free and low-emission zones have reversed this trend. The result is dramatically improved air quality and pedestrian safety. Integrated urban design further prioritises public spaces, green infrastructure and active mobility, turning the CBDs into highly attractive, mixed-use liveable nodes. Smart urban monitoring systems ensure cleanliness, efficient waste management and responsive maintenance, contributing to sustained urban vitality and economic resilience.

Overall Transport System

These nodes prioritise safe, sustainable transport modes and create environments that encourage walking and cycling as primary means of mobility. Between 2030 and 2040, further refinement of these precincts includes the deployment of smart infrastructure technologies, such as real-time traffic management and integrated mobility platforms, to optimise transport efficiency and enhance user experience.

Private vehicles are no longer the primary mode of transport. Instead, seamless, efficient and universally accessible public transport forms the backbone of daily mobility. Rail networks have expanded significantly, with high-frequency, high-capacity services fully integrated with well-functioning Bus Rapid Transit (BRT) systems operating along major corridors. Between 2030 and 2040, investments in electrification and renewable energy-powered fleets significantly reduce the transport sector's carbon footprint.

Commute times have steadily declined since 2025, reflecting improvements in service reliability, affordability and network coverage. These gains are supported by data-driven transport management systems that dynamically adjust operations to demand patterns and traffic conditions.

The education system has adapted to the transformation, by embracing hybrid learning models that combine digital platforms with safe, accessible physical spaces. Urban precincts around schools embrace non-motorised transport (NMT), providing dedicated cycling lanes and safe pedestrian provision, as well as secure bike parking, encouraging learners to choose walking or cycling to school as their preferred modes of travel.

By 2040, the minibus taxi (MBT) industry has transformed from a largely informal and fragmented sector, characterised by safety and operational issues, into a fully professionalised, regulated and integrated part of Gauteng's scheduled public transport system. This evolution prioritises safety, convenience and reliability as cornerstones of service delivery.

By 2040, public transport development is underpinned by a well-endowed Provincial Transport Fund, derived from a dedicated budget of 5% of Gauteng's GDP. This fund addresses any shortfalls and interlinks transport systems across the province, ensuring sustained investment in infrastructure, technology and services to maintain and expand the network.

Between 2030 and 2040, investment priorities have progressively shifted towards integrating digital platforms, renewable energy systems and resilient infrastructure capable of adapting to evolving environmental and social challenges. This ensures the transport network remains robust in the face of environmental and social challenges.

Technology

By 2030, Gauteng has deployed integrated intelligent infrastructure informed by advanced technologies, including artificial intelligence, IoT and increased computational power, to support real-time traffic management, predictive maintenance, and resilient transport planning. A centralised data hub enables evidence-based decisions and responsive system design.

A digital Mobility-as-a-Service (MaaS) platform provides users with comprehensive travel information, including costs, carbon footprint, and available options, supporting informed, multimodal mobility choices. Virtual and augmented reality tools further reduce the need for physical travel by enabling engaging remote meetings.

By 2040, the system has evolved into a fully integrated Intelligent Transport System (ITS), underpinned by the centralised data hub at the Transport Management Centre. The ITS incorporates AI and IoT to optimise fleet operations, enable demand-responsive services, detect operational anomalies, and coordinate emergency responses. Real-time data on routes, travel options, disruptions and mode choices are accessible to all users. Enhanced public safety is supported through visible policing and 24-hour surveillance at key transport hubs. The result is a unified, user-centric transport network that offers consistent reliability, improved security and enhanced passenger experience across Gauteng.

Transport infrastructure management has been revolutionised through advanced asset management systems that prioritise resilience and sustainability.These systems continuously monitor the condition of roads, bridges, traffic signals and other critical infrastructure, enabling real-time maintenance and predictive interventions that minimise disruptions.

Between 2030 and 2040, these systems evolve to dynamically respond to environmental challenges such as extreme weather events and climate impacts, bolstering the resilience of the transport network. This adaptive approach is integral to supporting Gauteng's economy by ensuring uninterrupted mobility and efficient logistics operations.

Freight Logistics

By 2040, Gauteng operates within an advanced, highly integrated regional transport network that seamlessly connects it to neighbouring provinces, reinforcing its position as the heartbeat of the South African economy. This interconnected system supports both local and cross-border mobility, enhancing regional access and interprovincial integration.

Between 2030 and 2040, the revitalisation of rail freight infrastructure and the establishment of new intermodal freight terminals, strategically located at Pyramid-South, Kaalfontein, Tshwane SEZ and Tambo Springs, have enhanced Gauteng's competitiveness as a logistics hub. These terminals serve as critical nodes that enable efficient transfer between rail and road freight, reducing bottlenecks and improving supply chain reliability.

Dedicated freight corridors and strategically designed bypass routes have been implemented to reduce vehicle overloading and minimise congestion in urban centres. The freight system's optimisation is

complemented by innovative last-mile delivery solutions, including the deployment of micro-distribution hubs, e-cargo bikes and autonomous delivery drones. These technologies contribute significantly to improving delivery efficiency and lowering the environmental impact of urban freight.

Collaborative Planning / Institutional Capacity

Collaborative planning has underpinned this success, with municipalities and the province uniting around a shared vision and breaking down institutional silos. Joint scenario planning and data-driven coordination have improved adaptability to changing mobility needs. Resource pooling and coordinated procurement have enabled cost-effective planning, infrastructure development and vehicle acquisition. Standardised designs further support efficiency and optimal resource use. Rising demand has driven the establishment of local production facilities to manufacture the BRT fleet, with future plans to expand into other public transport NEVs.

Gauteng's transport system has been reshaped through new principles and innovative thinking. It is now a model of sustainability, efficiency and inclusivity that enhances quality of life, supports economic growth and minimises environmental impact.

4.6 TAG's *Access Gauteng 2050* Vision

Building on Gauteng Province's broader vision of *"A liveable, equitable, inclusive and united Gauteng City-Region"*, the TAG has developed the *Access Gauteng 2050* Vision of ***"Connecting People, Places and Opportunities Sustainably"***.

TRANSPORT AUTHORITY FOR GAUTENG
ACCESS GAUTENG2050
Connecting People, Places and Opportunities Sustainably

4.7 The STP Mission and Strategic Ambitions

To realise the TAG's vision, the STP is underpinned by a clear, long-term and sustained mission to enable sustainable, affordable, safe and reliable mobility that provides equitable access to opportunities for all. This mission frames the choices and investment decisions across future political cycles which are crucial to achieve the desired impact of the STP & IIP.

Our Mission

"Enabling sustainable, affordable, safe & reliable mobility that provides equitable access to opportunities for all"

The STP Mission is supported by six Strategic Ambitions:

A) Efficient and productive transport for people and goods enabling sustainable economic growth.

B) Enhanced, safe, reliable, integrated and affordable transport ensures equitable access to opportunities for all.

C) Effective use of smart technology to integrate and manage the transport system will enable the mission, ensuring a seamless, digitally enhanced transport experience for all users.

D) Effective implementation through collaboration, capacity building, adequate resourcing and sound governance.

B) Integrated land-use, engineering infrastructure and transport for a safe, sustainable, inclusive and equitable society.

C) Minimise Transport's Impact on the environment including reducing greenhouse gas emissions and strengthening climate resilience.

These are illustrated in **Figure 4-5.**

Figure 4-5: Six Strategic Ambitions to achieve the STP Mission

4.8 Key Principles

The following **key principles** (**Table 4-1**)inform the thinking, planning and decision making inherent in delivering the STP and IIP Pictures of Success.

Table 4-1: Key principles in delivering the STP and IIP Pictures of Success

Principles / **Strategic Themes:**		ECONOMIC	ACCESS	TECHNOLOGY	INSTITUTIONAL	SOCIAL	ENVIRONMENT
Embrace systems thinking	Consider the **whole system** as well as its constituent parts.	●	●	●	●	●	●
Avoid-Shift Improve & Triple Access	Enable, Avoid, Shift and Improve (EASI) / Triple Access (digital, spatial and mobility) planning are primary considerations in transport planning.		●	●		●	●
Sustainable transport planning	Adopt an integrated approach to planning transport / mobility that sustainably benefits the environment, the economy, communities and people.	●		●		●	●
Citizen-centric and demand driven planning	Planning should be **citizen-centric and demand-derived**. Shifting or changing demand should be prioritised above solutions that require investments in new infrastructure or transport systems			●	●	●	●
Achieving behaviour change	Consider **behavioural science and effective change enablement** coupled with other ways of achieving the desired **behavioural change** that will contribute to the successful achievement of desired impact.	●				●	
Futures-oriented planning Futures perspective	Adopt a **futures perspective** that imagines the plausible future of Gauteng as it may be at the periphery of our planning horizons and not just the existing world that we currently inhabit.			●			●

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44 Grand Central Boulevard, Grand Central Ext. 1, Midrand
PO Box 1266, Kelvin, 2054, Johannesburg, South Africa

Principles	Strategic Themes:	ECONOMIC	ACCESS	TECHNOLOGY	INSTITUTIONAL	SOCIAL	ENVIRONMENT
Balanced investments	**Balance** investments in environmental, social and physical infrastructure to contribute to overall wellbeing – of individuals and the environment.		●			●	●
Consider unintended costs and consequences	Understand the **intended** as well as the **potential unintended consequences** of actions, including the real costs for the environment, the economy, our communities and Gauteng's inhabitants of our spatial, transport and access decisions.	●	●			●	●
Understand the true cost of transport solutions	Identify the **true cost and benefits of transport solutions** over the lifetime of their underpinning infrastructure and operations, as well as for the environment, the economy, for communities and inhabitants of Gauteng. Prioritise maintaining and optimising existing transport infrastructure and services before investing in new developments to maximise value, extend asset life, and ensure sustainable use of resources.	●	●	●	●	●	●
Public transport by choice	Design an approach to public transport that creates an attractive and safe system **people choose to use** above being compelled to use it as the only available alternative.	●		●		●	
Build upon existing plans	Leverage the **potential in existing plans**, national (NLTSF), provincial (PLTF) and municipal (ITPs) instead of starting from scratch.				●		
Focus on rebuilding government capacity	Focus on rebuilding **government capacity and capability** through an enabling environment that allows officials and other stakeholders to bring about a real difference in peoples' lives.				●	●	
Collaborative planning and implementation	Bring relevant stakeholders along on the TAG strategic journey through **collaborative planning and implementation** intentionally designed to build a guiding, inclusive coalition for change.				●		

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REPUBLIC OF SOUTH AFRICA
44 Grand Central Boulevard, Grand Central Ext. 1, Midrand
PO Box 1266, Kelvin, 2054, Johannesburg, South Africa

Principles	Strategic Themes:	ECONOMIC	ACCESS	TECHNOLOGY	INSTITUTIONAL	SOCIAL	ENVIRONMENT
Leverage partnerships & innovative funding models	**Leverage partnerships** at all levels of government, with the private sector and with civil society to develop sustainable, innovative funding models for transport.	●	●		●	●	

5. Interventions and Initiatives to Deliver Gauteng's Strategic Transport Plan

The pictures of success outlined in Chapter 4 establish a clear and shared direction for achieving Gauteng's long-term transport vision. Using the Three Horizons framework, as introduced in **Figure 4-4**, with this approach specifically applied to public transport reform in **Figure 5-1** below, the strategic interventions presented here map a pathway from the current status through transitional innovation to the desired future state in 2040. This framework highlights the importance of planning across multiple timeframes to ensure that ongoing and future initiatives are aligned, prioritised and coordinated for coherent and sustained progress. It further illustrates how some actions contributing to this vision are already underway ("Pockets of the Future embedded in the Present") but need to be better aligned, monitored regularly, directed and prioritised to ensure coherent and effective progress.

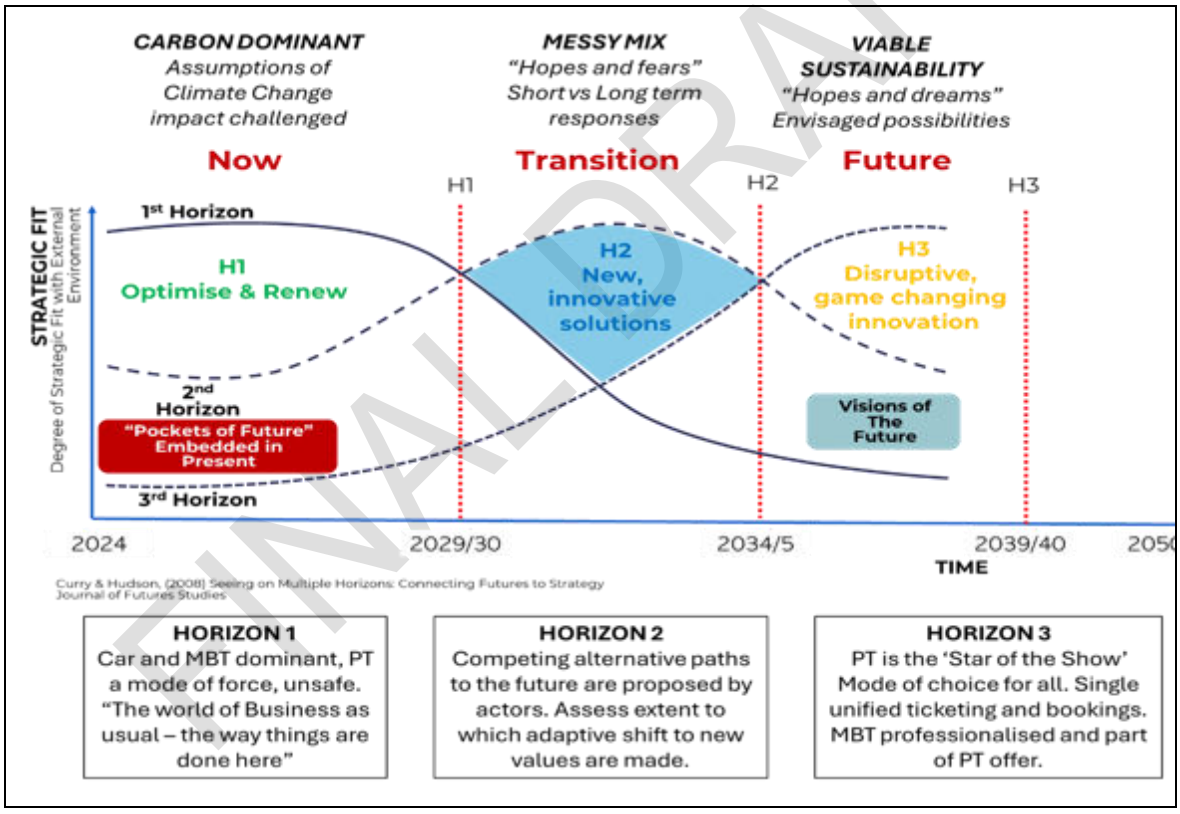

Figure 5-1: The process of applying the Time Horizons and pictures of success

The following sections translate the mission into concrete actions, emphasising an integrated, flexible and forward-thinking approach to delivering sustainable, affordable, safe and reliable mobility that delivers equitable access to opportunities for all. By applying the time horizons and stakeholder-derived pictures of success, targeted interventions were identified that can progressively shape the transport system. These interventions and initiatives will be required to guide government, industry and other stakeholders to deliver the Strategic Plan.

Figure 5-2 provides a high-level synthesis of the strategy's core components: the mission, strategic ambitions and interventions arranged by cross-cutting theme (as outlined in **Section 4.7**).

Transport Authority for Gauteng (TAG)		"Connecting People, Places and Opportunities Sustainably"	
Mission	**Theme**	**Strategic Ambitions**	**Interventions**
Enabling sustainable, affordable, safe & reliable mobility that provides equitable access to opportunities for all.	**Economic**	1. Efficient and productive transport for people and goods to enable an economic boom.	• Transport that enables **economic growth** and creates opportunities. • Optimised **freight logistics infrastructure and facilities** to boost economic productivity.
	Access	2. Enhanced, safe, reliable, integrated and affordable transport that ensures equitable access to opportunities for all.	• Reinforce **rail as the backbone** of Gauteng's transport system. • Collaborative planning that ensures **user-centric public transport and modal integration**. • Effective **governance and institutional support** to enable a sustainable, affordable and convenient public transport operations. • Appropriate and safe **public transport infrastructure and vehicles for all**. • Sustainable and resilient designs, construction, maintenance and management of the **network** to ensure provincial wide mobility.
	Technology	3. Leverage technology for a seamless, digitally enhanced transport experience.	• A unified **mobility data platform** to facilitate integrated data and mobility services which provides real-time information and adopts emerging technologies and automation.
	Institutional	4. Effective implementation through collaboration, capacity building, adequate resourcing, and sound governance.	• Leverage partnerships to develop sustainable, innovative **funding models**. • Sound governance through **institutional capacity building and collaboration** with the three spheres of government to ensure **effective implementation**. • A Provincial Transport and Land-use Integration Committee (PTLUIC) that **streamlines coordination structures**.
	Social	5. Integrated land-use and transport for a safe, sustainable, inclusive and equitable society.	• A cohesive **urban form** that supports sustainable and equitable transport and services. • Refocus transport provision to **prioritise non-motorised modes and universal access (UA)**. • Ensure the **safety and security** of drivers, passengers and vulnerable road users.
	Environment	6. Reduce greenhouse gas emissions and improve climate resilience.	• A **decarbonised, resilient and sustainable** transport system delivered through **behaviour change**, a transition to **renewable energy** and consideration of the true costs and benefits of transport through whole life **project appraisals**.

Figure 5-2: Summary of the STP Mission, Strategic Ambitions and Interventions by Cross-Cutting Theme

5.1 Efficient and productive transport for people and goods enabling sustainable economic growth and job creation.

Under the economic strategic ambition two interventions were identified.

Intervention 1-1: Transport that enables economic growth and creates opportunities.

Picture of success:

	Transport in Gauteng has contributed to an economic boom and sustained economic growth improved the lives of all, as opportunities are readily accessible.
	The transport sector is acknowledged as an important industry for generating jobs and transformation of the local economy, with employment in last mile modes demonstrating growth.
	Economic development has been stimulated around public transport interchanges and transport corridors with retail, commercial and residential high rises providing well located opportunities and accommodation for all.
	Differences in income-levels are far less severe and those who earn the lowest incomes are still capable of living a life of dignity and have access to the benefits of living in the economic heartland of the country.

Actions:

- **Promote densification** by encouraging increased building heights and mixed-use developments, as well as offering developer incentives for brownfield developments along key public transport corridors.
- Ensure municipal budgets are allocated for **bulk infrastructure upgrades** to enable TOD developments and to attract private investments in areas that support public transport.
- **Support SMME development programmes** (contractors) for construction and implementation as well as maintenance.

Intervention 1-2: Optimised freight logistics infrastructure and facilities to boost economic productivity

Picture of success:

	Freight logistics have evolved – micro hubs and e-cargo bikes are used efficiently to serve last-mile and parcel deliveries. Innovative last-mile solutions, like drones, robots and autonomous vehicles, have streamlined parcel deliveries.
	Access to intermodal freight terminals and hubs has improved, new intermodal terminals have been developed, truck stops are strategically located around freight terminals and an integrated network of freight corridors and bypasses has been established.

	Rail is increasingly used as transport mode in the supply chain, with a notable shift from road to rail for rail-friendly freight.
	Renewable energy is increasingly used to power road and rail transport and an extensive network of charging and filling stations has been developed.
	Regularly published freight logistics information is incorporated in the Transport Management Centre (TMC), enabling effective planning and efficient management of freight logistics.

Actions to deliver this strategic intervention:

- Initiate **last mile distribution** in the inner cities (CBDs), townships, informal settlements and hostels (TISH), using micro hubs with e-cargo bikes, drones, etc.
- Adopt a holistic approach to ensure that urban freight planning aligns with the movement of people, supporting integrated transport systems that contribute to more pleasant and sustainable urban environments.
- Ensure adequate **provision of infrastructure and facilities** such as loading zones for loading and offloading, as well as staging areas or truck stops near CBDs , with options for transferring freight to micro-hubs for last-mile delivery using suitable sustainable transport. Develop dedicated freight routes for heavy vehicles.
- **Manage urban freight pro-actively** through proper planning, with local authorities actively engaging and consulting with industry forums, vocational societies and industry associations, such as the Road Freight Association and the Gauteng Freight Forum.
- Prioritise planning, budgeting and development of an efficient network of multimodal freight corridors ("**corridors of freight mobility**") and routes for dangerous goods and abnormal loads. Guide freight traffic onto freight bypasses such as PWV15 and PWV17.
- Liaise with Transnet and private developers to implement **new intermodal terminals** at previously identified preferred locations such as Kaalfontein, Rosslyn, Pyramid South, Sentrarand, Tshwane SEZ (Silverton) and Tambo Springs (refer to **Figure 5-3**).
- Facilitate provision and/or improving of **access to the current and planned intermodal freight** hubs and/or freight villages.
- Promote the development of **truck stops** and **staging areas** along freight corridors, around terminals in the hinterland, e.g. City Deep, as well as special economic zones, freight villages and logistics parks, e.g. Automotive Supplier Park in Rosslyn.
- Facilitate appropriate **road to rail migration** for rail-friendly freight.

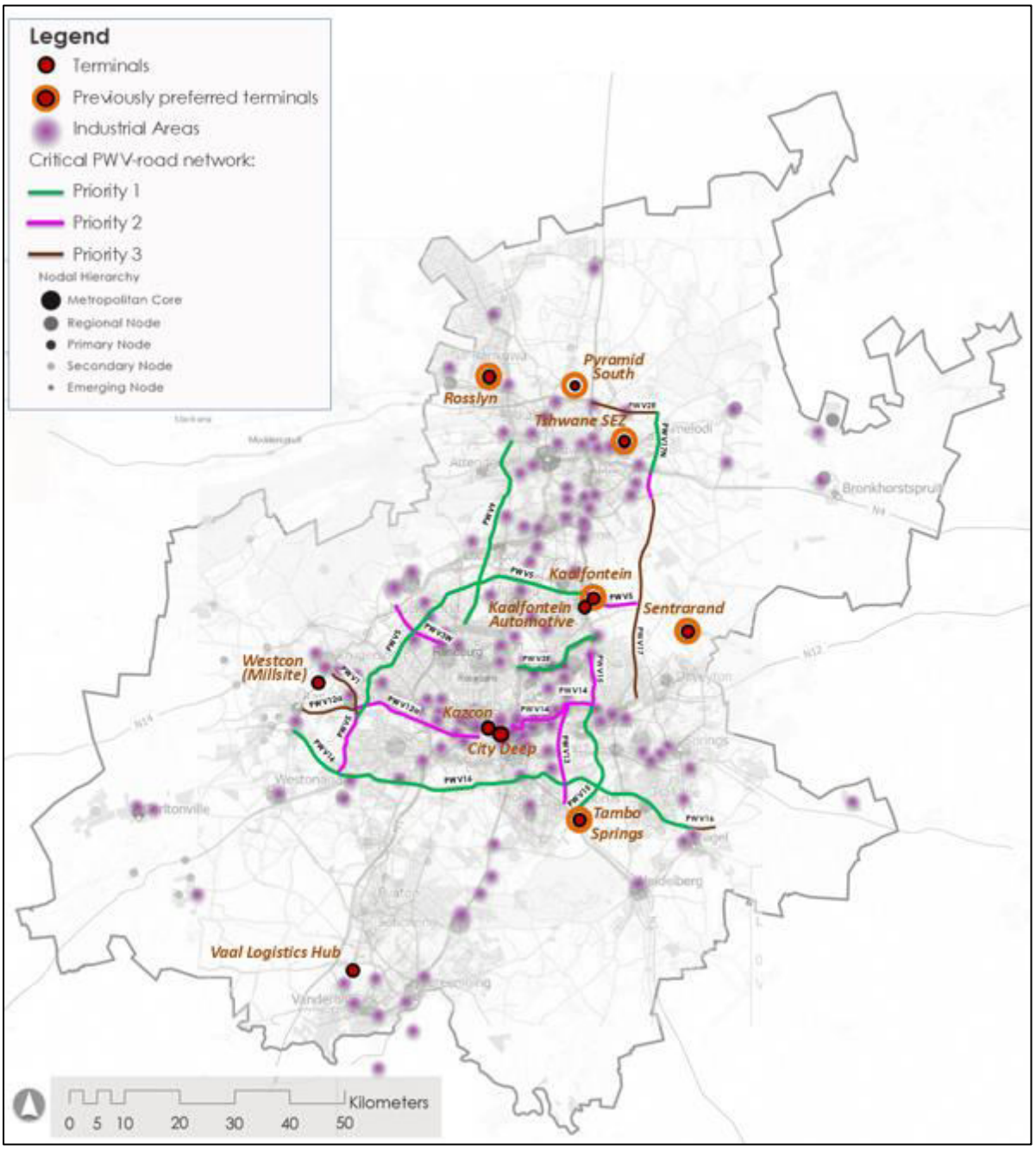

Figure 5-3: Strategic Freight Network and Terminals

5.2 Enhanced, safe, reliable, integrated and affordable transport ensures equitable access to opportunities for all.

Under this strategic ambition, five interventions were identified.

Intervention 2-1: Reinforce rail as the backbone of Gauteng's transport system

Picture of success:

	PRASA has completed its recovery and modernisation programme and rail passenger transport has been transformed into a mode of choice due to its reliability, affordability, safety and responsiveness to passenger needs. Services are abundant, easily accessible and well-integrated with road based public transport services, ensuring effortless convenient travel across the province.
	PRASA and Gautrain rail services are integrated seamlessly into a unified brand in Gauteng, with harmonised ticketing, timetables, service standards and station facilities.
	Rail, as the backbone of Gauteng's sustainable and integrated transport system, has reclaimed and surpassed its role in driving economic growth, supporting social inclusion, and promoting environmental stewardship, increasingly powered by renewable energy sources.
	Well-designed intermodal facilities transformed the travel experience physically and commercially, by enabling seamless, convenient connections between rail, buses, taxis, cycling, and walking, especially at busy hubs and priority development areas or TODs. Rail's integration with land use promotes compact, mixed-use and accessible urban spaces. Together with travel demand management strategies like park-and-ride and priority corridors, this reduces dependence on private cars, delivering a truly sustainable and efficient transport system.

Actions to deliver this strategic intervention:

- Ensure **integration of commuter rail services planning in the ITP's** and establish a unified user-centric approach to rail transport in Gauteng that prioritises passenger needs and responds to integrated settlement patterns. This approach should be underpinned by:
  - Modal integration (infrastructure, services, ticketing, and timetables);
  - Land-use alignment (densification, in-filling, TOD nodes); and
  - Travel Demand Management (regulatory, infrastructure, pricing tools).
- Undertake a **feasibility study to inform a commuter rail devolution strategy**, including the required institutional arrangements, resources and funding.
- Build provincial and municipal competence and capacity to engage with the Department of Transport (DoT) and **position TAG and GDRT as strategic leaders** in aligning provincial priorities with the national rail devolution programme. This includes facilitating successful co-operation and collaboration amongst Province and municipalities and advocating for rail services that are responsive to both local and province-wide needs.
- Actively pursue the implementation of the **Gauteng Rapid Rail Integrated Network** (GRRIN).

Intervention 2-2: Collaborative planning that ensures user-centric public transport and modal integration

Picture of success:

	Inhabitants of Gauteng are satisfied how the public transport system has evolved and enjoy using it.
	A range of public transport modes that not only assists in ensuring affordable province-wide inter-connectedness and access to the full spectrum of economic, social and educational opportunities that the province offers, but also places the province on a sustainable growth trajectory.
	Municipalities work together to pool resources and procurement to get the best possible deals on public transport fleet and infrastructure. Common designs enable efficiency and optimal resource availability.

Actions to deliver this strategic intervention:

- Establish **working committees with municipal and provincial representatives**, as outlined by the NLTA, to lead the planning (including a combined transport demand model) and implementation of an integrated Strategic Public Transport Network (SPTN).
- Collaborate with municipalities to **complete the SPTN** as shown in **Figure 5-4,** by completing missing links while incorporating the **Public Transport Subsidy Policy** principles, defining the role of each transport mode to ensure efficiencies.
- **Integrate all road-based public transport modes and services**, including professionalised minibus taxi services, to augment and complement the rail system, instead of competing.
- Identify **pilot projects** for integrating bus services and establish a unified subsidy mechanism for all services within the SPTN.
- During system upgrades and transitions, such as the move towards cashless fare collection and digital platforms, it is important to ensure initiatives are **user-centric and inclusive**. This includes actively engaging diverse passenger groups (e.g. Disabled People South Africa (DPSA), South African Disability Alliance (SADA, Blind SA, etc) in design and testing, and continuing to accommodate passengers who rely on cash, particularly those with limited means, to ensure equitable access to public transport.

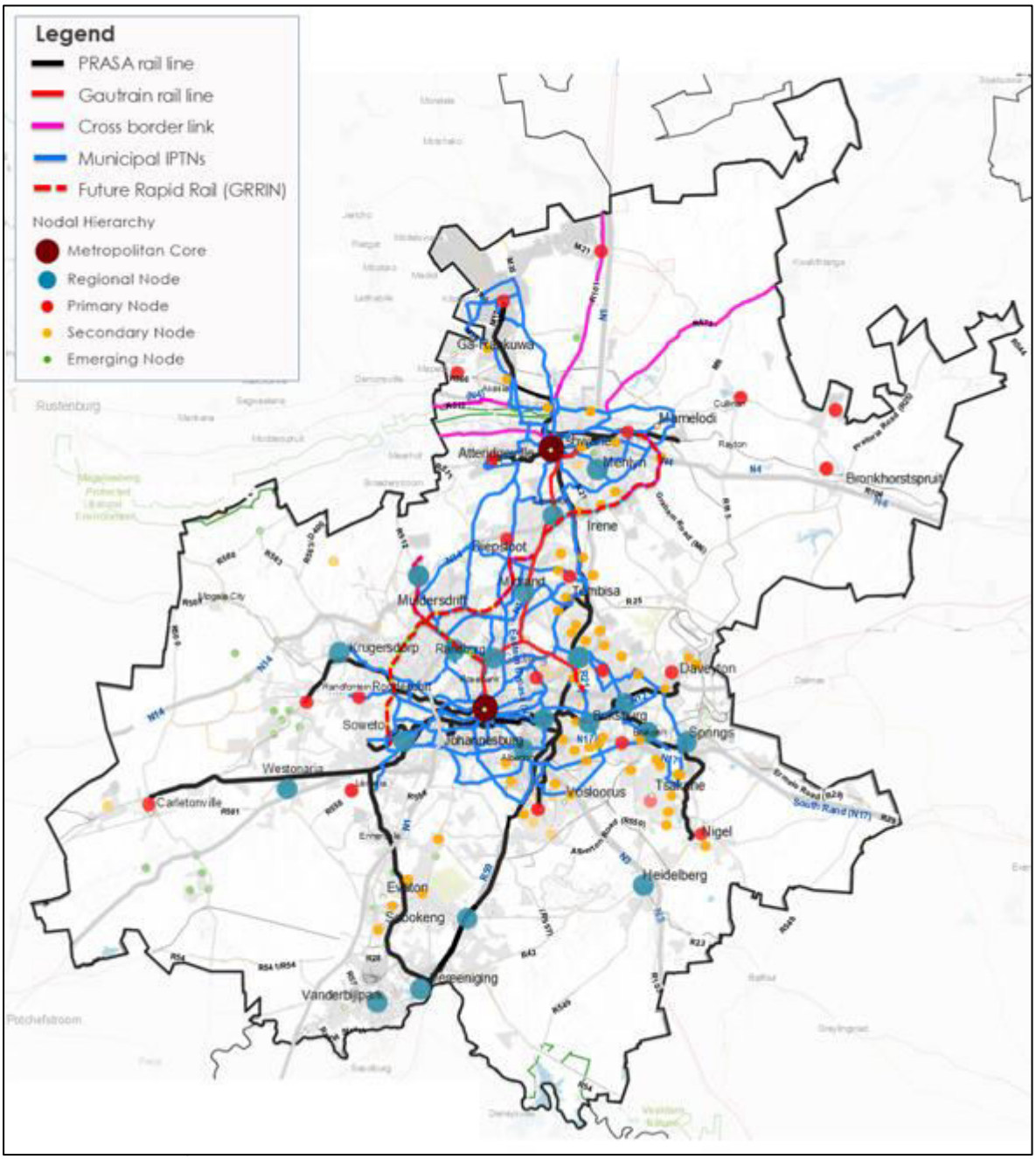

Figure 5-4: Strategic Public Transport serving key nodes

Intervention 2-3: Effective governance and institutional support to enable sustainable, affordable and convenient public transport operations.

Picture of success:

	Politicians fully support and enable public transport as a way of life in the province.
	Everyone works towards a common goal. Public transport is seen as the star of the show, while private car use is less prominent. Wherever possible, opportunities to travel by NMT or shared mobility are encouraged.
	Well-functioning BRT systems are servicing high density corridors and are integrated with other public transport services.
	The minibus taxi industry is highly valued as a key component of the public transport system, filling in the gaps that rail and buses cannot fill. Taxi / bus licences on accredited routes are granted and issued timeously. The Operating Licence backlog has been eradicated.
	Increases in ridership has made public transport viable and sustainable.

Actions to deliver this strategic intervention:

- Ensure **sustainable public transport operations** by integration of all modes and supporting the modernisation of the minibus taxi industry to maintain high service level standards.
- Facilitate the devolution of the **PTOG contracts** to capacitated municipalities.
- Improve regulation and enforcement/disposal of **Operating Licence applications** by addressing backlogs, strengthening enforcement and improved engagement of minibus taxis, metered taxis, scholar transport and e-hailing services.
- Ensure collaboration between public transport operators in the development of an **integrated ticketing and information system** with a single public transport insignia.
- Facilitate the development of modern, universally accessible **intermodal facilities and amenities** for NMT, shared mobility and first- and last-mile modes, supported by guidelines, norms and standards. Enable collaboration between municipal officials and practitioners in the co-development of a concise, practical guideline document for public transport facilities. This document should serve as a shared reference across Gauteng's cities that promotes high-quality, attractive and efficient infrastructure along key public transport corridors and TODs.
- Establish **service quality standards**, stipulate and enforce safety measures for all public transport modes to ensure a customer-centric experience (Refer to **Figure 5-5**).

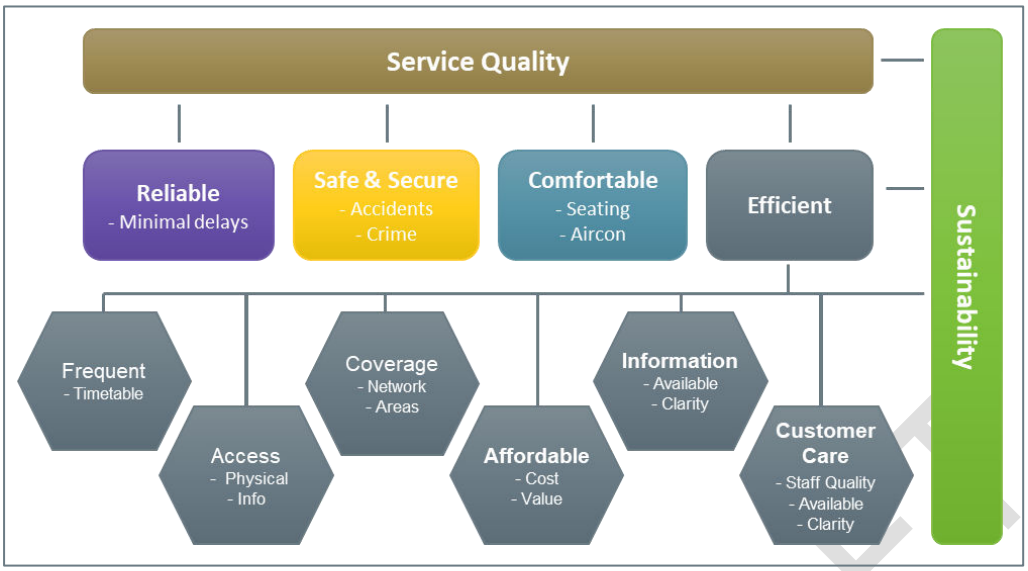

Figure 5-5: Defining level of service quality for each mode of public transport

Intervention 2-4: Appropriate and safe public transport infrastructure and vehicles for all

Picture of success:

	The public transport system, including vehicles, is clean, safe and reliable, making it the preferred mode of travel.
	Modern public transport intermodal facilities (including rail stations) allow easy transfers between modes.
	Public transport has the right infrastructure to be fit for purpose, providing universal access to all.
	There is still traffic congestion for those who choose to use private cars, but this does has a lessor impact on public transport users where public transport is provided with priority lanes and ease of access.
	Public transport is supported by clear, legible information enabling easy access.
	Demand has led to local production of a core BRT bus used by all municipalities.

Actions to deliver this strategic ambition:

- Prioritise affordable **sustainable public transport lay-bys, shelters and infrastructur**e along high-use routes to facilitate the shift from private to public transport.
- Ensure **universal access at and around public transport facilities**, train stations and bus stops, providing equal opportunities for all to access the transport system.

- **Leverage technology** to improve service quality and safety through advanced public transport management systems, traveller information platforms, Mobility-as-a-Service, integrated ticketing, Wi-Fi in stations and vehicles and enhanced security measures.
- Ensure **universal access** (UA) compliance of vehicles contracted on SPTN(s), supplemented by dial-and-ride services for areas not served by these modes.
- Ensure **collaboration** between government, transport operators, businesses, urban planners and communities to enhance public transport facilities and stations, promoting seamless transfers between modes and integrated networks through improved interchanges and fare systems.
- Develop **uniform standards for public transport facilities** and service quality with the aim to transform the system and set clear maintenance and operational standards. This includes defining essential functions to be incorporated at facilities, such as electric vehicle charging points, crèches, satellite police stations, driver resting areas and meeting rooms.
- Ensure **safe and secure station precincts**, facilities and vehicles with improved safety measures, including security personnel, visible policing and CCTV cameras.

Intervention 2-5: Sustainable and resilient designs, construction, maintenance and management of the network to ensure provincial wide mobility.

Picture of success:

	A modal balance within road reserves - roads are designed and retrofitted as "complete streets", prioritising public access, NMT, public transport and freight vehicles, rather than solely focusing on private vehicles. Besides available guidelines supporting such designs, a co-ordinated effort is made to implement them with a sense of common purpose.
	Transport corridors are well thought out and designed to facilitate efficient service delivery, incorporating necessary conduits for existing and emerging utilities (services) and incorporated sustainable, renewable options and technological infrastructure.
	Transport systems are designed and transformed to be able to cope with extreme weather events through rapid recovery and affordable appropriate design.
	Advanced technologies, including artificial intelligence, increased computational power, the Internet of Things (IoT) and emerging vehicle technologies, inform the planning, design, construction and management of transport infrastructure. This approach ensures adaptability, resilience and flexibility in the transport system, enabling it to respond effectively to changing needs and challenges.

The following actions are required to enable **adaptive road network management**:

- Extend SANRAL's **Freeway Management System** (FMS) to **key provincial and arterial roads** for real-time traffic and incident management, enhancing response times and reducing congestion.
- Implement **High Occupancy Vehicle (HOV) lanes** on freeways using monitoring technology to promote carpooling and public transport, alleviating congestion.
- Introduce **AI-based traffic management** and arterial systems, including smart traffic signals, overload control and optimisation tools for improved flow and reduced congestion.

To enhance the efficiency and effectiveness of the transport system **asset management** and protection, the following actions will be required:

- **Safeguard transport infrastructure from vandalism** by leveraging traffic and freeway management technologies for real-time monitoring.
- Regularly update **Pavement Management Systems** and use innovative techniques (e.g., drones, GPRS) to ensure cost-effective road maintenance.
- Prioritise **high public transport demand** arterials, especially those serving Townships, Informal Settlements and Hostels (TISH), by collaborating with municipalities on planning, design construction and maintenance.
- Develop a **resilient infrastructure** guideline.

In adopting **sustainable road design and construction practices**, the following actions will be pursued:

- Continuously improve **road design standards**, incorporating "Complete Streets" principles that integrate public transport, NMT, universal access and essential services, also retrofitting existing roads and urban fabric.
- Implement **critical Gauteng's Strategic Road Network (PWV and K-routes)** shown in **Figure 5-6,** and ensure future-ready corridors for all transport modes while safeguarding road (and rail) reserves from illegal occupation.
- Implement the **Policy on Non-Standard Innovative Materials** in road building, focusing on low-carbon alternatives, including recycled or locally sourced materials to reduce environmental impact.
- Improve **quality control and monitoring practices** in road construction and maintenance to extend the life of infrastructure and reduce deterioration.

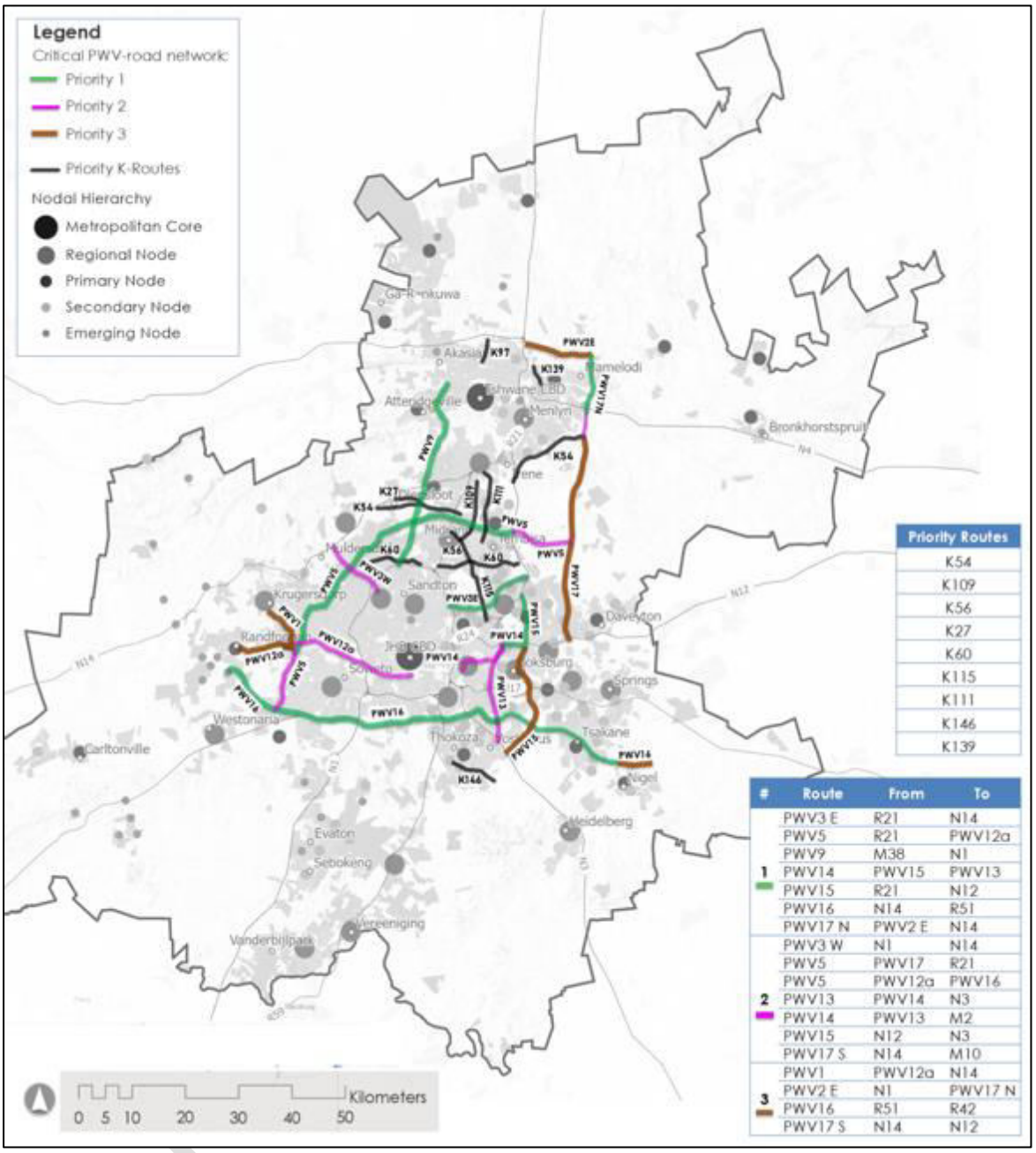

Figure 5-6: Strategic Road Network (PWV and K-routes)

5.3 Leverage technology for a seamless, digitally enhanced transport experience.

Under this strategic ambition, the goal is to utilise technology to create a seamless, digitally enhanced transport experience. In addition to various technology actions outlined under other interventions, including road and traffic management and digitally enabled public transport management, the following additional intervention is recommended:

***Intervention 3-1: Seamless, personalised trips through digital technology**: A unified mobility data platform to facilitate integrated data and mobility services which provides real-time information and adopts emerging technologies and automation.*

Picture of success

	Agencies collaborate towards a unified system where users can plan, book and pay for multi-modal journeys through a single interface. Agencies also collaborate on incentive systems that will attract users to public transport.
	Mobility as a Service (MaaS) is a way of life & facilitates a seamless and cashless travel experience through a **digital platform.**
	Seamless convenience is demonstrated through reliable systems where one ticket / card provides access to all forms of public transport.
	An Intelligent Transport System (ITS), using the datahub at the Traffic Management Centre, that provides anyone with access to a repository of routes, choices, modes, changes and other relevant information.

Actions to deliver this strategic intervention:

- Create a **single point of access** to a **unified mobility data platform** to enhance mobility data accessibility and usability.
- Establish the full **Traffic Management Centre (TMC)** functionalities, develop the **concept of operations, a centralised transport cloud-based data hub, a comprehensive data strategy and open data policy.** To enable the full functionality, more sensors and data feeds will be required to feed into the TMC to monitor the **holistic state** of transport in the province.
- Facilitate establishing a **data integration** (including geospatial, road network, freight, land-use, environmental data) and **high level cybersecurity facility**, as part of the TMC.
- Implement **connected, collaborative and automated** transport systems and establish **integrated mobility services providing real-time information and predictive analytics.**
- Develop a policy to facilitate **collaboration among authorities, operators, agencies, financial institutions and the private sector** for the **integration of route and timetable data**, enabling the One-Province One-Ticket initiative and Mobility as a Service (MaaS).
- Institute **regional transport modelling** to maintain integration between land-use and transport initiatives to support planning and decision-making processes.
- Utilise **automatically collected data** to develop a **provincial transport dashboard** that tracks and reflects progress against established targets.
- Ensure that technology upgrades, such as cashless fare systems and digital platforms, are **inclusive and user-centric** by engaging passengers with different needs and abilities in design and testing, while also continuing to accommodate those who rely on cash, especially individuals with limited means.

5.4 Effective implementation through collaboration, capacity building, adequate resourcing and sound governance.

Under the first strategic ambition, three catalytic interventions were identified.

Intervention 4-1: Leverage partnerships to develop sustainable, innovative funding models.

Picture of success:

	A well-endowed Transport Fund exists to address shortfalls in funding and to link transport systems throughout the province.

This intervention is detailed in **Section 7.3**.

***Intervention 4-2: Sound governance through institutional capacity building in the transport sector and collaboration** between the three spheres of government to ensure effective implementation.*

Picture of success:

	Capable, well-capacitated officials at provincial and municipal level, able to plan transversely, craft well aligned strategies and navigate implementation efficiently, effectively and competently over time.
	Enforcement and behavioural economics shape appropriate, desired behaviour, with all planning teams incorporating experts in social psychology to ensure this behaviour is shaped in a responsible, focused manner.
	Overloading has been significantly reduced and freight traffic in inner cities is limited to essential services.

Actions to deliver this strategic intervention:

- Clarify powers and responsibilities of TAG, Gautrain Management Agency (GMA) and GDRT in the implementation of the STP and IIP.
- Implement a catalytic behaviour change programme across Gauteng, integrating sustainable transport and Travel Demand Management (TDM) practices into governance structures to support a just transition and combat climate change.
- Facilitate continuous involvement of diverse stakeholders from both public and private sectors as well as communities in provincial transport planning and implementation of projects as well as operations and enforcement.
- Enhance capacity building in the transport sector by engaging with industry and the Transport Education Training Authority (TETA) to revitalise the apprenticeship training system and institutions.
- Address overloading by liaising with the Cross Border Management Authority to enforce revised specifications at border posts, ensuring compliance to prevent overloading on roads in Gauteng Province.

- Modernising the PRE to improve the process of applying or renewing Operating Licenses for especially minibus taxi (MBT), scholar transport and e-hailing operators. Consider amending the Regulations to streamline the process.

Intervention 4-3: Streamlined coordination and collaboration: *A Provincial Transport and Land-use Integration Committee (PTLUIC) that streamlines coordination structures.*

Picture of success:

	There is buy-in from all role-players to work towards a common vision that incorporates a seamless, integrated transport system. Collaborative planning looks at the province as an integrated system with spatial planning, engineering infrastructure and transport considered as important enablers of economic growth and social development.

Actions to deliver this strategic intervention:

National and cross-sectoral

- Engage in the activities of the national cross-sectoral Presidential Climate Commission (PCC) Regional / Provincial and the Gauteng Premier's Expert Advisory Committee on Climate Change (PEACCC) to ensure the activity is intergovernmental and cross-sectoral.
- Participate in MINMEC, COLTO and other national structures, or lobby the NDoT to revive them where they are not functioning adequately.
- Engage and support the Gauteng Freight Forum (GFF) that brings together stakeholders from academia, industry and government.

Provincial

- Establish a **Provincial Transport and Land-use Integration Committee** (PTLUIC) involving the municipalities and other relevant role players, such as the Gauteng Economic Development Agency (GEDA) and SALGA, to oversee and coordinate land use and essential engineering services, with a view towards transport integration across the Gauteng City Region.
- Assess the effectiveness of past and existing provincial and municipal transport-related committees to identify what worked, what did not, and streamline structures accordingly.
- Establish sub-committees / task teams under the PTLUIC for this purpose and to revive existing structures, e.g. Public Transport Integration Committee (PTIC), addressing integration of all public transport modes including rail, BRT, bus, minibus taxi, metered taxi, e-hailing and MaaS.
- Absorb and revive functions of the existing Transport Technical Working Committee (TTWC) / sub-committees (including rail, freight, motor vehicle driver registration and licensing, public transport integration, bulk engineering services and integrated transport planning).
- Establish a Sustainable Development and Access TDM Oversight Sub-committee / Forum

Municipal:

- Oversee revitalisation of Intermodal Planning Committees (IPCs) in the three Metros to coordinate and integrate public transport across all modes as envisaged by the NLTA. This will include facilitating service level agreements with PRASA where commuter rail forms a significant part of the public transport system.

5.5 Integrate land-use and transport for a safe, sustainable, inclusive and equitable society.

Picture of success:

	Spatial considerations inform transport planning decisions and solutions. The need to travel to access opportunities, has been significantly reduced.
	Land use and engineering infrastructure investment priorities have been influenced by transport and vice versa – well planned transport corridors and services have intentionally stimulated growth.
	All planners are inducted into a new way of thinking – Triple Access approach (digital accessibility alongside spatial proximity and mobility). New principles and ways of thinking infuse planning at a provincial and municipal level.
	Gauteng has become an integrated, connected space for all. Economic growth is no longer limited to a few core areas but spread more widely in and around nodes and multi-modal activity corridors.
	Established nodes and corridors create safe, high-intensity, mixed land-use settlements that promote walking, cycling and open public space enjoyment for all ages. This spatial structure supports 15-minute cities and Transit-Oriented Developments (TODs), facilitating effective non-motorised transport (NMT) and other travel modes.
	More social housing and multi-income 'blended' suburbs are developed in areas served by rapid urban transport systems.
	Smart city solutions and a compact urban form contributes to lower household service costs, reduced maintenance- and upgrading costs and protection of unbuilt areas for agriculture, relaxation and tourism, resulting in a more efficient and less polluted urban environment.
	All public amenities are planned around public transport and where possible, enable digital access, meaning fewer people need to travel.
	Learners utilise NMT and public transport. Schools offer hybrid learning.

To ensure an integrated land-use and transport system and inclusive society, two interventions were identified.

Intervention 5-1: A cohesive urban form that supports sustainable and equitable transport and services.

- Promote and support the development, upgrade and maintenance of **engineering infrastructure** to ensure essential services like water, energy and waste management are aligned with transport and land-use planning for integrated and sustainable urban growth.
- Revise traffic planning guidelines to adopt the **Enable, Avoid, Shift and Improve (EASI) / Triple Access approach,** replacing "Predict and Provide" with "Decide and Provide" to ensure that future travel demand is both reduced and accommodated by suitable multi-modal transport options.
- Prioritise and invest in **pilot projects for densified public transport corridors or Transit-Oriented Developments (TODs)** of provincial significance in the three metros (considering key nodes shown in **Figure 5-4)**. Allocate budgets for essential bulk infrastructure upgrades while collaborating with key stakeholders in land use, human settlements, transport, economic development and business sectors. Stations that are earmarked by PRASA for upgrade with potential for commercial development (e.g. Park Station, Belle Ombre) could be selected as pilots. Use these pilot projects to test collaboration and investment flows, document best practices and create guidelines for future rollouts.
- Identify **high-impact infrastructure investments** through a value proposition analysis for **bulk infrastructure investments** along transport corridors to determine areas where such investments would generate the highest economic growth or social impact.
- Develop townships, informal settlements and hostels (TISH) Community **Mobility Hubs** as safe, inclusive spaces with access to Wi-Fi, shared mobility and modal transfer options. These hubs should cater to local needs and can be integrated with libraries, community halls, government services or other community facilities.
- Facilitate **amendment of land-use schemes** by increasing permissible building heights, promoting mixed-use developments and providing incentives to developers along major public transport routes to support **densification along corridors and key nodes**.
- Initiate zoning and regulatory reforms that **promote mixed-use developments,** TODs and the 15-minute city concepts, supporting more liveable and vibrant urban spaces. Replace traditional zoning codes with **form-based codes**, which prioritise the relationship between buildings and the public realm and allow for more flexible uses, instead of regulating based on separate uses.
- Research and **reduce parking** requirements in areas with strong public transport systems, promoting more sustainable urban development.
- Facilitate a centralised and standardised **e-submission** system across Gauteng municipalities to enhance land-use management processes , while also supporting the development of an **integrated database for land-use management** across the province and promoting efficient data sharing between municipalities.

Intervention 5-2: Refocus transport provision to prioritise non-motorised modes and universal access (UA).

- Implement **policies and legislation** supporting walking and cycling , universally accessible transport (UA Policy) and efforts to combat climate change.
- Review and update the **Gauteng NMT Masterplan** through further stakeholder consultation.
- Prioritise **cycling corridors and NMT access** on provincial and municipal roads for **first and last mile connections** for users of all modes of public transport to ensure seamless integration with NMT, while enhancing the **walking environment** for primary walk trips, especially in TISH areas.
- Facilitate a **bicycle distribution programme** to promote cycling, particularly for shorter trips and school journeys, aligned with scholar transport objectives.
- Refocus **transport budgets to prioritise non-motorised** transport infrastructure and ensure the infrastructure provided is Universally Accessible.
- Focus the **investment in cycling infrastructure** on improving facilities for short journeys, encouraging a shift from walking trips over 30 minutes to cycling and from minibus taxi (MBT) trips up to 8 km to cycling.

To ensure the safety of all transport users, the following intervention was identified.

Intervention 5-3: Ensure the safety and security of drivers, passengers and vulnerable road users.

Picture of success:

	Safety and security agencies collaborate and share resources.
	Truck drivers and security of loads are safeguarded.
	A safe public transport system where citizens and tourists feel secure in both vehicles and facilities, making it their preferred mode of travel.
	Public transport has visible policing, 24-hour cameras and rapid response as well as professional drivers, guided by semi-autonomous systems.
	The urban environment, including school and public transport precincts, is safe and secure for cycling and walking.

Actions to deliver this strategic intervention, include:

- Establish an interdepartmental **Provincial Safety Team** responsible for improving safety and security and involve representatives from various sectors, including urban planning, public transport, community services, road safety and law enforcement.

- **Strengthen collaboration between safety agencies** to prioritise safety measures and enhance surveillance technologies, such as CCTV and emergency communication systems. These technologies should be coupled with visible policing:
  - along key routes for NMT users.
  - the road network in general, whereby technologies are utilized to also safeguard infrastructure and equipment against vandalism.
  - in vehicles and public transport facilities (ensuring safety measures are in place for each mode of public transport).
  - at modal interchanges, mobility hubs and station precincts.
  - ensuring the safety of truck drivers and the security of their loads.
- Re-establish **Railway Police** as a dedicated unit in the SAPS, to develop an overarching **rail sector security strategy** and plan and use operator owned or outsourced security services to provide “a first line of defence” in rail facilities and trains.
- Ensure **design guidelines** for public transport **facilities** include the creation of spaces that promote safety, such as well-lit areas, clear signage and public information systems.
- Prioritise road safety through enhanced **campaigns, programmes and education** and collaborate with Arrive Alive, including incorporating educational programs at schools.
- Extend **SANRAL’s emergency response** and towing services to provincial roads covered by FMS to improve roadside safety.
- Facilitate **collaboration between GDRT and RTMC** to reduce fatalities and accidents and finalise and implement the road traffic law enforcement code, as required by the RTMC Act.
- Develop a "**Precinct Guideline**” for areas surrounding and connections to and from public transport and mobility hubs.

5.6 Minimise transport's impact on the environment and improve climate resilience. .

Under the Environmental theme, the following intervention was identified.

Intervention 6-1: A transport system that revitalises the environment: *A decarbonised, resilient and sustainable transport system delivered through behaviour change, a transition to renewable energy and consideration of the true costs and benefits of transport through whole lifecycle project appraisals.*

Picture of success:

	All the necessary **renewable infrastructure** is in place and has enabled a significant transition to renewable energy powered vehicles. By 2050, all transport is powered through renewable, clean energy.
	Significant progress made with development of **charging and filling stations** for new energy vehicles / renewable energy public transport and freight vehicles.
	Travel demand management is a well understood, accepted and embraced concept which changes travel behaviour. This enables people to make better choices and decisions about travel.
	Where appropriate, **employers increasingly promote digital connectivity and working**. Virtual and augmented reality (VR/AR) technologies enable productive and engaging meetings, further **reducing the need for in-person meetings** and unnecessary trips.
	MaaS is visible through a digital platform that provides access to information that enable users to know what their access options are so that they can make an **informed choice** about services, what they cost / their **carbon footprint** and all available options.
	Biomimicry has enabled sustainable, regenerative design and the pro-active adaption of traffic conditions to external changes such as weather.

To deliver this strategic intervention, decarbonisation of the transport system will be required and a transition to renewable energy needs to be enabled. This will require the following actions:

- Initiate a **readiness programme** to facilitate the transition to renewable energy in transport, including developing an enabling regulatory framework and piloting electric vehicles for public transport and g-FleeT Management.
- Develop a **resilient and adaptive provincial infrastructure framework** considering the impacts of the rapidly evolving climate and environmental issues.
- **Collaborate** with the private sector on investment, regulation and policy instruments for the development of a network of hydrogen filling stations and battery charging stations for zero emission public transport and freight vehicles.
- Following from the Green Hydrogen and Transport Position Paper prepared for GDRT, develop a Green Transport Strategy for Gauteng that incorporates alternative clean energy sources, which are essential for creating a sustainable future for humanity.

- Develop a **framework for implementing Low Emission Zones (LEZs)**, integrating emission sensors to monitor air quality and emissions, supporting environmental compliance and decarbonisation goals.

Initiatives that promote sustainable transport and encourage behaviour change to foster environmentally friendly access choices within communities will be required, including the following actions:

- Revise traffic and transport planning guidelines to **prioritise EASI, Triple Access and Decide and Provide** principles.
- Appoint a full-time TDM coordinator within TAG and establish a cross-departmental team to lead capacity building, secure funding and foster cross-sector collaboration to prioritise TDM programs across Gauteng.
- Require all development applications to submit a **demand management plan** alongside Traffic Impact Studies or Transport Assessments, ensuring sustainable transport options and reduced car dependency.
- Develop and deliver **awareness raising campaigns** for sustainable transport, TDM, NMT and road safety, starting at schools (aligning with the goals of the Decade of Action for Road Safety).
- Integrate **carbon footprint tracking** into the MaaS platform, allowing users to see the emissions associated with each transport option, tracking their carbon footprint and encouraging them to choose more sustainable alternatives.
- Pilot **trip reduction projects for large employers** in Gauteng, developing and securing approval for telecommuting policies that allow employees to work from home or remotely on designated days. Collaborate with municipalities, City Improvement Districts, NGOs and businesses to invest in public transport and NMT facilities in surrounding precincts.
- **Re-establish road user charges** for private car users, including Low Emission Zone (LEZ) congestion charges, increase in vehicle licensing fees, or higher fuel and parking costs, to encourage public transport use in alignment with the NDP2030. Liaise with SANRAL and municipalities on implementation.

Sustainable lifecycle project appraisals will ensure that all transport and infrastructure projects consider long-term environmental, social and economic impacts throughout their entire lifecycle. The recommended action to address this is to:

- Establish a **rigorous project appraisal** ("gateway review") framework to **evaluate the economic, environmental and societal costs** of transport investments in both public and private sectors. **Prioritise** sustainable infrastructure projects that offer **higher long-term returns and enhanced resilience**.

6. Enabling Framework to Deliver the STP

TAG's role is to co-ordinate and provide support to transport planning. This includes ensuring that the 'job' of thinking about how we access opportunities effectively is done in the most optimal manner, even if this requires that the recommendations made extend beyond TAG's immediate transport mandate.

6.1 Potential Programme Challenges

There are potential implementation challenges to be addressed:

- **Overcoming scepticism about a public transport-based future -** Changing broader public perception is crucial, as many value their independence and view car dependency as a way of life. Instilling the belief that a future centred on public transport is achievable, while instilling a vision of sustainability and a Triple Access transport system, is essential.
- **Cross Sectoral Responsibilities -** Effective coordination across different sectors is essential for cohesive transport planning and delivery.
- **Operations, Maintenance, Enforcement -** Funding is often disproportionately allocated to the provision of new infrastructure, as the benefits of retrofitting, upgrading existing infrastructure, or implementing non-infrastructure interventions, such as regulations, management and maintenance, are more difficult to demonstrate. A more balanced approach is required to ensure sustainable, ongoing operations.
- **Sustainability of Public Transport operations -** Rail and BRT operations are financially unsustainable due to high operational costs, with Gautrain and BRT systems serving as key examples. BRTs face ongoing financial challenges, as fare revenues often fall short of operational expenses, compounded by the limitations set by DORA grant conditions. Provincial bus contracts (PTOG) are strained by ageing fleets, as subsidies do not adequately support fleet renewal. Similarly, the minibus taxi industry struggles to afford vehicle upgrades and proper maintenance.
- **Collaboration and Consistency of data –** A major challenge in realising the vision for a smart mobility system lies in overcoming institutional barriers to collaboration. Data is often collected in different formats and not readily shared between entities, which complicates the integration of mobility data required for projects such as the "One Province, One Ticket" initiative. Effective institutional collaboration is crucial to overcoming these barriers, enabling the use of data to improve service delivery and support evidence-based policy making across government spheres.
- **External Changes and Plan Flexibility –** the unprecedented rate of change in the external environment require flexible plans that can adapt to evolving conditions.
- **Fragmented Planning and Funding -** Planning within provincial, municipal and transport sectors remains fragmented and siloed. A cohesive shared vision, clear provincial priorities and future investment decisions and ensure transport options that focus on reducing inequalities, economic benefits and sustainable travel is prioritised.
- **Project priorities -** Project prioritisation should ensure that future investment decisions contribute to and support the STP strategic ambitions and how they impact against climate impact mitigation outcomes and wider climate change targets. A robust assessment of potential

transport options against objectives is recommended for project appraisal processes to maximise social, environmental and economic benefits per rand of public expenditure, ensuring value for money across all investments.

- **Behavioural Change -** Achieving the mission of the STP requires a significant shift in behaviour to support alternative modes of travel and ease the strain on existing infrastructure. This transformation in public behaviour and expectations represents a major challenge across various sectors including government, business and general public.
- **Political disruptions and interference -** The tendency in South Africa to restructure government departments and redeploy officials after elections (national as well as municipal) leads to delays and uncertainty. Policies developed by one minister or official can often not be implemented before they are replaced by the policies of their successors.
- The complexity and magnitude of the task ahead in implementing the STP can be overwhelming to the extent that it becomes another project/document that sits on a bookshelf.

6.2 Improving Delivery

TAG will lead organisational change required to successfully deliver the STP, requiring improvements in:

- **Setting the Vision and Championing Change:** Strong leadership, both politically and departmentally, is essential for establishing a clear vision. This vision should reflect a sustainable province where public transport is not merely a mode of transport but a way of life for all.
- **Managing Change:** A well-defined division of responsibilities among relevant stakeholders, an enabling regulatory environment and co-ordinated communication are crucial for success. TAG will also act as an advisory authority to government decision-makers and actively participate in all working committees, including those involving municipalities and the province, as outlined in the National Land Transport Act (NLTA). Cross-sectoral co-ordination will address critical issues, such as safety and security.
- **Funding Mechanisms**: Alternative funding sources will be proposed to support transport initiatives. These may include naming rights, Corporate Social Responsibility (CSR) investments, sponsorship of public amenities, parking levies, fuel and carbon taxes and emission-based charges to incentivise sustainable travel choices.
- **Continuous collaboration:** Streamlining co-ordination structures is essential to overcome tensions between entities, spheres of government and government departments. This includes increasing overarching project management capacity, implementing behaviour change programmes and improving communication. Maximising implementation efficiency will involve leveraging technology and data to enhance planning and service delivery, as well as fostering collaboration and knowledge sharing to create economies of scale.
- **Implementation and Navigating Change**: Successful implementation and navigation of external changes necessitate a concise plan that details actions, responsibilities, timelines and resources. This plan should enable continuous reflection and adjustments to align with strategic objectives. While maintaining flexibility to respond to changing contexts, it is crucial that the plan adheres to regulatory frameworks set by the National Treasury, the Auditor-General of South Africa (AGSA) and the Department of Planning, Monitoring and Evaluation (DPME).
- **Engaging Citizens**: Building an engaged citizenry is crucial. The strategy emphasises the importance of public input and participation in shaping transport initiatives. Engaging citizens

through workshops, surveys and community events helps to incorporate diverse perspectives and priorities into the planning process and fosters community awareness.

- **Shared Values and Commitment:** All role-players involved in implementing the STP must maintain a strong focus on shared values, cultivating a culture of service excellence that appreciates the importance of inclusive, citizen-focused delivery and promotes shared learning and development.
- **Integrated Implementation Plan:** Given the significant challenges associated with a silo-based approach, a clear plan with specific objectives and targets is essential for executing the STP effectively. The IIP should establish metrics to track progress and ensure accountability.
- **Training and education**: Providing training for planning professionals will enhance awareness of the diverse issues facing different sectors of society. This includes capacitating and upskilling the industry, particularly regarding safety, TDM, EASI, carbon footprints and other relevant topics.
- **Co-ordination among stakeholders, sectors and departments:** Effective implementation across all areas requires strong co-ordination among various partners, including national, municipal and provincial departments. An integrated provincial co-ordination structure will be established to improve inter-agency collaboration, ensuring the leveraging of technology and data to enhance planning and service delivery.
- **Land-use, Engineering Services and Transport Integration:** Establishing a Provincial Transport and Land-use Integration Committee (PTLUIC) involving the municipalities and other relevant role players such as the Gauteng Economic Development Agency (GEDA) to oversee and co-ordinate land use with a view towards transport integration across the Gauteng City Region. Sub-committees and task teams will be created to support this effort and revive existing structures like the Public Transport Integration Committee (PTIC). The PTLUIC can be established administratively without the need for legislation; however, legislation could strengthen its authority. Province could approach the National Treasury to impose conditions on DORA grants, such as the PTOG and PTNG Grants or the Municipal Infrastructure Grant, ensuring that recommendations from the PTLUIC are considered or that approval from the PTLUIC is a precondition for accessing these funds.

6.3 Capabilities

To effectively implement the Strategic Transport Plan (STP) and achieve its desired impact and strategic intent, TAG, along with its stakeholders and partner organisations within the Gauteng Transport and Mobility system, must develop specific capabilities. Understanding the required capabilities, including who needs to develop them and when, is critical, especially as many of these capabilities may currently be lacking and will need to be developed or shaped over time.

The following capabilities are essential for Gauteng's success:

- Necessary credibility and expertise to co-ordinate all planning authorities and functions - able to integrate and influence the thinking and decision making of stakeholders (wider than transport).
- **Assured funding:** Ring-fenced funding for solutions contained within the STP inclusive of clear provision for both CAPEX and OPEX over time as well as funding specifically dedicated to awareness raising and behaviour change.
- **Capable institutions and professionals** able to see the 'big picture' and make objective planning decisions in the best interests of Gauteng and its people, free from undue influence.

- **Technology and data platform** with automated workflows and which contains a comprehensive database of common information and intelligence, optimised through AI, to deliver best possible planning choices and outcomes.
- **Enabling policy environment** enables difficult, complex decisions to be made quickly, effectively and responsively to accelerate and sustain the evolution of an optimal transport system for Gauteng.

6.4 Policy Areas

The following policy areas need to be prioritised to enable the achievement of the STP ambitions:

- **Integrated and Sustainable Transport Development:** TAG, in collaboration with GDRT and relevant transport stakeholders, will enhance Gauteng's transport networks to improve public transport and the strategic road network. This initiative aims to ensure seamless connectivity across municipal boundaries, promote regional trade integration and enhance cross-border transport efficiency to boost national competitiveness. The focus will be on integrating multimodal transport options, optimising intermodal co-ordination and improving the planning and management of road freight infrastructure. These efforts will directly support economic productivity while incorporating emission reduction strategies and ensuring climate-resilient infrastructure investments.
- **Integrated Transport, Digital and Spatial Accessibility:** TAG, in partnership with GDRT, GEDA, PRASA, municipalities and digital service providers, will integrate behavioural economics as well as digital, spatial and mobility (triple access) accessibility into transport planning. By collaborating with stakeholders across land-use, transport and economic sectors, TAG will ensure spatial considerations lead planning decisions on access solutions prioritise Transit-Oriented Developments (TODs) and growth along key public transport corridors. An Integrated Transport and Land Use Incentives Policy will be developed to provide density bonuses, tax breaks and infrastructure subsidies, encouraging densification around public transport nodes. This policy will support increased building heights and mixed-use developments, fostering vibrant, accessible communities with significant social and economic benefits.
- **Parking and Development Planning Policy Reform:** TAG, in collaboration with GDRT and local municipalities, will undertake a comprehensive parking policy reform to align parking strategies with sustainable transport goals. This initiative will include the provision of and pricing for parking facilities, inclusion of parking for public transport and shared modes, parking levies to manage demand and encourage the use of alternative transport modes. TAG will also lobby land use planning entities to initiate zoning and regulatory reforms that promote mixed-use developments, TODs and the 15-minute city concepts.
- **Collaboration in Integrating Technologies and Data Sharing Standards:** TAG will collaborate with the Gauteng Department of e-Government to standardize approaches and integrate technologies across government entities, following the guidelines set by the GCR ICT Norms and Standards framework. This partnership will establish data sharing protocols aimed at enhancing communication, improving service delivery and fostering a seamless public transport system throughout the province.
- **Prioritising Safety and Security:** TAG in collaboration with safety and security agencies will enhance the security of transport for people and goods. This will ensure that pedestrians, cyclists, vulnerable groups, public transport users and drivers feel safe across all transport modes and facilities, with particular attention to public transport interchanges, first and last-mile connectivity and the urban environment.

- **Universal Access:** TAG, in partnership with GDRT, PRASA, Transnet, municipalities and disability advocacy groups, will develop a Universal Access (UA) policy for Gauteng that ensures accessibility is embedded in all mass transport systems. This policy will prioritise inclusive design principles across public transport modes, supported by flexible, demand-responsive services such as Dial-a-Ride. By ensuring that all people, regardless of physical ability, can access safe, convenient and affordable transport, the policy will foster greater equity, enhance social inclusion and improve the quality of life for all residents.
- **Facilitating Demand Management and Behavioural Change:** In collaboration with GDRT, municipalities, property developers, large employers and public transport operators, TAG will prioritise environmental sustainability. This approach will embed the sustainable transport hierarchy in decision-making, favouring walking, cycling, micro-mobility, public transport and shared transport options over single-occupancy private car use. Strategies will leverage behavioural science to shift demand rather than relying solely on new infrastructure investments. Necessary policy reforms will align transport planning with environmental sustainability goals and national net-zero commitments. Economic measures and charges will be employed to influence demand and limit private vehicle use.
- **Sustainable and Innovative Funding Models:** TAG will implement a centralised funding approach, collaborating with the MEC and National Treasury to impose conditions on DORA grants (e.g., PTOG, PTNG, Municipal Infrastructure Grant). PTLUIC approval will be required for accessing funds, ensuring alignment with committee recommendations. TAG will work with government departments, the private sector and civil society to identify diverse revenue streams and establish equitable criteria for fund allocation, accounting for the lifetime costs and impacts of transport solutions, considering who bears the costs as well as the necessary trade-offs.
- **Public Transport Integration:** TAG will collaborate with GDRT, PRASA, GMA, municipalities and public transport operators, including the minibus taxi industry, to support the integration of public transport modes across Gauteng. This includes developing intermodal facilities in line with approved norms and standards and integrated fare systems to create a unified ticketing system, enhancing commuter access and fostering collaboration among transport operators.
- **Public Transport Regulation:** TAG will consult with the PRE, municipalities, PRASA and public transport operators to create a regulatory framework that balances demand and supply in the public transport system, improve service reliability and efficiency. This framework will address the backlog in Operating Licences (OLs), streamline CITP requirements for better decision-making, harmonise fare structures and develop incentives for driver behaviour and operator performance. TAG will establish performance standards for public transport providers, implement regular assessments and incorporate user feedback to enable responsive service adjustments. Enhanced enforcement will be achieved through technology-based verification of Operating Licences.
- **Non-Motorised Transport (NMT):** TAG, in collaboration with GDRT, municipalities and relevant stakeholders, will promote Non-Motorised Transport (NMT) by developing safe and accessible infrastructure for walking and cycling. This initiative will focus on constructing dedicated cycling lanes and pedestrian pathways, complemented by bike-sharing programs and facilities for secure bike parking at public transport hubs. By launching awareness campaigns highlighting the benefits of active transport, TAG aims to foster a culture of walking and cycling in Gauteng, enhancing public health and reducing carbon emissions. The integration of NMT options with public transport will ensure seamless connectivity and promote sustainable mobility across the province.

- **Empowering Stakeholders and Communities:** TAG will establish collaboration and co-ordination structures to create an environment for stakeholder participation. By ensuring diverse outreach channels for various user groups and those affected by transport decisions, TAG will implement a citizen-centred planning approach that addresses the population's diverse needs, facilitating their active involvement in strategic planning and implementation processes. This approach also promotes a shared sense of ownership of transport infrastructure, supported by enhanced law enforcement to protect public assets from vandalism and damage.
- **Transport System Maintenance and Efficiency:** TAG, in collaboration with GDRT, municipalities and other stakeholders, will enhance the efficiency and effectiveness of transport system maintenance. This includes leveraging digital technology for asset management, restoring transport assets to optimal condition and ensuring ongoing maintenance to sustain functionality.

6.5 Catalytic interventions

The following are the proposed catalytic interventions that will be developed in further detail in the IIP:

- Implement pilot Transit Oriented nodes and provincial public transport corridors to unlock densification barriers, address spatial and institutional fragmentation and refocus bulk engineering infrastructure investment to support compact, sustainable urban growth.
- Optimise public transport planning cycles and the operating licensing process to address challenges linked to minibus taxi violence, improving regulation and safety for operators and passengers.
- Digitise and digitalise transport data, utilising data and smart technology (including integrated ticketing systems like the "One Province, One Ticket" initiative) to support interventions and monitor progress effectively.
- Facilitate safety and security interventions in first and last-mile connections, transport hubs and in vehicles to increase passenger confidence and reduce crime-related risks.
- Mainstream sustainable transport in Gauteng (EASI approach) to position the province as a leader in achieving zero emissions, while supporting TDM initiatives, improved first and last-mile connectivity and universal accessibility.
- Create an “Urban Transport Fund” to support planning, cross-cutting projects and operations, enabling sustained and coordinated investment across Gauteng.
- Prioritise transit-oriented developments (TODs), 15-minute cities and mobility hubs in ‘TISH’ areas (Townships, Informal Settlements and Hostels) to promote equitable access and reduce travel needs in underserved communities.
- Shift rail-friendly freight from road to rail, develop legible freight corridors with clear routing, and establish truck stops and suitable intermodal freight terminals.
- Reprioritise and adequately fund the continuous maintenance of transport infrastructure to prevent service degradation, minimise safety risks and ensure long-term reliability.

7. Funding & Financing

The Transport Authority of Gauteng (TAG) plays a crucial role in co-ordinating and supporting transport planning, ensuring that access to opportunities is optimised, even when recommendations extend beyond TAG's immediate transport mandate. The core goal of the Gauteng Strategic Transport Plan (STP) and Integrated Infrastructure Plan (IIP) is to identify and facilitate reliable funding, while implementing sustainable solutions that allow communities to access opportunities safely, affordably and on time.

Gauteng's funding strategy incorporates both public financing and private sector participation, utilising revenue-generating mechanisms such as tolls and user fees to maintain and upgrade infrastructure.

7.1 Funding Resources

A multi-faceted approach is essential to mitigate funding shortfalls, reduce the projected gap of about R6 billion and ensure ongoing investment in transport infrastructure projects in Gauteng. Public funding forms the foundation of infrastructure financing, supported by substantial allocations from the National Treasury and provincial budgets. The government remains the largest funder of transport infrastructure, with significant spending dedicated to building and maintaining roads and transport systems. For example, the Gauteng Provincial Government (GPG) allocates approximately R2.5 billion annually to subsidise the Gautrain. The Gauteng Department of Roads and Transport relies on the equitable share and conditional grants, including the Public Transport and Road Maintenance Grant (PRMG), which constitutes 40% of its total allocation.

Key funding sources include:

- **Provincial Equitable Share (PES)**: An unconditional grant from the National Treasury, allocated based on population size, poverty levels and service demand. PES supports the transport budget, infrastructure development and operational expenses.
- **Conditional Grants**: Sector-specific funds from the national government for projects like public transport improvements and road maintenance
- **Provincial Own Revenue**: Generated from taxes and fees on vehicle registrations and licenses, though typically insufficient for large projects.
- **Municipal Contributions:** Local funding is crucial for urban transport, provided through local budgets and grants, such as the Municipal Infrastructure Grant (MIG).
- **Government Grants and Subsidies:** Securing grants from national or international agencies can supplement local funding efforts. These funds can be directed toward specific projects aligned with governmental policies or sustainability goals.
- **Infrastructure Fund (IF):** Managed by Infrastructure South Africa and operationalised by the Development Bank of Southern Africa (DBSA), the Infrastructure Fund employs blended finance instruments—including grants, debt and user-pay mechanisms—for projects with capital values exceeding R1 billion. To qualify, projects must align with the country's development objectives, as outlined in the National Development Plan (NDP), which prioritises inclusive economic growth, job creation, social and environmental impact and spatial reconfiguration. Notably, the Province

has yet to benefit from this fund and should consider applying for funding to support bulk infrastructure essential for developing a demonstration Transit-Oriented Development (TOD) node or corridor.

- **A portion of the Division of Revenue Funds:** The Province could also approach the National Treasury to impose conditions when making DORA grants such as the PTOG and PTNG or the Municipal Infrastructure Grant to the effect that recommendations by the PTLUIC must be considered or that approval from the PTLUIC will be a precondition for applying the funds. By way of a precedent, for example, the DORA Grant Conditions for the PTOG Grant provide that new public transport contracts to be funded from the Grant including designs and business plans for the proposed contract must be approved by the PTIC.

  The National Treasury could also be asked to provide for new grants via DORA which may be made conditional on approval by the proposed PTLUIC.

- **Development Finance Institutions (DFIs):** Institutions like the Development Bank of Southern Africa (DBSA) play a vital role, increasing infrastructure support to R72.9 billion, for the 2023/2024 financial year, a 21% on the previous year. About R9.8 billion in FY24 went to fund primary sector programs, of which about R4.2 billion went to transport funding. International DFIs, including the African Development Bank and the World Bank, also contribute to funding by offering low-interest loans, grants and technical assistance.

  DBSA is potentially a significant stakeholder in the funding strategy of Gauteng. Province should consider creating a partnership upfront with the DBSA to agree pre-approved amount for suitable transport projects enabling delivery through GDRT. This strategy will shorten project implementation timelines drastically and will lead to timeous project implementation and affordable funding rates.

7.2 Funding Mechanisms

Relying solely on government allocations will be not meet Gauteng's extensive transport infrastructure needs, particularly regarding maintenance backlogs and investments in sustainable transport projects. To address these challenges, various funding mechanisms can be employed to diversify and stabilise financial sources. By leveraging alternative approaches, such as private sector involvement and innovative financial models, Gauteng can generate the capital necessary for large-scale infrastructure development and ongoing maintenance. These mechanisms provide creative and sustainable solutions, reducing the burden on traditional government funding while ensuring long-term project viability.

- **Public-Private Partnerships (PPPs)**: Private sector involvement through Public-Private Partnerships (PPPs), project finance and other innovative financing mechanisms is essential for bridging the funding gap in large-scale infrastructure projects. By tapping into private sector capital and expertise, these partnerships allow for the delivery of high-quality infrastructure projects while enhancing efficiency and innovation. This collaboration reduces the financial burden on the government and drives improved service delivery in sectors like transport and energy. PPPs offer a strong framework for projects such as toll roads or public transport systems, where private firms can bring technical expertise and funding. However, the success of these partnerships depends on transparent and flexible contracts that balance profitability with public interest. User fees, such as tolls, must be managed carefully to maintain public support and ensure affordability and accessibility.

  The value of private financing has already been demonstrated by entities like the South African National Roads Agency (SANRAL). The introduction of state tolls and PPPs has allowed

SANRAL to expand its infrastructure network beyond what could be achieved through traditional fiscal allocations. Major projects, including network expansion, greenfield developments and upgrades, have been made possible through these alternative funding sources. This approach aligns with government policy, which recognises the critical role of private finance in supporting infrastructure growth.

A balanced PPP should equitably allocate risk and reward between public and private sectors. Lessons from past projects highlight the need for rigorous contract structuring and accountability. Caution is essential, but well-designed PPPs can deliver public value and efficiency.

SANRAL utilises various PPP models such as Build-Operate-Transfer (BOT) and Build-Rehabilitate-Operate-Transfer (BROT) to finance, construct and manage infrastructure projects. In the BOT model, private entities finance road construction, operate the infrastructure for a defined concession period and then transfer it back to SANRAL. These models effectively spread the cost of large-scale projects over time while leveraging private sector expertise, helping to ensure that infrastructure development continues without overwhelming government budgets.

- **Corporate Social Responsibility (CSR) Investments:** Province and Municipalities could encourage private companies to invest in local infrastructure projects as part of their CSR commitments. These investments could take the form of direct financial contributions, in-kind donations, or sponsorship of specific infrastructure elements or their maintenance, such as public transport shelters, community mobility centres.
- **Sponsorship of Public Amenities:** involves attracting corporate sponsors to fund specific elements of public infrastructure which can alleviate financial burdens on local governments. In exchange for advertising opportunities, companies may sponsor public toilets, bus shelters or bike-sharing stations, contribute to urban management and urban realm upgrades. This approach can improve infrastructure quality while enhancing corporate visibility and fostering community relations.
- **Naming Rights**: Selling the right to name public infrastructure, such as stations, bridges, or roads, can create a steady revenue stream while offering branding opportunities for sponsors, similar to practices seen in sports and entertainment venues.
- **Carbon Credit Sales** involves generating and selling carbon credits from projects that reduce greenhouse gas emissions such as electric vehicle infrastructure, renewable energy installations, or green building projects. The revenue from these sales can be reinvested into further sustainability initiatives, creating a positive cycle of environmental and economic benefits. This funding mechanism aligns with global climate action efforts and may attract international investment.
- **Project-Specific Crowdfunding** allows communities to raise small amounts of capital from several investors for specific projects. While crowdfunding may not be suitable for large-scale infrastructure, it can effectively fund smaller projects that have strong community support, such as parks or bike lanes. This method not only helps finance community-focused initiatives but also promotes local engagement in development efforts.
- **Infrastructure Development in Exchange for Land**: Agreements with private developers to build infrastructure in return for development rights on adjacent land can accelerate project timelines without requiring upfront public funding. This approach is particularly useful for transit-oriented developments (TODs), or mixed-use projects located near transport hubs. *Legislative Process:* A revision of the Engineering Service Contributions (ESC) policy will be required.

- **Vehicle Licence Fee Increases:** Gauteng could increase vehicle licence fees, allocating a portion of the revenue to the Provincial Transport Fund (discussed later). This is similar to Sweden's approach, where higher registration fees fund eco-friendly infrastructure initiatives. KwaZulu-Natal have also implemented such fee increases to enhance road maintenance revenues. *Legislative Process:* A revision of the National Road Traffic Act or introduction of new provincial legislation may be required to implement the licence fee increase and direct those funds to the Fund.
- **User Fees and Service Charges** are direct contributions from the public for using specific services and infrastructure. By implementing reasonable fees, Province can establish a reliable revenue stream to support ongoing maintenance and new projects. A portion of the revenue from toll roads, parking fees and potential congestion charges in high-traffic urban areas can be directed to the Fund (discussed below).
- **Congestion Charges:** Implementing congestion charges and Low Emission Zones (LEZs) can be effective strategies for reducing urban traffic and emissions, like the model used in London. LEZs, which levy charges on or limit access to high-emission vehicles, may receive broader public support due to their focus on environmental benefits. Initially, the focus should be on key urban zones, initiating pilot LEZs in areas such as Johannesburg, Sandton and Tshwane CBDs. Small pilot scale implementation would facilitate testing these concepts and fostering community engagement.

  It is crucial that revenue generated from congestion charges is directed towards enhancing public transport and sustainable infrastructure, while also encouraging private vehicle users to contribute through fees for accessing designated zones.

  New national or provincial legislation will be needed if new taxes are to be imposed that are not user charges, as required by the Constitution and the Provincial Tax Regulation Process Act 53 of 2001. This legislation would be incorporated in the legislation establishing the provincial fund (discussed below).
- **Fines from Traffic Violations:** The province can engage with other spheres of government to generate income from traffic violation fines. To facilitate this, collaborative agreements and revenue-sharing arrangements will need to be established with the RTMC, SANRAL and municipalities.
- **Special Levies for Freight Transport:** This involves imposing a special weight-based or axle-based levy on heavy goods on Gauteng's extensive freight transport network. Drawing inspiration from Germany's *LKW-MAUT* system, which charges heavy goods vehicles for road usage, this approach would allocate funds towards servicing infrastructure debt and improving road maintenance. The strategy should be balanced to avoid placing excessive burdens on logistics companies while promoting efficient and sustainable freight transport and would need to be implemented in conjunction with SANRAL and municipalities through collaborative agreements and revenue-sharing arrangements.
- **Land Value Capture (LVC):** This is a financing mechanism that enables the government to leverage the increase in land and property values resulting from public infrastructure investment. Rather than allowing this uplift in value to benefit only private landowners, LVC enables the public sector to capture a portion of that value to help finance infrastructure development. This approach is especially effective in high-demand urban areas and around transport nodes, where infrastructure such as roads, railways, and transit stations significantly enhance the surrounding land's economic potential.

7.3 Establish sustainable, innovative funding

7.3.1 Provincial Transport Fund (PTUF)

The establishment of a dedicated **Provincial Transport Fund** (the Fund) is critical to ensuring sustainable funding for public transport and other sustainable transport initiatives in Gauteng. The Fund will be developed in consultation with key stakeholders and through the working committees outlined in the National Land Transport Act (NLTA). A legal framework and institutional arrangements will be established, potentially involving devolved funding from national sources.

The Fund will pool revenues from government appropriations, user charges, grants, innovative financing mechanisms, vehicle licence fees, congestion charges and public-private partnerships (PPPs). By consolidating these resources, the Fund will support sustainable transport initiatives, optimise resource allocation across municipal and provincial projects and improve long-term infrastructure planning, transport operations and maintenance of transport assets.

Provincial legislation will be pursued to create the Fund, similar to the former Urban Transport Fund established under the Urban Transport Act 78 of 1977 now repealed in Gauteng. The new legislation will incorporate recommendations from the Provincial Transport and Land-Use Integration Committee (PTLUIC) and include provisions for new taxes, as permitted by the Constitution and the Provincial Tax Regulation Process Act 53 of 2001.

Comprehensive needs assessments and stakeholder engagement will be integral to ensuring the Fund aligns with national and provincial transport policies. Expert engagement will be required to draft the legislative framework and a working group will be formed to design the Fund's structure and governance in line with existing integrated transport plans. This initiative supports the National Development Plan (NDP) 2030 and Gauteng's priorities on sustainability and public transport accessibility.

7.3.2 Issuance of Bonds

Province can issue a vanilla bond to raise capital for transport projects like road improvements. The bond has a fixed term (e.g., 10 years) and offers investors a regular interest payment (coupon rate), with the principal repaid at maturity. Funds are used for transport infrastructure and repayment comes from government allocations or revenues like tolls and licensing fees. This approach provides long-term funding but adds to the Department's debt obligations through the various municipalities with user-pay mechanisms like congestion charging. This reduces a heavier reliance on a single revenue stream and helps manage financial risks. Additionally, flexible repayment terms, including grace periods and strategic debt structuring, would ensure a sustainable approach to managing these debt obligations.

7.3.3 Sustainable Transport ('Green') Fund

To ensure sustainable funding for public transport and other environmentally responsible transport initiatives, Gauteng should establish and maintain a **Sustainable Transport Fund**. This fund will be separate from the Provincial Transport Fund with the aim to support sustainable transport initiatives. It will be developed in consultation with key stakeholders and through the working committees outlined in the National Land Transport Act (NLTA). A legal framework and institutional arrangements will be set up, potentially devolved from national sources.

Diverse funding streams will be identified and criteria for fund distribution will be agreed upon. The Sustainable Transport Fund will pool resources from multiple revenue streams, including government appropriations, user charges, grants, innovative financing mechanisms, vehicle licence fees, congestion charges and public-private partnerships (PPPs). Provincial legislation will be pursued to facilitate the establishment of the fund and align it with national and provincial policies such as the National Development Plan (NDP) 2030, which prioritises sustainability and accessibility in public transport.

Just Energy Transition Funding Platform: Opportunities offered by the Just Energy Transition Funding Platform, established by the Just Energy Transition unit in the Presidency will be explored and promoted. This platform functions as a matchmaking tool where project proponents can post detailed information about specific sustainable transport initiatives. Potential funders are therefore able to identify and support projects aligned with their mandates, enabling access to new funding sources for green and socially inclusive transport solutions in Gauteng.

Impact Investment Funds and Green Finance: The Impact Investment Funds could be a critical component of the Sustainable Transport Fund, designed to attract private and institutional investors seeking both financial returns and measurable environmental and social benefits. These funds focus on projects that deliver long-term positive impacts, such as reducing emissions and improving public transport access for underserved communities. Similarly, the Sustainable Transport Fund could leverage green bonds to finance low-carbon transport projects like cycling infrastructure, manufacturing of electric buses, establishment of or renewable energy-based charging station to aligning with STP sustainability objectives.

7.3.4 Green Bonds

Issuing green bonds allows Gauteng to raise capital for projects that promote environmental sustainability. These bonds will attract investors interested in climate-friendly initiatives, providing essential funding for the development of electric vehicle fleets, ‘green public transport corridors’ and energy-efficient infrastructure designed and developed with sustainability and environmental considerations in mind. Green public transport corridors would typically include a BRT network with dedicated lanes powered by electric or hybrid buses, which reduce the carbon footprint compared to traditional buses or cars. Additionally, connected cycling paths running alongside the public transit routes encourage eco-friendly, non-motorised travel. Successful examples from countries like Chile demonstrate the potential of green bonds in financing sustainable urban development while addressing environmental challenges.

7.3.5 Additional Financing Strategies

- **Project Finance:** Adopt project finance for revenue-generating infrastructure projects. Establish a Special Purpose Vehicle (SPV) to raise funds from various partners, repaid from the cash flow generated by the project. Detailed risk sharing agreements must be developed to ensure the government is not left carrying excessive financial or operational risks.
- **Sustainability-Linked Loans:** These loans provide flexible financing options tied to achieving specific sustainability targets, such as reducing carbon emissions or expanding eco-friendly public transport systems. A capacity building programme for municipal and provincial officials could strengthen execution.

- **Local Infrastructure Bonds:** Collaborate with municipalities to issue local bonds, enabling transport projects to be financed and managed at the local level, with repayment through local taxes or transport-related charges.

7.3.6 Governance and Accountability

A **Sustainable Transport Fund Management Board** could oversee the operations of the Funds, ensuring transparency and accountability in allocating resources. Representatives from the Gauteng Department of Roads and Transport , National Treasury, municipalities and the private sector will ensure that projects are prioritised based on criteria for fund distribution that will be agreed upon, including environmental impact, regional significance and public benefit. Regular public reporting on the use of fund, environmental and social impact assessments, independent audits and financial reporting, will ensure compliance with national financial regulations.

7.4 Sustainable Budget Allocation

Effective budget allocation is crucial for implementing Gauteng's STP, especially as demands on financial and human resources increase. To ensure the best use of funds, projects should be prioritised based on their alignment with the strategic goals of the TAG, such as reducing traffic congestion, enhancing public transport and promoting economic development.

A significant portion of the budget must be allocated to **sustainable transport initiatives**, including low-carbon projects and electric vehicle infrastructure, to meet environmental objectives. Investments in smart mobility infrastructure, intelligent transport systems and data analytics will also play a key role in improving efficiency across the transport network. In addition, a portion of the budget should be reserved for emergencies or unforeseen infrastructure needs to ensure resilience in project execution.

TAG will act as a key advisory body, providing guidance to both provincial and municipal budget allocations. It will also facilitate coordination between provincial and municipal transport projects by entering into memoranda of understanding (MOUs) with municipalities, ensuring spending priorities are aligned with provincial goals.

TAG will review and recommend allocations for provincial transport budgets, ensuring that all spending aligns with long-term infrastructure development strategies. These efforts aim to create a resilient, well-funded transport system that supports both the region's growth and sustainability goals.

For the GDRT, budget allocations should be reprioritised to:

- Align with departmental priorities and be sufficient to meet the demands of ongoing and future projects.
- Address specific needs such as road maintenance, upgrades and expansion, while also supporting public transport initiatives.

8. Monitoring and Evaluation

To deliver the STP and address the challenges, funding is required and the approach taken is one of collaboration, a robust monitoring and evaluation framework to measure and report annually on performance. This system will ensure transparent tracking and guide ongoing adjustments to achieve the STP objectives.

Suitable monitoring and measuring processes to review this strategic plan implementation process are:

- Key Performance Indicators (KPIs) to quantify progress, including a dashboard for efficient performance tracking.
- Delivery milestones showing progress and levels of achievement, ensuring transparency and accountability.

8.1 KPIs

To quantitatively measure progress and success in delivering the Gauteng Strategic Transport Plan (STP), key performance indicators (KPIs) will be used. KPIs are measurable values that demonstrate how well objectives are being met. These will be applied at different stages to evaluate progress towards the goals.

Two types of KPIs are proposed:

- Overall KPIs (**Table 8-1**): Measure high-level outcomes.
- Outcome-Based KPIs (**Table 8-2**): Focus on specific outcomes within the plan.
- TAG will implement a tailored KPI dashboard to monitor physical projects, milestones and true progress over time, utilising as far as possible data that is collected automatically through the TMC.
- Indicators must be tailored to the appropriate level of government for analysis so that departments are able to act on the results.

Table 8-1: Potential Overall KPIs

Outcome	Potential metric
Delivery	• STP IIP Updates: Every 5 years
Modal split	• Modal share of all modes, walking and cycling as distinct modes • Public transport modal split (including road vs rail)
Economic growth	• Transport costs as a % of GDP / transportable GDP • Jobs created in transport industry

Outcome	Potential metric
Reduced environmental impact	• Decrease in carbon emissions linked to transport (grams/km of person trip travelled)
Reduced travel time	• Commuting time (walking, cycling, public transport, micro-modes, all vehicles) per person trip
Reduced need to travel	• Travel distance per person trip
Active travel	• Average walking distance • Average cycling distance • Modal share increases for NMT modes
Reduced Congestion	• Average speed on primary and secondary road network per metro / district, on key PT corridors, key freight corridors, (also in relation to logistic hubs)
Affordable	• Travel cost per person trip • % of disposable income households spend on transport
Safe & Secure	• Reduction in incidents / perceived safety
Equitable	• Walking to access public transport: Average walking distance
Maintenance	• Improved Gauteng road network - Percentage of surfaced roads good condition
Public Transport Service Levels	• Percentage reliability of subsidised bus and rail services
Road to Rail shift	• Reduction of rail-friendly freight on the Gauteng road network • Percentage of freight on roads (Current Target 78.5%)

Table 8-2: Potential Leading / Goal based KPIs

Outcome	Potential metric
Budget Allocation	• Consistent funding across province, etc; public transport subsidies as a % of Provincial GDP. • A Provincial Transport Fund established • A Sustainabile Transport Fund established
Delivering on the Strategy	• Annual KPIs of key provincial and municipal employees to be linked to the Gauteng vision for public and other transport. • Arrangement of mandated and coordinating committee meetings. • Participation of key stakeholders in committees and working groups.
Data-Centric Transport	• Transport Management Centre operationalised.

Outcome	Potential metric
	• Number of e-Tickets and contactless cards integrated on public transport systems (Gautrain, BRT, Metrobus, Metrorail and Minibus Taxis). • *Gauteng on the Move* app launched.
Reduced environmental impact	• Levels of Harmful Emissions measured as GHG and other emissions per annum. • Decrease in carbon emissions linked to transport. • Vehicle propulsion – number of NEVs and micro-mode vehicle sales and public transport vehicles (Naamsa) • Energy consumption by the transport industry
Sustainable	• Funding allocation for awareness raising campaigns • Total distance travelled by all vehicles within a specific area and time frame (peak and/or off-peak). • Decrease in private vehicle kms travelled per person. • Ridership numbers: Rail, BRT bus and minibus taxi passengers. • Recycling of hydrogen cells, methane to gas initiatives, etc.
Mode shift (shift from private cars)	• Percentage public transport trips on selected corridors • Modal share of all modes, walking and cycling as distinct modes by municipality. • % increase in the use of public transport, cycling, or walking. • Measuring person trips / vehicle (overall, per private cars).
Land-Use and Transport Integration	• TODs / Corridors progress
Freight logistics performance	• Improve heavy goods vehicle safety performance; roadworthiness as well as self-regulation Road Transport Management Systems (RTMS) certification and compliance.

8.2 Delivery Milestones

A delivery milestones table will be included as part of the IIP which will indicate the:

- Short-term Initiatives: Immediate actions to be taken in 1-2 years;
- Medium-term Initiatives: Actions planned for the mid-term 3-5 years; and
- Long-term Initiatives: High level indication of long-term projects and strategies for years 6 and above.

9. Conclusion

The Strategic Transport Plan (STP) for Gauteng outlines a comprehensive framework for developing a sustainable transport system within the province. A clear vision and effective leadership are critical for ensuring that public transport becomes an integral part of daily life, thereby enhancing the quality of life for all residents. The STP provides a structured set of principles, strategic ambitions, interventions and actions necessary for the transformative change which is necessary.

The STP considers real needs and interests of stakeholders to ensure it is fit for both present and future conditions. The proposed initiatives promote equitable access to opportunities across communities, fostering environmental resilience and sustainability and provide a foundation for future transport planning.

The STP aligns well with the national and provincial priorities as follows:

Themes	ECONOMIC	ACCESS	TECHNOLOGY	INSTITUTIONAL	SPATIAL AND SOCIAL	ENVIRONMENTAL
National Themes:						
Inclusive economic growth and job creation.	●	●			●	
Reduce poverty and the high cost of living.	●	●			●	
Develop a capable and ethical state.				●		
Provincial Themes:						
Township, Informal Settlement and Hostel (TISH) programme;	●	●			●	
Central Business District (CBD) revitalisation (including Pretoria, Johannesburg, Roodepoort, Kempton Park);	●				●	
Links to key nodes within and outside the Province (Krugersdorp, Rustenburg, Sasolburg);	●	●				
Focusing on Special Economic Zones (SEZs), including the Lanseria node;	●	●			●	
Addressing the issue of taxi violence;				●		
Training and capacitation within the Province and its municipalities.				●		

Over and above incorporating these themes, the STP adopts a ‘big picture’ perspective, prioritising the urgent need to address climate change and manage travel demand. Focus areas include promoting a reform of the urban structure, ensuring spatial equity and inclusion and addressing safety and security concerns for commuters at all hours. Further emphasis is placed on prioritising the needs of pedestrians, optimising freight logistics facilities, overhauling the public transport system, responding to the needs of first and last-mile links for public transport users and positioning rail and public transport as the backbone of the transport system, with the minibus taxi industry integrated as a key player in Gauteng’s transport economy. The plan highlights the importance of leveraging data and technology to develop innovative transport solutions. By harnessing emerging technologies and renewable energy sources, Gauteng can transform its transport system.

Given the constraints on fiscal resources, establishing a ring-fenced provincial transport fund is proposed to implement necessary systems and sustain operations. Embedding comprehensive lifecycle planning and operational concepts will ensure cost-effectiveness and long-term project viability. Furthermore, the STP encourages behavioural shifts that facilitate travel demand management and more sustainable transport practices. The recommended interventions aim to establish an integrated land use and transport system characterised by high-density development and mixed land use along transport corridors or nodes. This approach positions transport as a driver of economic growth and social cohesion, thereby achieving the STP mission of *enabling sustainable, affordable, safe and reliable mobility that delivers equitable access to opportunities for all*.

The strategy provides clear KPIs and targets through which progress on critical issues such as sustainability, road safety and performance, can be measured. Trends in the use of public and private transport for passengers and freight will be closely monitored. Sound governance through building institutional capacity and collaboration among various spheres of government is vital for successful implementation.

Acronyms

4IR	**Fourth Industrial Revolution**
ACSA	Airports Company South Africa
AGSA	Auditor-General of South Africa
AI	Artificial Intelligence
BMA	Border Management Authority
BRT	Bus Rapid Transit
CAPEX	Capital Expenditures
CBDs	Central Business Districts
CBRTA	Cross-Border Road Transport Agency
CIF	Climate Investment Funds
CITPs	Comprehensive Integrated Transport Plans
CO2eq	Carbon dioxide equivalent
CSR	Corporate Social Responsibility
DBSA	Development Bank of Southern Africa
DFIs	Development Finance Institutions
DORA	Division of Revenue Act
DPME	Department of Planning, Monitoring and Evaluation
EASI	Enable, Avoid, Shift & Improve framework
ESC	Engineering Services Contributions
EVs	Electric Vehicles
FMS	Freeway Management Systems
GCF	Green Climate Fund
GCRO	Gauteng City-Region Observatory
GDHS	Gauteng Department of Human Settlement
GDRT	Gauteng Department of Roads and Transport

GEDA	Gauteng Economic Development Agency
GFF	Gauteng Freight Forum
GGDA	Gauteng Growth and Development Agency
GHG	Green House Gases
GHTS	Gauteng Household Travel Survey
GMA	Gautrain Management Agency
GRRIN	Gauteng Rapid Rail Integrated Network
GSDF	Gauteng Spatial Development Framework
GTIP5	5-Year Implementation Plan
I&APs	Interested and Affected Parties
IIP	Integrated Implementation Plan
IPC	Intermodal Planning Committee
ITMP25	Gauteng 25-Year Integrated Transport Master Plan
ITP	Integrated Transport Plan
ITS	Intelligent Transport Systems
KPI	Key Performance Indicators
KRP	Key Role-Player
LEZ	Low Emission Zone
MaaS	Mobility as a Service
MBT	Minibus Taxi
MOU	Memorandum of Understanding
Mt	Mega tons
MTEF	Medium Term Expenditure Framework
NDoT	National Department of Transport
NDP	National Development Plan
NDP2030	National Development Plan 2030

NEV	New Energy Vehicle
NLTA	National Land Transport Act
NMT	Non-motorised Transport
NPTR	National Public Transport Regulator
NT	National Treasury
OL	Operating Licence
PCC	Presidential Climate Commission
PEACCC	Premier's Expert Advisory Committee on Climate Change
PES	Provincial Equitable Share
PGC	Provincial Growth Committee
PLTF	Provincial Land Transport Framework (2023-2027)
PMU	Project Management Unit
PPP	Public-Private Partnership
PRASA	Passenger Rail Agency of South Africa
PRE	Provincial Regulatory Entity
PRMG	Public Transport and Road Maintenance Grant
PTF	Provincial Transport Fund (proposed)
PTIC	Public Transport Integration Committee
PTLUIC	Provincial Transport and Land-Use Integration Committee (proposed)
PTNG	Public Transport Next Generation
PTUF	Provincial Urban Transport Fund
RTMC	Road Traffic Management Corporation
RTMS	Road Transport Management Systems
SADC	Southern African Development Community
SALGA	South African Local Government Association
SANRAL	South African National Roads Agency
SDGs	Sustainable Development Goals
SEZs	Special Economic Zones
SKRP	Strategic Key Role-Player
SPLUMA	Spatial Planning and Land Use Management Act
SPTN	Strategic Public Transport Network
STP	Strategic Transport Plan
TAG	Transport Authority for Gauteng
TDM	Travel Demand Management
TER	Transport Economic Regulator
TETA	Transport Education Training Authority
TFR	Transnet Freight Rail
TMC	Traffic Management Centre
TOD	Transit-Oriented Development
UA	Universal Access
VCI	Visual Condition Index
VR/AR	Virtual and Augmented Reality

GAUTENG
PROVINCIAL GOVERNMENT
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GAUTENG TRANSPORT AUTHORITY

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