DEPARTMENT OF TRANSPORT

NO. 132 **17 FEBRUARY 2017**

NATIONAL LAND TRANSPORT ACT, 2009 (ACT NO. 5 OF 2009)

NATIONAL LAND TRANSPORT STRATEGIC FRAMEWORK (NLTSF)

In terms of section 34 (1) of the National Land Transport Act, 2009 (Act No. 5 of 2009), I, **Dipuo Peters**, Minister of Transport, after consultation with the MEC's hereby publish the National Land Transport Strategic Framework (NLTSF) contained in the schedule hereunder; to guide land transport planning country wide.

MS. DIPUO PETERS, MP
MINISTER OF TRANSPORT
DATE: 11 January 2017

National Land Transport Strategic Framework (2017 -2022)

transport

Department:
Transport
REPUBLIC OF SOUTH AFRICA

National Land Transport Strategic Framework (2017 -2022)

"Transport, the Heartbeat of Economic Growth and Social Development

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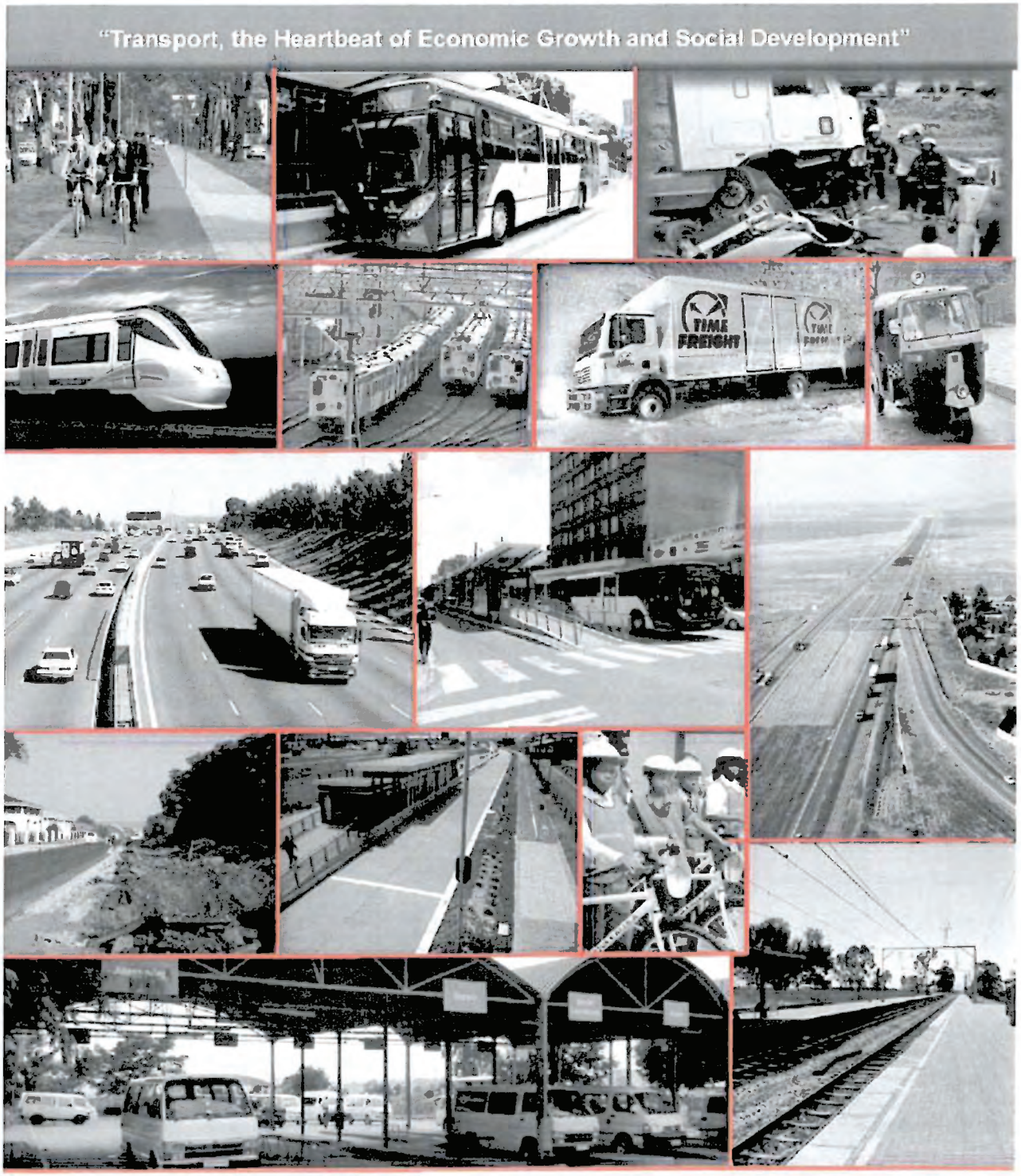
"Transport, the Heartbeat of Economic Growth and Social Development"
TIME FREIGHT

EXECUTIVE SUMMARY

This National Land Transport Strategic Framework (NLTSF) is a legal requirement in terms of National Land Transport Act, 2009, NLTA, (Act, No.5 of 2009), section 34. The NLTA empowers the Minister to prepare a National Land Transport Strategic Framework (NLTSF) at every five year interval. It embodies the overarching, national five-year (2015 to 2022) land transport strategy, which gives guidance on transport planning and land transport delivery by national government, provinces and municipalities for this five-year period.

The recent development in the transport environment at national, provincial and local level as well as the new strategic objective of the current administration dictates the proposed review and update of the NLTSF. The development of the NLTA of 2009 and its related legal requirements, the Public Transport Strategy and the Action Plan, the approval of the National Development Plan (NDP) by government, Draft scholar transport policy, National Transport Master Plan 2050 (NATMAP 2050), including the strategic imperatives of the current administration that might have an impact on the development of the NLTSF five year horizon and many other developments in the transport environment needed to be considered in the review and update of the Framework.

The NLTSF sets out strategic priorities to apply transport planning in achieving social, health, economic and environmental outcomes. The identified strategic priorities and outcomes link the Framework to the NDP, NATMAP, provincial transport and spatial planning, and broader strategies and plans at Local Government level.

The purpose of the NLTSF is:

- To serve as a five year framework for integrated land use transport planning
- To serve as an enabler of land use and transport planning aspects as guided by the National Development Plan (NDP) 2030
- To provide the guiding principles that integrates various modes of land transport within the planning context of the NDP and support wider relevant national legislation and policy
- To provide clarity and certainty about the transport planning priorities to enable effective decision-making about programmes and initiatives at all levels of government
- To align transport to sustainable development.

The NLTSF is not a Transport Strategy or a Transport Plan. The NLTSF is a framework for Transport Planning effectively for all spheres of Government and sets the overarching goals, vision, and objectives for each element of the transport system which would be reflected in the Provincial Land Transport Frameworks (PLTFs) and Integrated Transport Plans (ITPs). The success in achieving these objectives depends on the implementation of the transport programmes and projects that emanate from the respective PLTFs and ITPs reflected through the Key Performance Areas as defined in the NLTSF.

The overall vision of the NLTSF is to create:

An integrated and efficient transport system supporting a thriving economy that promotes sustainable economic growth, provides safe and accessible mobility options, socially includes all communities and preserves the environment.

An efficient, effective and sustainable transport system is one of the most critical factors for the performance of the South African economy, its growth and the creation of the employment and wealth necessary to help overcome the significant social challenges. An efficient transport system will further benefit export and transit links within the SADC region.

The NLTSF defines the strategies and policy intent of the Department of Transport relevant to key priority areas in land transport over the next five year period to achieve the this vision. Whilst being prescriptive and detailed, it is sufficiently flexible in that stakeholders are expected to adopt the relevant intentions and guidance of the NLTSF and apply it to local needs and circumstances.

The functional areas that are covered include the following:

1) Integrated Land Use and Transport Planning

2) Urban Transport

3) Rural Transport

4) Public Transport

5) Non-Motorised Transport

6) Learner transport

7) Freight transport

8) Transport Infrastructure

9) Cross-border transport

10) Transport safety

11) Institutional management incorporating land transport information systems, Inter-Government relations and capacity to deliver; and

12) Funding

A vision, strategic intent and key performance areas have been developed for each functional area. Key performance indicators (KPIs) are provided to measure the effectiveness of the NLTSF, ensure accountability by the DoT and the planning authorities, and monitor value for money. These KPIs are intended to cascade into the PLTFs and the ITPs and subsequently escalate to the DoT annual monitoring and evaluation report on the performance of the Transport System.

Proper monitoring and review of the KPIs will ensure a balanced view at the national, regional and local levels of the critical role of transport services in reducing poverty, facilitating growth and contributing to achievement of key development targets and sustainability. The DoT established the National Transport Forum (NTF) which will assist the effectiveness of the NLTSF through all spheres of government.

Adequate funding for transport infrastructure and operations for new development, management and maintenance of the transport system is a perquisite to achieving the goals and vision of the NLTSF.

The NLTSF requires that transport schemes including public transport investments should follow a rigorous formal appraisal that covers the full range of impacts of improved public transport systems and prioritise projects in accordance with the overarching goals of the NLTSF. All transport schemes and major Integrated Public Transport Networks (IPTN) project interventions must be supported by a strong socio-economic case for investment.

The NLTSF aims establish a legacy beyond 2022 based on the principle of sustainability and prioritising facets of the transport system that would create a firm foundation for the development of an integrated efficient transport system.

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BBBEE – Broad-Based Black Economic Empowerment

BRT – Bus Rapid Transit System

CCTC- Central Communications Transport Centres

CITP – Comprehensive Integrated Transport Plan

COGTA- Cooperative Governance and Traditional Affairs

COTO - Committee of Transport Officials

CPTED- Crime Prevention Through Environmental Design

CPTR – Current Public Transport Register

CSIR - Council for Scientific and Industrial Research

DBE- Department of Basic Education

DBSA - Development Bank of Southern Africa

DEAT- Department of Environmental Affairs and Tourism

DMC – Disaster Management Centres

DOA – Decade of Action

DORA – Division of Revenue Act

DoT – Department of Transport of South Africa

eNATIS - Electronic national administration traffic information system

GIS – Geographic information system, a computer system designed to capture, store, manipulate, analyse, manage, and present all types of spatial or geographical data.

GHGE – Green House Gas Emissions

GVA - Growth Value Add - a measure of economic concentration, employment and productivity

HOV – High occupancy vehicle

ICC - International Chamber of Commerce

IDP – Integrated Development Plans

IGR- Inter-Government Relations

IPTN- Integrated Public Transport Network

IRPTN – Integrated Rapid Public Transport Network

ISRTS – Integrated Sustainable Rural Transport Strategy

ITF – International Transport Forum

ITP – Integrated Transport Plans

ITS – Intelligent Transport Systems

LUM - Land Use Management

MBT - Mini-Bus Taxis

MCCCC – Municipal Central Communications Centres

MTEF - Medium Term Expenditure Framework (National Treasury)

NATMAP – National Transport Masterplan 2050

NDP - The National Development Plan (2030) published by the National Planning Commission in 2011

NFLS - National Freight Logistics Strategy

NHTS – National Household Travel Survey

NIDC- National Interdepartmental Committee

NLTA - National Land Transport Act, 2009

NLTSF - National Land Transport Strategic Framework, is a legal requirement in terms of Section 21 of the National Land Transport Transition Act, 2000 (NLTTA), (Act, No. 22 of 2000) which was replaced by the National Land Transport Act, 2009 (NLTA)

NLTTA National Land Transport Transition Act, 2000

NMT – Non-Motorised Transport

NPC- National Planning Commission appointed by the Presidency of the Republic of South Africa

NPTR – National Public Transport Regulator

NRSS –National Road Safety Strategy

NRTR –National Road Traffic Regulations

NTF – National Transport Forum

OLAS - Operating Licence Administration System

OLS – Operational Licence

OSBP - One Stop Border Posts

PICC – Presidential Infrastructure Coordinating Committee

PLTF – Provincial Land Transport Framework

PRE – Provincial Regulatory Entity

PRASA – Passenger Rail Agency of South Africa

PT – Public Transport

PTISG – Public Transport Infrastructure and Systems Grant

PTOG – Public Transport Operations Grant

RAI – Rural Access Index

RAMS – Road Access Management System

RTI – Rural Transport Infrastructure

RTS – Rural Transport Services

RTQS - Road Transport Quality System

SADC - Southern African Development Community, an Intergovernmental Organisation

SANRAL – South African National Roads Agency Limited

SARS- South African Revenue Services

SOV - Single-Occupant Vehicle

SPLUMA – Spatial Planning and Land Use Management Act

Stats SA - Statistics South Africa

TAT – Transport Appeals Tribunal

TDM - Transport Demand Management

TER –Transport Economic Regulator

TMH – Technical Manual for Highways

TRH – Technical Recommendations for Highways

TSM - Transport Supply Management

UNFCCC – United Nations Framework on Climate Change

UTG – Urban Transport Grant

1 INTRODUCTION

The National Land Transport Act, 2009, (NLTA) empowers the Minister of Transport to prepare a National Land Transport Strategic Framework (NLTSF) at five year intervals, to guide land transport planning countrywide, without detracting from the constitutional planning functions of provinces and municipalities.

This document sets out the National Land Transport Strategic Framework (NLTSF) for South Africa over the next five years. This version of the NLTSF supersedes the previous version published in 2006. The National Land Transport Strategic Framework, is a legal requirement in terms of Section 34 of the National Land Transport Act, 2009 (NLTA), (Act, No. 5 of 2009) aimed at guiding land transport planning countrywide.

Transport is essential for many aspects of daily life. It provides opportunities for people to gain access to jobs, leisure and social activities as well as vital services, including education and health. Furthermore, transport connects businesses with customers and suppliers. Transport networks are essential arteries of a vibrant economy. Transport is a catalyst for development and economic growth. However, transport activities can also have profound effects on our environment, communities, social and personal wellbeing. The NLTSF seeks to provide a strategic framework that will guide planning decisions for all modes of land transport including integration with airports and harbours.

The strategic drivers as defined in the National Development Plan 2030 are job creation, poverty alleviation, and reduced inequality, hence the need to improve access to employment, education and leisure, efficient movement of goods and services, minimise the negative impact on the environment, and promoting social inclusion. The NLTSF sets out strategic priorities to apply transport planning in achieving our social, health, economic and environmental outcomes.

Therefore a number of overarching goals have been developed against which all transport planning considerations should be weighed:

- Follow an incremental process starting with the 'back to basics' approach
- Planning and investment should support economic development
- Ensure well integrated land use and transport planning decision-making
- Promote social inclusion and accessibility
- Improve safety and security for all transport users
- Reduce the impact of transport on the environment
- Promote sustainable transport modes

The NLTSF defines the strategies and policy intent of the Department of Transport relevant to key priority areas in land transport over the next five year period. The NLTSF confirms the broad overarching strategies relevant to land transport planning in South Africa applicable to a wide variety of functional areas. Whilst the NLTSF describes what needs to be done, it is sufficiently flexible in that stakeholders are expected to adopt the relevant intentions and guidance of the NLTSF and apply it to local needs and circumstances.

1.1 Purpose of the NLTSF

The NLTA, Act 5 of 2009, defines the NLTSF as a Strategic Framework that informs integrated transport planning countrywide. The Framework should therefore:

- Define National Objectives & Policy Statements that give direction to transport on a National scale;
- Encourage the coordination and integration of transport nationally;
- Form the basis for the preparation of the Provincial Land Transport Frameworks (PLTFs) and Integrated Transport Plans (ITPs); and
- Provide a reporting mechanism on the progress of the respective transport plans and projects through the KPIs in the NLTSF.

Translating these legislative prescriptions into policy terminology, the **purpose of the NLTSF** is:

- To serve as a five year framework for integrated land use and transport planning
- To serve as an enabler of land use and transport planning aspects as guided by the National Development Plan (NDP) 2030
- To provide the guiding principles that integrates various modes of land transport within the planning context of the NDP and support wider relevant national legislation and policy
- To provide clarity and certainty about the transport planning priorities to enable effective decision-making about programmes and initiatives at all levels of government
- To align transport to sustainable development.

1.2 The role of the Department of Transport

The Department of Transport's mandate is to maximize the contribution of transport to the economic and social development goals of our country by providing fully integrated transport operations and infrastructure.

The main roles of the Department of Transport and its public entities are:

- Policy and strategy formulation in all functional areas covering civil aviation or air transport, maritime transport, public transport as well as road transport;
- Substantive regulation in functional areas where the DoT has legislative competence;
- Implementation in functional areas where the DoT has exclusive legislative competence;
- Leadership, coordination and liaison in all functional areas;
- Capacity building in all functional areas;
- Monitoring, evaluation and oversight in all functional areas; and
- Stimulating investment and development across all modes.

The DoT is responsible for developing transport policy in South Africa while provinces and local government are responsible for executing policy mandates. This is achieved by means of provincial legislation and regulation, policy and guidelines, by-laws, strategies and

government and coordinate and approve municipal plans. Metropolitan and District Municipalities prepare Comprehensive Integrated Transport Plans (CITPs) and Local Municipalities prepare Local ITPs, and are required to fund and implement an integrated transport system.

1.3 Supporting current policy direction

The recent development in the transport environment at national, provincial and local level as well as the new strategic objective of the current administration are significant, given the continuous changing transport environment. These adjustments have been reflected in this Framework to ensure that its content remains relevant and valid, while considering strategic developments within the transport policy and strategy environment.

The NLTSF specifies the strategic priorities and outcomes that links the Framework to the NDP, NATMAP 2050, provincial transport and spatial planning, and broader strategies and plans at Local Government level.

The NLTSF reflects on the current legislative framework, policies, and strategies as a benchmark. Several international Transport Strategies and Frameworks were reviewed as a benchmarking exercise for the development of this NLTSF.

1.4 Structure of the document

Figure 1 shows the process in preparing the Framework. The Framework ensures that:

- a clear vision of the integrated transport system we desire, is defined with supporting objectives;
- the three spheres of Government and other stakeholders collaborate to develop an integrated transport system (not systems);
- Progress is measured through key performance indicators in the monitoring and evaluation program by the Department of Transport.

The policy framework and the current realities in transport inform the vision and key priorities for Transport in South Africa for the period 2017-2022. The NLTSF is neither a Transport Strategy nor a Transport Plan. The NLTSF is a framework for Transport Planning effectively for all spheres of Government and sets the overarching goals, vision, and objectives for each element of the transport system which would be reflected in the PLTFs and ITPs. The success achieving these objectives depends on the implementation of the transport programmes and projects that emanate from the respective PLTFs and ITPs reflected through the Key Performance Areas defined in the NLTSF. Hence, the Department of Transport together with the respective planning authorities will report on the KPIs annually. In order to achieve this, a number of suitable indicators of performance were identified to measure the effectiveness of the transport system.

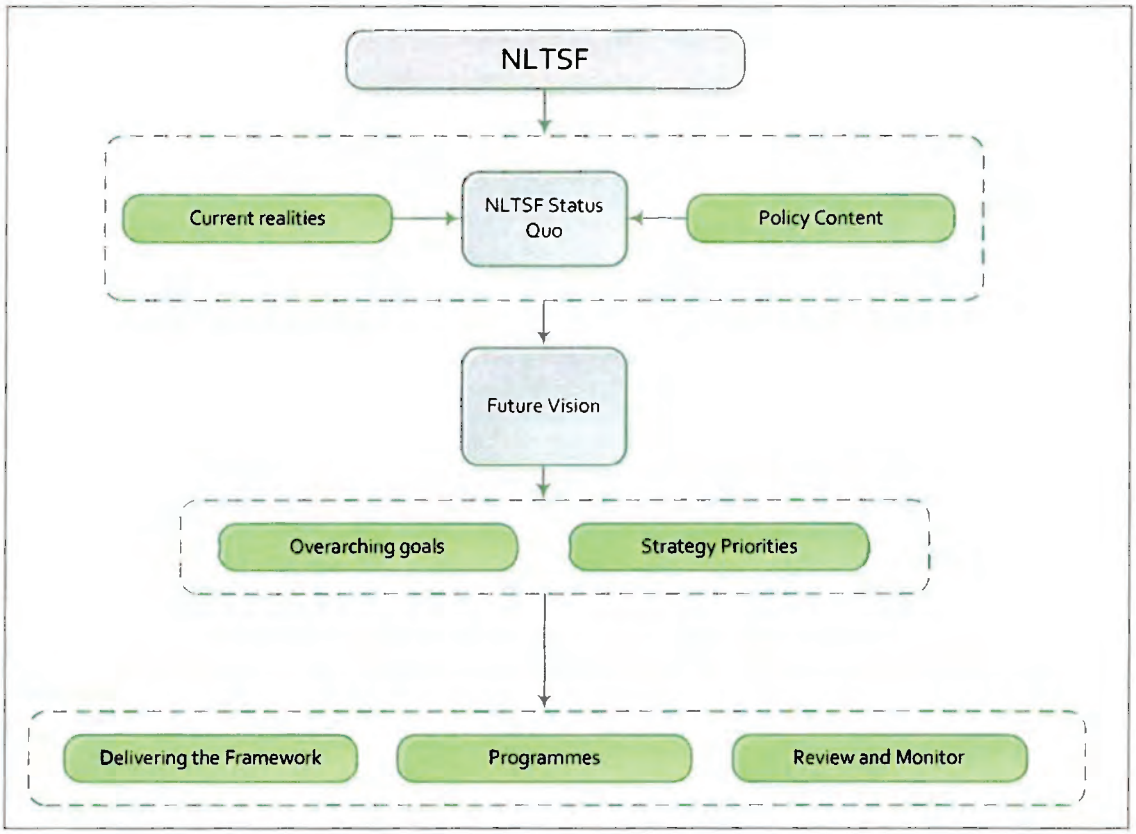

Figure 1 Structure of the NLTSF

The document is set out in the following parts:

Chapter two outlines the legislative and policy context for the NLTSF, relevant statutory powers and responsibilities for the three spheres of Government in context of Transport Planning;

Chapter three reflects on current realities and challenges and derives the key priority areas to focus on during the 2017-2022 period;

Chapter four outlines the vision, objectives and outcomes that the Framework seeks to achieve. It further provides some overarching goals and sets out how long-term outcomes are grouped in order to focus transport planning

Chapter five outlines the key strategic transport elements with the vision, strategic intent and objectives for each element.

Chapter six outlines the action plan to achieve implementation through the NLTSF, and

Chapter seven: Explains how the Framework will be reviewed, monitored and how progress is evaluated.

2 POLICY CONTEXT FOR THE NLTSF

The philosophy adopted in developing the NLTSF was to start with the broader policy framework and strategic intentions of these policies. The NLTSF specifies the outcomes and strategic priorities that links the Framework to the NDP, the MTSF, DOT Strategic Plan, NATMAP 2050, provincial transport and spatial planning, and broader strategies and plans at local government level.

2.1 National Development Plan 2030

The National Development Plan (2030) published by the National Planning Commission in 2011 is regarded as the highest level of policy, capturing government's overall strategic objectives and should therefore guide any decision-making in South Africa. The Plan sets out a multidimensional framework to bring about a virtuous cycle of development, with progress in one area supporting advances in others. Given the complex nature of development, the Plan defined six interlinked priorities:

- Uniting all South Africans around a common programme to achieve prosperity and equity;
- Promoting active citizenry to strengthen development, democracy and accountability;
- Bringing about faster economic growth, higher investment and greater labour absorption;
- Focusing on key capabilities of people and the state;
- Building a capable and developmental state; and
- Encouraging strong leadership throughout society to work together to solve problems.

To enable inclusive sustainable development, the NDP defined a number of strategic aims in "writing a new story for South Africa":

- Creating jobs and livelihoods;
- Expanding infrastructure;
- Transitioning to a low-carbon economy;
- Transforming urban and rural spaces;
- Informing education and training;
- Providing quality health care;
- Building a capable state;
- Fighting corruption and enhancing accountability; and
- Transforming society and uniting the nation.

As a follow on to NDP, government developed the Medium Term Strategic Framework (MTSF) to help prioritise projects and programmes in South Africa that would work towards achieving the aspirations of the NDP.

"All the work that government is doing between now and 2019 is practically the implementation of the NDP. We urge business and other sectors to also institutionalise the NDP in their planning processes and programmes so that we can move the country forward together." (President Jacob Zuma, 2015)[1]

The NDP acknowledges the increasing living costs, and intends to address the drivers of the cost of living to enable workers' wages to go further. Improving the standard of living includes amongst others, better access to public transport, safe communities, education and skills development, health care, housing and basic services, etc. The NDP acknowledges that Government faltered by promoting employment and building houses further from job opportunities.

As a result, the NDP in its entirety recommends several transportation related interventions to improve the quality of life for all citizens, whilst addressing job creation, poverty reduction, and inequality through those proposed interventions.

2.2 Medium Term Strategic Framework

The Medium Term Strategic Framework (MTSF) is Government's strategic plan for the 2014-2019 electoral term. It reflects the commitments made in the election manifesto of the governing party, including the commitment to implement the NDP. The MTSF sets out the actions Government will take and targets to be achieved. It also provides a framework for the other plans of national, provincial and local government.

The MTSF highlights Government's support for a competitive economy, creation of decent work opportunities and encouragement of investment. This is the first MTSF to follow the adoption of the NDP in September 2012.

The aim of the MTSF is to ensure policy coherence, alignment and coordination across government plans as well as alignment with budgeting processes. Performance agreements between the President and each Minister will reflect the relevant actions, indicators and targets set out in the MTSF.

Within the NDP vision, key policy instruments developed in the previous term will continue to drive government's policy agenda. Focus areas and targets highlighted in the MTSF will inform the core elements of the budgetary submissions that national departments make to the government's budgeting process, through the Medium Term Expenditure Committee. Similarly, Integrated Development Plans of municipalities and the Provincial Growth and Development Strategies of provinces will take into account the priorities identified in the MTSF towards the ideal of integrated and aligned planning across the three spheres of government. It was therefore essential that the strategic intent of the MTSF be considered in the development of the priority areas for the NLTSF.

The 2014-2019 electoral mandate focuses on the following priorities:

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[1] http://www.engineeringnews.co.za/article/nominations-to-be-sought-soon-for-new-planning-commissioners-2015-02-23/rep_id:3182

- Radical economic transformation, rapid economic growth and job creation
- Rural development, land and agrarian reform and food security
- Ensuring access to adequate human settlements and quality basic services
- Improving the quality of and expanding access to education and training
- Ensuring quality health care and social security for all citizens
- Fighting corruption and crime
- Contributing to a better Africa and a better world
- Social cohesion and nation building.

The MTSF provides a framework for prioritising and sequencing government programmes and development initiatives for the next five years with very clear direction on the strategic focus for the next five years, viz.:

- Radical economic transformation - Government's programme of radical economic transformation is about placing the economy on a qualitatively different path that ensures more rapid, sustainable growth, higher investment, increased employment, and reduced inequality. The NDP sets an annual growth target of above 5% by 2030 and emphasises measures to ensure that the benefits of growth are equitably shared.
- Improving service delivery - Over the past 20 years Government has massively expanded access to basic services, but backlogs remain and the quality of services is uneven. In addition to ensuring universal access, the challenge is therefore to improve the quality and consistency of services, which requires improvements in the performance of the public service, municipalities and service providers.

It is noted that many priorities in the NDP are not about new policies and programmes but rather about giving effect to existing laws and policies and improving the implementation process. Policy uncertainty and organisational instability have sometimes impeded progress. The policy consistency provided by the NDP, and taken forward through the election manifesto of the governing party and the MTSF, allows greater impetus to be given to implementation. It also allows new programmes, legislation and regulations to be assessed against long-term goals and priorities.

The MTSF is structured around 14 priority outcomes as follows:

1. Quality basic education
2. A long and healthy life for all South Africans
3. All people in South Africa are and feel safe
4. Decent employment through inclusive growth
5. A skilled and capable workforce to support an inclusive growth path
6. An efficient, competitive and responsive economic infrastructure network
7. Vibrant, equitable, sustainable rural communities contributing towards food security for all
8. Sustainable human settlements and improved quality of household life
9. Responsive, accountable, effective and efficient local government

10. Protect and enhance our environmental assets and natural resources
11. Create a better South Africa and contribute to a better Africa and a better world
12. An efficient, effective and development-oriented public service
13. A comprehensive, responsive and sustainable social protection system
14. A diverse, socially cohesive society with a common national identity

2.3 South Africa's Strategic Integrated Projects

Supporting the aims of the NDP, government adopted an infrastructure plan that is intended to transform the economic landscape of South Africa, create a significant number of jobs, strengthen the delivery of basic services to the people of South Africa and support the integration of African economies. Cabinet established the Presidential Infrastructure Coordinating Commission (PICC) to integrate and coordinate the long-term infrastructure. The PICC assessed the infrastructure gaps through spatial mapping which analyses future population growth, projected economic growth and areas of the country which are not served with basic services. Based on this work, eighteen Strategic Integrated Projects (SIPs) were developed to support economic development and address service delivery.

The Infrastructure Development Act (Act 23 of 2014) section 8(4)(a) states that every organ of state must ensure that its future planning or implementation of infrastructure or its future spatial planning and land use is not in conflict with any SIP implemented in terms of the Act.

As it is imperative, the DoT, Provinces and Municipalities will elevate the transport related SIPs in its respective Integrated Transport Plans. Of the 18 SIPs identified the following transport oriented SIPs are reinforced in the NLTSF:

- SIP 2 – Durban-Free State-Gauteng Logistics and Industrial Corridor: Strengthen the logistics and transport corridor between SA's main industrial hubs; improve access to Durban's export and import facilities, raise efficiency along the corridor and integrate the Free State Industrial Strategy activities into the corridor and integrate the currently disconnected industrial and logistics activities as well as marginalised rural production centres surrounding the corridor that are currently isolated from the main logistics system.
- SIP3 - South Eastern node & Corridor Development: Promote rural development through a new dam at umZimvubu with irrigation systems and the N2-Wildcoast Highway which improves access into KZN and national supply chains; strengthen economic development in Port Elizabeth through manganese rail capacity from Northern Cape, a manganese sinter (NC) and smelter (EC); possible Mthombo refinery (Coega) and trans-shipment hub at Ngqura and port and rail upgrades to improve industrial capacity and performance of the automotive sector.
- SIP5 - Saldanha-Northern Cape Development Corridor: Develop the Saldanha-Northern Cape linked region in an integrated manner through rail and port expansion, back-of-port industrial capacity (which may include an IDZ) and strengthening maritime support capacity to create economic opportunities from the gas and oil activities along the African West Coast, and for the Northern Cape, the expansion of iron ore mining production.
- SIP6 - Integrated Municipal Infrastructure Project: Develop a national capacity to assist the 23 least resourced districts (17 million people) to address all the maintenance backlogs and upgrades required in water, electricity and sanitation bulk infrastructure.

The road maintenance programme will enhance the service delivery capacity thereby impact positively on the population.

- SIP7 - Integrated Urban Space and Public Transport Programme: Coordinated planning and implementation of public transport, human settlement, economic and social infrastructure and location decisions into sustainable urban settlements connected by densified transport corridors.
- SIP11 - Agri-logistics and rural infrastructure: Improve investment in agricultural and rural infrastructure that supports expansion of production and employment, small-scale farming and rural development, including facilities for storage (silos, fresh-produce facilities, packing houses); transport links to main networks (rural roads, branch train-line, ports), fencing of farms, irrigation schemes to poor areas, improved R&D on rural issues (including expansion of agricultural colleges), processing facilities (abattoirs, dairy infrastructure), aquaculture incubation schemes and rural tourism infrastructure.
- SIP17 - Regional Integration for African cooperation and development: Participate in mutually beneficial infrastructure projects to unlock long-term socio-economic benefits by partnering with fast growing African economies, to complement the Free Trade Area in South, Central and East Africa. The projects involving transport, water and energy also provide competitively priced diversified, short, medium to long-term options for the South African economy.

2.4 Sustainable Development

The NLTSF supports the aims and priorities outlined in the NDP recognising its holistic view to encouraging sustainable development. The aim of sustainable development is to meet the needs of the present without compromising the ability of future generations to meet their own needs. The South African Government is committed to developing a sustainable future for the country. The NDP vision is that South Africa's transition to an environmentally sustainable, climate change resilient, low-carbon economy and just society will be well under way by 2030.

Sustainable development calls for an integrated approach, which considers the inter-relationship between transport, and the three key aspects of sustainability which are: the environment, the economy and society as a whole. The Department of Transport is determined to secure positive change through planning for and ensuring cohesive interaction of social, economic and environmental improvements, by addressing the following:

- Committing at the United Nations Framework Convention on Climate Change (UNFCC) to reduce greenhouse gases by 34% from business as usual by 2020
- Developing a Transport Sector Strategy on Climate Change and Environmental Protection
- Supporting green technology and clean fuels
- Developing an integrated public transport system
- Encourage a shift towards sustainable transport modes
- Addressing congestion mitigation and improving air quality

Transport policies can contribute to a sustainable future by supporting a strong and prosperous economy and helping to promote safe healthy living. The impact of transport on the social, economic and environmental fabric of our nation is fully recognised. A sustainability strategy should serve to provide a positive benefit to the communities not only in terms of job creation and poverty alleviation, but also in terms of ensuring safe, secure and affordable access to the transport network.

The NLTSF therefore acknowledge its role as enabler in bringing about economic growth, spatial integration and social wellbeing of all living in South Africa through land transport. Therefore sustainability - and the three key aspects of sustainability, namely the environment, the economy and society as a whole – is the underlying thread connecting this framework and subsequent planning.

2.5 DoT Strategic Plan

The Department of Transport's Strategic Plan is aligned with government's overall strategic objective of placing our economy onto a new job-creating and more equitable growth path. It is mandated to maximize the contribution of transport to the economic and social development goals of our country by providing fully integrated transport operations and infrastructure. Consequently the DoT Strategic Plan focuses on the facilitation of the following areas:

- Job Creation
- Rural Access and Mobility
- Economic Development
- Poverty Alleviation
- Rail, road and aviation transport integration and planning
- Infrastructure Development and Maintenance
- Public Transport

The DoT's strategic goals and objectives outlined in the DOT Strategic Plan are well aligned with the NDP and the MTSF. The NLTSF is aligned with the DoT Strategic Plan recognising its focus and capturing its strategic thrusts. The following are the key departmental outcomes in the DoT Strategic Plan:

- An efficient and integrated transport infrastructure network for social and economic development: The Department will ensure the maintenance and strategic expansion of the road network, and support the development of road asset management system in rural and provincial authorities. In addition, the Department will support rail and ports efficiency and enhance capacity and competitiveness.
- A transport sector that is safe and secure: The Department will implement various policy interventions that seek to reduce the number of incidents in the road, rail, aviation and maritime environment.
- Improved public transport system: Public transport is a critical strategic imperative in the Department's service delivery agenda. Over the medium term, the Department will implement measures to ensure an effective, efficient, affordable and accessible public transport system in both urban and rural areas through, among others, the implementation of integrated public transport networks, and establishment and

strengthening of regulatory entities, acquisition of new rail rolling stock, and development and upgrading of priority passenger rail corridors.

- Increased contribution to job creation: The Department will prioritise job creation through the implementation of an industry empowerment model, the finalisation and approval of the maritime policy underpinned by industry development, and broad-based black economic empowerment (BEE).
- Improved rural access, infrastructure and mobility: The Department will improve rural access by assisting municipalities in developing road asset management systems, which will assist in the implementation of the Road Infrastructure Strategic Framework of South Africa.
- Increased contribution of transport to environmental sustainability: The Department will implement measures aimed at reducing the impact of transport on climate change by supporting more energy efficient modes of freight and passenger transport and promote the use of cleaner fuels.

2.6 National Transport Master Plan 2050

The primary driver of the National Transport Master Plan (NATMAP 2050), by the Department of Transport, is "to develop a dynamic long-term and sustainable land use multi-modal transportation systems framework for the development of infrastructure facilities, interchange terminal facilities and service delivery that is demand responsive to national / provincial/ district and /or any socio-economic growth strategies, and / or any sectorial integrated spatial development plans".

The NATMAP 2050 defined a number of overarching objectives to support its strategic intent, including the following:

- Maximizing utilisation of existing infrastructure facilities;
- Development of future infrastructure facilities and improve operations;
- Development of an up to date and accurate central land use / transportation Data Bank - Geographic information system (GIS);
- Promoting effectiveness and efficiency of maritime Transport;
- Integrating multi-modal public passenger transportation;
- Determining the economic role of transport; and
- Integration of transport and land use development.

The NLTSF is aligned with the overarching objectives of NATMAP 2050.

2.7 NLTSF 2006

Looking ahead and defining the purpose and role of the NLTSF it was necessary to reflect on the 2006 NLTSF and consider the changing transport landscape. The 2006 NLTSF contained strategies for 15 functional areas with outputs and actions on how to achieve those outputs:

1. Public Transport;
2. Land use restructuring;
3. Roads;

4. Cross-border road transport;
5. Freight transport;
6. Inter-provincial transport;
7. Rural Transport;
8. Traffic safety and enforcement;
9. Transport for persons with disabilities;
10. Non-motorised transport;
11. Transport and environment;
12. Tourism and transport;
13. Inter-modalism and integration of transport planning;
14. Transport and the 2010 World Cup; and
15. Conflict resolution.

Although the main purpose of the review and update of the NLTSF was not meant to analyse or critic the 2006-2011 NLTSF, it was necessary to use the 2006-2011 NLTSF as a basis for the development of the 2017-2022 NLTSF. It was also necessary to undertake an assessment of the NLTSF outcomes against Customer KPI Targets and NLTSF outcomes against KPI Targets in order to understand the extent of its implementation.

National Key Performance Indicators

The tables below are a summary of the progress made by the various government organs relative to the KPIs set out in the NLTSF (2006 -2011).

Progress assessment of NLTSF outcomes against Customer KPI Targets

KPI Strategic Aim	NLTSF Target/KPI	Progress
Improve Public Transport usage	Reduce commuter travel time Modal shift to Public Transport	Marginal increase in Public Transport usage but slight decrease in private vehicle. Public Transport usage decrease to 39.% in 2013, from 40% in 2003 (Stats SA;2013)

KPI Strategic Aim	NLTSF Target/KPI	Progress
Promotion of access to public transport	Not specific for urban Increase % of rural population living within 2 km. Reduce the number of Household spending more than 10% of income on transport	9% decline in poverty levels but 48 % remain below poverty line (R548/m) [NPC, 2011].
Traffic Safety	Number of road traffic fatalities per vehicle type.	As of 2012/13 a 0.79% (110) reduction in road fatalities.
	Number of road traffic pedestrian fatalities.	Fatalities per 100 000 inhabitants was at 27.6(avg. of developed countries 6 – 10%). The worst in the world (ITF,2013)
	Number of road traffic fatalities per 100 million vehicle km per vehicle type	Pedestrian make up 35% of all road deaths(opportunity = NMT)

Progress assessment of NLTSF outcomes against KPI Targets

KPI Strategic Aim	NLTSF Target/KPI	Progress
Public Transport Reform : (Taxi Recap Program)	% of taxi fleet recapitalised (remove at least 10,000 roadworthy vehicles by Dec 2006 which is approx. = 8% of fleet)	Over R 2.0 Billion over budget and behind schedule.

KPI Strategic Aim	NLTSF Target/KPI	Progress
Land Use restructuring	Amount of non- residential Floor space and number of housing units developed in corridor and densification / infilling projects in Metropolitan Municipalities.	Public Transport corridors have been identified at least 6 cities and some have been rolled out .i.e. entering phase(s) 1B of the implementation of the IPTN/BRT Urban population Continues to growth from 46 to 49 %(2005 -2011) in SA urban areas .i.e. spatial disparity continues.
Freight Transport	Number of Over loaded trucks % of cargo carried by rail	Construction of new weigh bridges .i.e. 15 – 20% of truck are overloaded .i.e. over 70 % of SA freight carried by road. The "diesel" issue rail vs. road. Moloto Corridor Feasibility study complete
Rural Transport	Amount of Transport expenditure by government in 13 priority rural nodes, for infrastructure and for operations.	15% growth to 6.7 Bn in allocation to Provincial Road Maintenance Grant 2008/9 -20011/12 (DoT Plan, 2011) and expected 10 % increase. Completion of the development of the rural transport strategy and NMT policy
Funding	Review models for transport projects under DoT .i.e. investor relations promotion Participate in 4 infrastructure investment projects in the provinces/municipalities Research and review industry policies and funding frameworks.	Currently 84 % of Road infrastructure costs are paid for by government with deficit raised from tolls (16%). Implementation of the GFIP and Gautrain as new models for funding. The roll out of Integrated Public Transport Network IPTN projects. Review of funding frameworks incomplete due to capacity constraints

Some of the key changes taken into account since 2006 include the following:

- NLTTA No.26 of 2006 was replaced by the NLTA No. 5 of 2009. The NLTA no.5 of 2009 – changes into the NLTA Draft Amendment Bill (National Land Transport amendments Bill), 2012/2013;
- NLTA (Integrated Transport Plans) – identification of transport projects of national importance, functions as provided in the NLTA, institutional arrangement;
- Public Transport – national initiatives such as the Public Transport Strategy and Action Plan 2007 which made provision for Integrated Rapid Public Transport Network IRPTN development;
- Land use restructuring – taking into account the interface of land uses and transport, (Spatial Planning and Land Use Management Act, 2013 Act3);
- Roads – recognising the importance of access roads in rural areas;
- Rural transport - alignment of rural transport strategies with national rural development initiatives and consideration to the Rural Transport Strategy of South Africa (2007);
- Non-motorised transport – NMT forms a more integral component in transport and land use planning;
- Environment and Transport - consider the environmental impact of transport, the Transport Action Plan and Moving SA;
- Learner Transport Policy – consider latest policy direction and objectives;
- National Freight Logistics Strategy – the review of the National Freight Logistics Strategy;
- Rail – Passenger Rail Agency of South Africa (PRASA's) National Strategic Plan 2012, Transnet's investment programme and the proposed single transport economic regulator.

Having consulted stakeholders widely, the 2006 NLTSF functional areas were revised reflecting the changed emphasis in the transport industry. The updated NLTSF has been developed as an interactive framework and guiding reference in order to give strategic direction on transport planning, how it links to development and land transport delivery by national government, provinces and municipalities.

2.8 International benchmarking

As part of the review and update of the NLTSF 2006, a benchmarking process was required as part of the Phase 2 project deliverables. The objective of the benchmarking process was to establish best practices in transport strategy formulation and presentation. Transport policy or plans formulation and execution differs around the world and shows that every country has a unique approach reflecting local circumstances, but with a common thread of logic and purpose. In executing the evaluation and comparison of various transport strategies and plans, six factors were considered to enable a consistent evaluation / comparison framework, viz.:

- Context – typical issues and challenges being faced and how the strategy / plans suggest they be resolved;
- Report structure;
- Typical functional areas / strategic themes considered;

- Strategy formulation – linking issues or challenges to strategies aimed at addressing issues;
- Choice of KPIs and / or evaluation of progress; and
- Policy approaches.

The key issue faced by any government is its need to develop long-term strategies that are flexible enough to change and adapt to the dynamics of the present, while at the same time preparing for the challenges of the future. In order to achieve this, a clear understanding is required about the ever changing transport environment and the strategic link between transport, the economy and the role transport plays in facilitating economic growth.

Ten countries were selected for benchmarking. The countries were chosen according to their level of developmental stage (e.g. developing countries, developed countries) as there is a direct correlation between the level of development of a country and its quality of transport infrastructure and services.

The methodology and rational for the benchmarking exercise is described in more detail in a separate report to the DoT.

The common themes derived from the benchmarking exercise are:

- Integrated Transport
- Global competitiveness
- Sustainability
- Intergovernmental Relations/Arrangements
- Safety
- Liveable Communities
- Infrastructure Management and Maintenance
- Public Transport
- NMT
- Freight and Logistics
- Research
- Professional Capacity

2.9 Other strategies and policies

The NLTSF needs to be compatible and supportive of a wide range of other strategies and policies relevant to transport including those highlighted below. The NLTSF has been developed by taking account of the policies and strategies contained in the following strategy and policy documents, but not limited to:

- Moving South Africa (1998);
- National Freight Logistics Strategy;
- Road Freight Strategy for South Africa, Department of Transport (2011);

- PRASA National Strategic Plan (2012);
- Transnet Long-term Planning Framework (2012);
- Non-Motorised Transport (NMT) Policy (2012);
- Spatial Planning and Land Use Management Act (2013);
- Transport Action Plan (2010);
- Public Transport Strategy (2007);
- Public Transport Action Plan; Phase 1 (2007-2010) Catalytic Integrated Rapid Public Transport Network Projects / Public Transport Strategy and Action Plan Department of Transport
- Action Plan to guide the provision of accessible public transport systems in South Africa, draft for discussion (2009);
- Implementation strategy to guide the provision of accessible public transport in South Africa (2009);
- Decade of Action and Arrive Alive (2011);
- National Spatial Development Perspective (2006);
- A guide to the national planning framework (2009);
- Rural Transport Strategy of South Africa (RTSSA) (2007);
- National Learner Transport Policy (2014);
- Road Infrastructure Strategic Framework for South Africa (2006);
- Infrastructure Development Act (2014);
- White Paper on National Transport Policy (1996); and
- Green Paper: National Strategic Planning (2009).

The recent development frameworks in the transport environment at national, provincial and local level as well as the new strategic objective of the current administration are significant, given the continuous changing transport environment. These adjustments are reflected in this Framework to ensure that its content remains relevant and valid, while considering strategic developments within the transport policy and strategy environment.

3 CURRENT REALITIES

This chapter defines current trends, the context and realities as well as the challenges and issues faced in transport. In order to guide the focus of the NLTSF it was important to understand the current realities, and challenges, define the gaps and current challenges to inform the way forward for the 2017-2022 period.

3.1 Background

An efficient, effective and sustainable transport system is one of the most critical factors for the performance of the South African economy, its growth and the creation of the employment and wealth necessary to help overcome the significant social challenges. An efficient transport system will also help unlock its export and transit links with the SADC region.

Investment in all aspects of transport to increase capacity and improve operational and organisational efficiency has to be continuous and in many cases absorb a significant amount of public sector funds. All too often inadequate investment provision is made and insufficient attention given to improving ongoing managerial and organisational inefficiencies. This is then reflected in wider economic inefficiencies and high transport cost with consequent knock-on effect to customers and businesses.

Government is faced with many challenges when it takes a view of the current transport sector to see whether it is fit for purpose to meet the requirements imposed upon it by the present and more importantly the anticipated growth in our economy. The distances between population centres and the dependency on transport, means that there is a critical reliance on securing efficient, reliable and cost effective networks. The transport industry is highlighted by the current administration as a key contributor to South Africa's competitiveness in global markets and plans were unveiled to spend billions to improve the country's roads, railways and ports.

However, South Africa faces a number of challenges in its transport industry as well as its spatial disposition that delays ambitions in meeting the aspirations outlined in the Department of Transport Strategy, the NDP and NATMAP 2050. This chapter explores these factors in creating a better understanding about where we are starting from in terms of:

- National transport trends that have occurred over the past decade demonstrating how transport policies in South Africa have an impact (positive / negative)
- The current realities in transport South Africa
- The challenges facing the South African transport industry

Looking forward there is need to view transport holistically as an integrated system and not in terms of each mode independently. The challenge is to unlock value in the wider economy through investing selectively and creatively in sustainable schemes that help to realise South Africa's potential as a globally competitive trading nation.

To demonstrate how transport policies in South Africa have an impact (positive and negative) on transport performance, this section highlights some of the key national transport related trends observed in South Africa over the past decade. Data from various sources such as Statistics South Africa, World Bank, International Road Federation, Road Traffic Management Corporation, and the Department of Transport, were analysed to determine the specific trends related to transport. A detailed description of the results is provided in **Appendix A**. This analysis was supported by desktop review of relevant literature, policy content, and benchmarking and stakeholder consultation. Through this process a number of key priorities or strategic thrusts were identified.

The trends and current realities associated with each of these priority areas or strategic elements of the transport system are described in the following sub-sections.

3.2 Key challenges

Against the background of the current realities, the following key challenges facing the South African transport industry have been summarised:

3.2.1 South Africa's spatial disposition

South Africa's spatial disposition is a direct consequence of its past inequalities. More than two decades after democracy the country has a mixed picture - the witting creation of deeply divided communities characterised by social and economic inequality, segregated land use patterns, great disparities in levels of education, the inadequate and the inefficient provision of transport infrastructure to serve the needs of all its people and inequitable access to labour and economic markets.

The low income people in South Africa spend about 40% of their income on transport. The high cost of mobility and the constraint it places on the lower income earners limits their ability to access healthcare, social and economic opportunities (Statistics South Africa, 2013). Mobility has a profound effect on poverty where incidence of low mobility and unaffordable public transport would restrict entire households from economic opportunities.

The MTSF clearly states that the structure of urban and metropolitan areas, which are characterised by fragmented residential settlement patterns, underdeveloped business areas in townships and long travel times between home and work is one of the critical spatial challenges in South Africa. The NHS survey shows that the average journey time for all modes of transport is one hour and the proportion of people travelling for over one hour has increased between 2003 and 2013. In addition over 50% of the population walk for more than 90 minutes to the closest health care facility. This raises the cost of living, limits the scope for shift work and makes it difficult for the unemployed to seek work. It also increases service delivery costs and constrains business development. The physical remoteness and low population densities of both urban and rural areas impacts the ability of transport to support national economic and social development objectives.

The challenge within the context of transport is to empower the transport industry to help reverse some of the negatives of spatial segregation. Transport plays a fundamental and game changing role in bringing about a more integrated society. Spatial integration is required to address spatial fragmentation and urban sprawl.

Government's approach to urban development is therefore focused on integrated and better located residential development, investment in public transport networks, support for economic development and job creation and stronger collaboration between municipalities, local business chambers and civil society stakeholders.

In summary, spatial distortion divides and/or prevents inclusive development and liveable communities, resulting in physical remoteness and low population densities, adversely affecting travel cost, in turn giving rise to poor accessibility. The lack of employment opportunities in rural areas is the main cause for migration to urban areas.

3.2.2 Transport impact on the environment

Section 24 of the Bill of Rights states that, "Every person has a right to an environment that is not harmful to their health and wellbeing". Land-based transport must therefore be planned and implemented such that it minimises its harmful impact on the environment. According to the DEAT, National Climate Change Response Green Paper, 2010, South Africa has a high carbon dioxide per capita figure. Greenhouse gas emissions have increased rapidly in recent years relative to the previous 10 years (World Bank, 2013). Given the developing nature of the South African economy, it is expected that emissions will grow as development goals are pursued. The sectors that generate the most carbon dioxide emissions are production activities that use large quantities of coal or electricity and the transportation sector.

The South African transport industry, including households use of petroleum, accounts for 10.5% of total CO2 emissions[2]. In the context of the Department of Transport Strategic Plan 2013/14 (Revised), the transport industry is not meeting its target of reducing carbon emissions by 10% per annum.

Any transport related strategy should aim to move towards a low-carbon economy. South Africa committed at the United Nations Framework Convention on Climate Change (UNFCCC) to reduce greenhouse gases by 34% from business as usual by 2020.

The DoT is currently investigating the Transport Energy Consumption Study. The study will reveal the extent of Transport contribution to greenhouse gases, and also provide a strategy to reduce transport contribution to energy consumption.

3.2.3 Integrated transport planning

Land use and transport planning has historically been considered inter-dependently. Over the past few decades this has changed with more emphasis on integrating land use and transport planning. It is however seen that transportation follows development, responding to accessibility needs created by land use decisions outside of transport authority's control. At the same time, local planning authorities increasingly separated commercial, employment, social and residential areas, increasing the need for travel over longer distances.

South African cities are structurally fragmented and have many areas which lead to social and economic exclusion. This has resulted in long travel times and distances for many commuters situated in township areas. Current land use planning contributes further to urban sprawl since new housing developments are planned on land which is still on the periphery of the new municipal areas and far from urban centres, economic opportunities and transport networks.

[2] National Treasury, South African Emissions per sector, 2010

The current reality however is that transport planning in South Africa is uncoordinated and occurs in modal and sectorial silos. There is also a lack of consistency between transport and land use planning practice. This means many transport projects that can derive increased economies of scale and efficiencies from integration are being implemented and planned in isolation. The disjointedness between transport and land use planning is, for example, demonstrated where spatial planning policy has resulted in low settlement density and or spatial segregation which are not supported by appropriate accessibility options or public transport provision, for example, where cheap land is bought on the outskirts of urban areas for mass low cost housing purposes, without providing adequate accessibility and mobility options, thereby perpetuating marginalisation. Zoned property, road and rail reserves are not adequately protected, resulting in illegal land invasion/occupation. For example, properties zoned for schools that are not developed are illegally occupied, resulting in the school being developed further away from the community, and learners have to travel further. Such fragmentation, results in higher transportation costs across the board, increasing subsidies, lack of opportunities to access employment, increased poverty and reduced economic productivity.

Proactive integration of land use and transport planning is a core function of the municipality. For example, new housing and commercial developments require Traffic Impact Studies. Historically, traffic impact studies provided greater emphasis on single occupancy vehicles and less focus on public transport, and the developer was obligated to provide part of the road infrastructure, while the Municipality is supposed to address mass transit operations and infrastructure! However, the lack of intervention by the Municipality results in 'illegal' public transport operators claiming new routes to the new developments, which sometimes results in conflict and violence. Municipalities are mandated to prepare Public Transport Plans (PTPs) to address rationalisation of public transport services and Operating Licence Strategies (OLS) incorporating potential new routes. The Municipality could then provide a municipal public transport service or outsource the service to an approved operator, restricting the number of routes according to the Operating Licence Strategy, thereby preventing oversupply of services, and potential violence and fatalities.

Whilst it is a legal requirement that all major cities prepare and implement Integrated Development Plans (IDP's) and ITPs, a basic review suggests that very often plans are simply produced to fulfil statutory compliance with little action or follow through in terms of implementation.

In summary, Land use and transport planning does not take place within an integrated systems framework (but in silos) in turn leading to a lack of modal integration.

3.2.4 Urban transport

South Africa is experiencing rapid growth of urban areas mainly due to migration from the rural areas to the cities, and influx of foreign nationals. According to the National Household Travel survey (2013), over 35% of South Africa's people live in cities with a population above 1 million; South Africa's population has grown by about 8% from 40 million in 1994 to 52 million in 2013. 21 million people (about 40% of the national population) live in the five largest cities in South Africa. The large urban concentrations are the economic heart of the country. More than 57% of GVA (Growth Value Add - a measure of economic concentration, employment and productivity) is centred in these five cities, with Gauteng accounting for 35% total GVA.

The development of peripheral residential areas disadvantage urban dwellers resulting in long travel distances and inefficient public transport service.

The transport system is fragmented, inefficient and not coping well with rapid urbanisation. Effective, efficient and inclusive urban transport systems are a prerequisite for economic development and for social equity and cohesion. Maintaining mobility and accessibility by all modes in appropriate locations will ensure social connectivity and economic growth. As the transport system grows it is likely to add additional inefficiency in transport cost resulting in severe economic constraints and eventually social breakdown. Urban Transport development is a key focus area for the National Land Transport Strategy. The emphasis needs to be on building on the recent upswing in investment focusing on initial roll-out of quality public transport to set out and implement a comprehensive sustainable urban transport strategy focused on appropriate public transport and NMT development.

Transport requires intensive, consistent investment into an appropriate and sustainable transport system. DoT assessments indicate that the funding backlog in public transport capital investment is about R300bn from the "lost years" between 1985 and 2006. The current operating shortfall of commuter rail and contracted formal bus operations stand at R9bn. Current public transport operations fare revenue cover about 35% to 40% of operating cost, while global best practice for compact cities cover about 60% of public transport operating costs. The low cost coverage and low productivity of urban public transport is due to the use unaffordability, low densities, long travel distances, as well as modal and structural inefficiencies. This strategy must cement long-term funding commitments and tie in clear and ambitious spatial redevelopment targets along with binding obligations to manage travel demands as an example of the necessary strategic responses to tough choices that will have to be taken to contain any further road network expansion if not for primary public transport use.

South Africa, similar to many other developing countries and emerging economies, is experiencing a rapid increase in demand for motorised travel, essentially following the same path as developed nations. Continued high rates of population growth, rapid urbanisation and the aspiration towards consumerism are causing transport needs and demands to expand.

Against the background of low quality public transport options, the emerging middle class aspire to the use of private motor vehicles while many of the poor remain stranded. Attempting to meet all transport demand through a pro-private motor vehicle approach is massively costly, inequitable, and unsustainable and, as has been conclusively proven, impossible worldwide.

Cities throughout the developed world have moved through a 40 year phase of mass motorisation. Traffic speeds, which initially increased, have dropped significantly and consistently through most of this phase and the majority of cities have reached critical levels of peak traffic. Most governments now realise that solutions to improving urban transport conditions do not lie in providing for unabated motor vehicle growth.

The evidence is undisputable; attempting to cater for increased volumes of traffic whilst maintaining or increasing current average speeds of motorised traffic requires massive investments and guarantees ever worsening emissions, fossil fuel dependence, spatial dislocation and severance whilst not offering any assurance of sustained speed improvements.

"If city governments wish to invest wisely in transportation...they will understand the futility of trying to save time through attempts to increase the average speed of private motor vehicles. This argument applies to any city in the world." (Gotschi, & Mills, 2008).

Actual capital funding injections that commenced in 2006 enabled some targeted interventions to commence in the five main metropolitan cities. Specifically the investments from 2006 to date have centred on the following:

- Gautrain rapid rail R25bn capital expenditure between 2006 and 2010.
- Capital investment into BRT systems (PTISG) total of R32bn between 2006 and 2014.
- Commuter Rail annual capital support up from around R5bn to 11bn in 2014/15 marking the initiation of the PRASA recapitalisation programme.

In metropolitan areas only one third of passengers are using formal bus and rail services, with the mini-bus taxi sector transporting two thirds. The strategy is to progressively upgrade and formalise most or all urban public transport operations as currently implied by the DoT's Public Transport Strategy.

If all urban public transport was formalised to an enhanced quality on the basis of current spatial structures the annual shortfall could total well over R20bn per annum, a yearly sum considering South Africa's fiscal constraints is probably excessive. Therefore substantial increases in operational funding will need to be matched by major increases in productivity and cost recovery.

The first phase of IRPTN rollouts is currently operational. It is too early to assess whether these investments have any catalytic impacts on spatial re-integration, but as yet these services are not demonstrating cost recovery levels above the levels of current commuter rail or regular contracted bus services.

Because such a large proportion of all public transport is rendered by mini-bus taxi services, enhancing this sector could offer significant benefits. However, if done inappropriately, could add significant costs (substantial subsidies) without concomitant increases in productivity.

The success and financial feasibility of all planned IPTN interventions rely on increasing urban densities, mix use development and increasing the modal share of public transport among choice users. The range of strategies and measures to ensure these outcomes, are fundamental to achieving better operational cost recovery in future systems. Without doubt, substantial public transport investments are vital, yet this investment will not significantly improve the urban economy or public transport effectiveness unless equal attention is placed on spatial development densification.

3.2.5 Rural transport

Rural areas account for about 40% of South Africa's population with about 21 million inhabitants living in rural areas. A central legacy of apartheid is the persistence of dense rural settlements with limited economic opportunities in the former "homeland" areas, which have particularly high rates of unemployment.

The remoteness from major economic hubs and low population densities often means that the provision of public transport infrastructure and services in remote areas is financially unviable. The result is the isolation of rural communities with limited mobility options, which in turn results in the inability to access economic opportunities in the formal labour market. This contributes to perpetuated poverty. The implementation of rural transport is hampered by a lack of prioritised funding and technical or managerial capacity to oversee the roll-out of projects at district level. Rural Transport includes the following components:

- Rural Transport Infrastructure (RTI) – Includes all transport related infrastructure, ranging from proclaimed district or feeder roads, to village-level roads and non-motorised infrastructure such as tracks, trails, paths and footbridges, most of which are often not proclaimed or registered.
- Rural Transport Services (RTS) – Includes services provided by operators of all modes of motorised and non-motorised transport and private users (e.g. head loading, private vehicular transport, intermediate transport, animal-drawn carts, etc.).
- Integrated Public Transport Networks (IPTN) – Relates to the provision of improved accessibility and mobility by integrating public transport services between modes. Rural IPTN's also aim to promote integration of transport infrastructure among modes.

The Rural Access Index (RAI) is the percentage of people who live within 2km (or equivalent to a walk of 20-25 minutes) of an all-season road as a proportion of the total rural population. An "all-season road" is a road that is accessible all year round by the prevailing means of rural transport (often a pick-up or a truck which does not have four-wheel-drive). Predictable interruptions of short duration during inclement weather (e.g. heavy rainfall) are accepted, particularly on low volume roads[3]. The RAI for South Africa in 1993 was 21%, which is relatively low. Another study was carried out by the DoT in 2014. The results have not been published.

Furthermore, government places the need to improve rural infrastructure and service centres as a key strategic priority in the MTSF. The trends identified around travel modes and patterns from the NHTS for 2003 and 2013 show that (Statistics South Africa, 2013):

- The use patterns of public transport have changed significantly between 2003 and 2013 in rural areas, with general increases in the percentage of households who used taxis (from 57.4% to 75.0%), buses (24.5% to 29.6%) and trains (0.7% to 1.8%).
- Since 2003, there has been a decrease in the percentage of workers who walked all the way to work. The decrease was more significant in rural areas where it decreased from 52.5% to 38.3%. This represents a 14.2 % point decrease.
- One in five workers walked all the way to work in South Africa. The majority (40.6 %) of those who walked all the way to work were from rural areas.
- In 2013, 81.2 % of learners from rural areas were recorded walking all the way to school, followed by taxi commuters with 4.5%. There is a significant relationship between high percentage of learners that walk all the way and income levels. From households with the lowest income quintile, 85% of the commuters walk all the way to school.
- Rural learners (8.1%) were more likely than metropolitan (2.7%) or urban learners (3.0%) to walk more than 60 minutes.

[3] World Bank. Rural Access Index: A Key Development Indicator, March 2006

Compared to 2003, rural households are the only subgroup that have seen a significant decrease in access time to selected services, even though rural travellers still need more time than their urban and metropolitan counterparts. Over time, households living in rural areas had better access to public transport and had reduced travel times when compared to in 2003.

3.2.6 Public transport

The trends identified around travel modes and patterns from the NHHS for 2003 and 2013 show that (Statistics South Africa, 2013):

- The majority (more than 60%) of public transport users, particularly in urban areas, travel by mini-bus taxis;
- The BRT systems and Gautrain are currently transporting less than 1% of the travelling population in their respective cities;
- In 2013, about 57% of the population lived within a five minute walk to public transport but this is 4% lower than in 2003 showing a negative trend.
- The number of people living more than 15 minutes from a public transport stop has increased between 2003 and 2011 which implies accessibility has reduced in the past decade.
- The DoT's assessment indicate a funding backlog in public transport capital investment totalling around R300bn resulting from under-investment between 1985 and 2006.
- The current operating shortfall of commuter rail and contracted formal bus operations stands at R9 billion. These operations are covering an average of around 35-40% of their operational costs at present. A typical average of progressive, efficient, compact cities is upwards of 60%. The low cost coverage and low productivity the urban public transport systems is due to user unaffordability, low densities, long travel distances as well as modal and structural inefficiencies.

The fragmented nature of institutional governance over public transport resulted in South Africa not achieving one urban transport system, but rather a fragmented transport system in urban areas. As a result, public transport in South Africa is inefficient and not sufficiently customer focused with poor levels of reliability, predictability, comfort and safety, with the exception of Gautrain and BRT.

The scope of public transport encompasses sustainable forms of transport including non-motorised transport (NMT) in South Africa's urban and rural contexts. The lack of integration between PT and NMT counteracts the full benefit that these efficient modes offer, including social accessibility, support of economic growth and effective mass mobility. There is an expressed need for better linkage between both modes in a more focused and systematic way. This means NMT needs to be recognised and accepted as a form of local transport.

The majority (83%) of learners either walk (63.4%) or use public transport (20.1%) to access institutions of learning. These statistics demonstrate the role of public transport and NMT in being a significant mode of travel by learners (opposed to the use of the private car).

The PRASA National Strategic Plan recognises some fundamental issues affecting the delivery of rail service and, if these are successfully addressed, the level and quality of service that can be provide will be transformed, strengthening rail's role in the local transport network, such as:

- improving the safety, security, resilience, reliability and efficiency of the network
- connecting current and new economic or growth nodes (including major airports, ports and industrial development zones)
- supporting the main economic development corridors
- improving accessibility and connectivity to marginalised communities
- promoting better integration between land use planning and railway development to promote densification and sustainable development and to play to rail's strength in supporting high volumes of travel
- developing rail as the high-volume backbone of each province's integrated transport network, thereby contributing to the development of a modern, integrated, high quality, affordable and customer focused public transport system

The PRASA National Rail Plan seeks to improve the service provided to the travelling public and to capitalize on the opportunity provided by planned Government investment in new rolling stock, new signalling, stations and three pilot Modernisation Corridors demonstrating the impact of an integrated approach to investment on rail corridors.

A variety of regulations already exist in the South African urban transport setting, including the registration of vehicles and the RTQS safety standards. One area stands out, however, as needing more effective regulation is the mini-bus taxi industry. The roots of the taxi industry are in the informal sector, and it has continuously been a primary source of empowerment opportunities for historically disadvantaged segments of the population. Part of the legacy of the apartheid past is therefore an industry with no effective regulatory structure, yet one that also now carries the majority of urban mass transport trips in South Africa.

Current public transport planning also does not sufficiently integrate feeder services, and the move to a corridor approach will create even more need to do this properly. Very few customers make intermodal transfers, in part because the system is not planned or physically laid out on a basis that encourages or permits such transfers. Optimising the modes for line haul along corridors will require increased coordination across modes and schedules to permit lower density traffic to feed into the corridors.

In summary, public transport is not sufficiently customer focused and inefficient with poor levels of reliability, predictability, comfort and safety. It does not reflect the world class aspiration of the NDP 2030. The fragmented nature of institutional governance over public transport is also not helpful. Despite introducing IRPTN's or other plans and policy supporting the integration of modes, the implementation to date is biased towards BRT.

3.2.7 Non-motorised transport

Non-motorised transport is any means of transportation not supported by a motor. This includes cycling, walking, skateboard, wheelchairs and making use of animal-drawn carts or hand-pushed trolleys. Most people use a mix of motorised transport and NMT to travel. Non-motorised transport is a mode of transport in its own right and in many instances it is either the only available mode or transport and/or the most affordable one. The following statistics from the 2013 National Household Travel survey (NHTS) (Statistics South Africa, 2013) are relevant to non-motorised travel:

- In South Africa 21% of people use walking as their main mode of commuting to work and 1.3% use cycling;

- In rural areas 38% of people walk all the way to places of work, while the national percentage is 20% and this translates into a total of 3 million workers walking all the way to work. Across provinces the highest percentage of workers who walk to work are in Gauteng (19%), and Kwa-Zulu Natal (16%).
- 42% of people earning up to R500 per month walk to work, but this has reduced from 58% in 2003. In the R500 to R1000 per month income group 43% walk to work. This is significant and highlights the need to better understand the importance of and provision for NMT in South Africa.
- Cycling has traditionally been a mode of transport in rural areas, although it is increasingly becoming an urban mode of transport. The 2013 household survey indicated that cycling is used to cycle to work by 0,6% of commuters in the metros, 2,2% in the remaining urban areas and 1,8% in rural areas.
- Non-motorised transport is of particular importance for travelling to school or other educational institutions. A significantly high number of commuters and scholars walk to work and school respectively. The 2013 household survey shows that 68% of scholars walk to school and 81% scholars in rural areas walk to school.
- Walking as a main mode to access educational institutions is also prevalent at 63% using walking as the main mode of transport and in provinces such as the Eastern Cape and Limpopo over 75% walk all the way to institutional institutions.

If properly planned, cycling and pedestrian networks can act as a feeder to public transport. This approach is already being undertaken in cities implementing IRPTNs.

Due to the bicycle being a low cost form of mobility, it has the potential to aid in bringing about equity and greater accessibility for people who cannot afford public transportation or the purchasing of a motor vehicle. In many semi-rural areas in South Africa, people use bicycles as key mode of transport to generate income by ferrying goods for various informal and small businesses. Cycling and walking aid in providing a minimum level of mobility that is required for economic and social participation.

A shift towards NMT will have a multitude of benefits for the transport system (socio-economic, environmental, safety, health, convenience, affordability, reducing congestion, etc.). Therefore it is important that cities and municipalities to not only provide mainstream NMT considerations in planning, provide safe NMT infrastructure but also develop programmes that will attract new cyclists and pedestrians.

3.2.8 Learner transport

In the past the absence of a national policy on learner transport resulted in fragmented provision of learner transport services administered by the Provincial Departments of Education and Department of Transport. The first national learner transport policy was developed in 2009, which endeavours to *address the challenges of accessibility and safety of learners*[4].

Learner Transport is the joint responsibility of the Department of Transport and the Department of Basic Education. Consequently, the amount of funding made available for learner transport varies and is generally insufficient to meet the existing need. The operationalization and management of learner transport has also taken different forms in the various provinces.

[4] Draft Learner Transport Policy, 2009

Learners have difficulty accessing educational institutions due to the inadequacy of learner transport and insufficient schools in areas where they live. The ability of learners to access to learner transport has remained a significant challenge. This is compounded by the long distances they have to travel to get to school, threats to the safety and security and the cost of transport. The 2013 NHTS shows that walking remains the most commonly used form of transport among learners, with 5,5million (63 %) of learners walking to places of education and of those 93,6% walk up to 15 minutes. Between the years of 2003 and 2013, the NHTS identified a decrease in walking to places of education. The provinces with a high proportion of learners travelling for longer than 30 minutes are KwaZulu-Natal and, to a lesser extent, the Eastern Cape, Mpumalanga and North West Province.

The number of deaths of child pedestrians on the roads; who get killed while walking long distances to and from schools; those that get killed in vehicles that are not roadworthy and those whose grades are affected by exhaustion for taking long walks to school is a major concern. Gauteng has the highest incidence of public transport usage for educational purposes, by far the largest number of people travelling for this purpose, and also the highest percentage paying R200 or more per month (Statistics South Africa, 2003).

A new National policy on Learner transport was issued in 2015[5] to provide a uniform framework and an enabling environment for government and other stakeholders to address learner transport challenges. The aim of the policy is to provide an institutional framework to facilitate the provision of learner transport in order to ensure that learner transport is rendered in an appropriate and coordinated manner. In this regard, it is recommended that a national interdepartmental committee (NIDC) and provincial joint planning committees will be established. The institutional arrangement will strengthen oversight and integrated reporting on the implementation of the Policy.

The target group for subsidised transport is learners who attend grade R to 1 2 and live in areas where they do not have access to public transport services and have to walk long distances to school.

3.2.9 Accessible transport

One of the strategic objectives for Land Passenger Transport that is presented within the White Paper on National Transport Policy, 1996, is to: "ensure that passenger transport services address user needs, including those of commuters, pensioners, the aged, learners, the disabled, tourists and long distance passengers". Notwithstanding the policy intention, universal access to Public Transport is very poor across the range of modes.

The concept of Universal Access is for the design of the facilities and environments to be such that they are useable, safe and comfortable for use by all people with the widest range of physical and cognitive abilities and to the greatest extent possible, without the need for adaptation or specialised features. Other terms used to describe Universal Access include barrier-free design, fully accessible design, inclusive design, assistive design, adaptive design, design-for-all, lifespan design, or human-centred design.

Currently most metropolitan municipalities are at various stages of initial implementation of accessible public transport. There are also different initiatives at municipal level to invest in NMT infrastructure. Public Transport in South Africa generally has low accessibility and poor levels of universal access.

[5] National Learner Transport Policy, 2015

3.2.10 Cross-border transport

South Africa's borders are critical points for facilitating the unimpeded movement of goods and people; however there are currently severe bottlenecks in commercial supply chains and journeys of cross-border travellers. These capacity constraints cause excessive delays of goods which in turn increases the cost of freight. These delays also impact passenger transport.

Funding is not adequate for the strategic projects identified at borders which could benefit the country and cross-border operations have limited productivity having a knock-on effect on supply chain management and the regional economy.

The performance of the cross-border transport system along the regional corridors depends to a large extend on the following factors:

- Quality and competitiveness of transport and logistics services;
- Capacity and condition of public infrastructure used by these services; and
- Domestic, bilateral, and multilateral policies and regulation of these services and trade.

The latter issue of policies and regulation is of particular importance in cross-border transport as it relates to border crossing procedures for both import and export trade and transit shipments. In general, transport and logistics services are seldom of primary concern because this function is mostly the responsibility of the private sector. The exception occurs where government is heavily involved in providing these services e.g., rail transport services, or there are significant constraints on market access. In terms of infrastructure, the problem is usually poor condition, insufficient capacity or lack of physical integration. The latter is common at all border posts, but can be addressed through "One Stop Border Post" (OSBP) initiatives.

The policy framework for the regional transportation system is captured in the SADC Protocol on Transport (1996).

3.2.11 Freight transport

Freight Logistics forms a very important element of the economic growth in the country, the SADC, the African Continent and the Global Village. The South African freight industry is dominated by strong competition between the main land modes, road and rail. This problem is exacerbated by the distance of the strategic freight corridor between Durban and Gauteng being primarily road focused. The result is a serious imbalance of 88% of the freight by weight moved by road, and only 12% moved by rail. This results in underutilised rail infrastructure and intermodal facilities with excessive pressure on road infrastructure to carry freight that could be on rail.

Freight movement by road has a significant impact on the national road network and results in high transport cost in the logistics value chain. This prevents South Africa from being competitive in a global market and attracting sufficient international investment in supporting economic growth.

South Africa's borders are critical points for facilitating the unimpeded movement of goods and people. However there are currently bottlenecks in commercial supply chains and journeys of cross-border travellers. The capacity constraints especially at border posts causes excessive delays of goods (and to passengers), this in turn increases the cost of freight particularly due to standing charges exerted on operators/customers. There are positive indications of progress towards increasing capacity with some busy crossings now operating 24 hours a day.

In summary, freight movement by road has a significant impact on the national road network and results in high transport cost in the logistics value chain. This impacts South Africa's competitiveness in a global market and attracting sufficient international investment in supporting economic growth.

3.2.12 Infrastructure

South Africa has missed a generation of capital investment in roads, rail, ports, electricity, water and sanitation, public transport and housing. To grow faster and in a more inclusive manner, the country needs a higher level of capital spending in general and public investment in particular[6]. The current infrastructure allocations relative to GDP is about 7%.[7] The NDP calls for a gross fixed capital formation of about 30% of GDP by 2030 to see a sustained impact on growth and household services. The NDP calls for effective, reliable, economical and smooth-flowing transport corridors.

Roads and Railways are intended to be facilitators of connectivity and mobility – enablers of economic growth. However; roads particularly have become bottlenecks due to congestion and pavement damage by excess axle loads of trucks.

The South African network has a total length of 750 000 km of road network, of which an estimated 17.6% of the network comprises of public roads which are not formally gazetted by the Authority (un-proclaimed gravel roads) (SANRAL, 2014). Of the proclaimed road network, 25.5% is paved and 74.5% is gravel roads.

The road network is characterised by wide disparity in condition, among the different categories. In 2013, SANRAL recorded that 26% of municipal and provincial roads were in a poor to very poor condition and 38% in a good to very good condition (SANRAL, 2014). The management and maintenance of roads is relatively average in Provincial and Municipal departments while the SANRAL operations meets/exceeds world standards with 48% of the SANRAL network in good to very good condition (SANRAL, 2014). Although national roads exceed world standards, close to 80% of the national road network has exceeded its 20 year structure lifespan and as such, highlights the critical need for effective and appropriate maintenance.

The implementation of road infrastructure in Provinces and Municipalities is generally constrained by the lack of a functional Road Asset Management System (RAMS), and engineering expertise for planning, management and implementation of projects. The procurement process is another constraint, where Supply Chain (procurement process) lacks engineering expertise to appoint the appropriate skills for the best engineering solutions, resulting in poor service delivery, and wasted expenditure.

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[6] National Development Plan, 2011
[7] Consulting Engineers South Africa, 2013

Provinces are required to demonstrate road maintenance plans and budget applications based on RAMS. Municipalities are currently not required to motivate road projects through RAMS. SANRAL is currently assisting some provinces and municipalities with data collection and pavement management. However, there is need for progressive data collection and subsequent planning, management and implementation road projects at provincial and municipal government.

Rail infrastructure is in poor condition and in urgent need of modernisation and its capacity is limited by aging infrastructure and rolling stock. Typical rail operations are slow, unreliable and delayed by inadequate handling facilities at intermodal hubs which further exacerbate this situation.

The road and rail infrastructure is generally under-maintained with a lack of strategic focus and prioritised funding.

Pedestrian and cycling facilities are not mandatory infrastructure with new developments. There are retrofitting provisions through BRT projects but the simplicity and relatively lower cost of such projects expects much more success.

Public transport investment increased at 15% per year from 2006. In the short-term, to harvest these investments, future asset management and increased use of existing assets must be a priority.[5]

In summary, rail and rural road infrastructure in particular have been neglected and under-maintained. This is in part due to the transport industry competing for funding from the fiscus with other government/public sector services and funding allocated to key priority areas.

3.2.13 Transport safety

Road Safety

South Africa currently has one of the worlds' worst road safety records at ±31.9 fatalities/100,000 people per annum[8] with the DoT estimating the cost to be in excess of R133 billion per annum[9] (while comparable countries such as Argentina or Columbia at 12 fatalities/100 000 people per annum) . The proportion of pedestrian, driver, and passenger fatalities are almost equal in South Africa. The major contributors to these appalling statistics are poor behaviour with over 90% of crashes following some form of traffic violation; and un-roadworthy vehicles. For example, the quarterly *Brake & Tyre Watch* road safety initiative by *Fleetwatch* magazine[10] in 2013 discontinued 68 out of 110 (62%) heavy vehicles tested. These two factors alone demonstrate the broad disregard for safe driving practices and regulations that are prevalent in South Africa.

South Africa has committed to and is participating in the United Nation's campaign "Decade of Action for Road Safety 2011-2020". The key focus areas of the Strategy forming part of this campaign are the "4Es" - enforcement, education, engineering, and evaluation. This approach is recognised as the 'World's Best Practice[2]' in driving road safety improvements. Where thoroughly applied a decline in crashes and significant improvements in statistics are shown. For example, Sweden, France, and Australia have shown reductions of over 50% in crash rates.

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[8] RTMC Strategic Plan 2014-2019, 2014
[9] Department of Transport, SA Road Safety Strategy 2011-2020

[10] http://fleetwatch.co.za/brake-and-tyre-watch/

Upon joining this initiative the goal set by South Africa was to, by 2015, reduce road fatalities by 50% over the five year period 2011 to 2015. This has not been achieved with only a nominal reduction in fatalities over the period. Given that the application of the 4Es approach as adopted by the National Road Safety Strategy has been internationally proven to result in significant improvements the only assumption that can be drawn is that it has not been effectively applied in South Africa.

Thus, road safety remains a key challenge faced by the South African society and the Department of Transport.

Rail Safety

The Rail Safety Regulator (RSR) is the designated authority regarding all Rail Safety incidents and provides support to the Police Services in the case of security related incidents. The RSR's 2013/2014 State of Safety Report indicates that the number of operational incidents reported increased from the previous year by 7% to 4,587. South Africa compares favourably with the international data when it comes to rail safety. However, there is still a drive to improve these statistics.

Key issues regarding the safety of the general public are the non-adherence to safe driving practices at level crossings and the accessing of the rail reserve / crossing of rail lines in uncontrolled areas by pedestrians.

Transport Security

Security of people on the transport system is becoming a serious concern with the number of instances of direct crime such as hijackings, robberies, muggings, public transport related violence, road rage, industrial action, etc. A further concern is the disruption to transport operations and closing of roads and rail routes due to industrial action and service delivery protests.

According to the Rail Safety Regulator State of Safety Report (2013/2014), there was a marked increase in the number of recorded security related incidents on rail – a 14% increase from 4,124 in 2012/13 to 4,703 in 2013/14 with theft and vandalism being the most prevalent. Personal safety related incidents reported amounted to only 283 which is understated as not all incidents are reported.

3.2.14 Institutional arrangements

An effective well managed transport system includes coherent policies, unified urban and transport planning responsibilities, sound structure of the public transport industry and appropriate regulatory and supervisory framework and transportation information management enabling transportation providers to make better decisions.

There is a general lack of implementation of existing regulations and policy with regulatory funding not being spent where required. This is recognised in the NDP which states that government needs not only to better coordinate collaborative investment by businesses, and provincial and local government into key infrastructure projects, but to shape its institutional, policy and regulatory environment in order to enable investment, realise the desired efficiencies, improve infrastructure delivery, and contribute to economic growth and employment creation. It recognises that it is not about new policies and programmes but rather about giving effect to existing laws and policies and improving their implementation.

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The many layers of governance (across national, provincial and municipal spheres) are not conducive to integrated planning and implementation. Further, there is a general lack of proactive involvement and coordination between the public sector and private sector, labour, and other stakeholders, resulting in unnecessary delays in project development and service delivery.

The less than optimal management of public transport services for example exacerbate operational inefficiency and high cost/subsidy for public transport. Transport sector decision-making and the associated control over budgets is extremely fragmented. Planning responsibility lies primarily with municipalities, commuter rail services are a national function managed by PRASA, provinces are responsible for the contracting of subsidised bus services and the regulation of operating licences (mostly mini-bus taxis and tourism transport), and since the promulgation of the National Land Transport Act in 2009 the twelve largest municipalities have been made responsible for implementing new bus rapid transit services.

No single institution has effective overall responsibility for achieving an integrated transport system; resulting in a tendency for investment decisions and service delivery to be driven by the interests of service suppliers rather than by an integrated, user driven approach. A widely agreed policy intention since the 1996 White Paper, confirmed by the National Land Transport Act 2009, has been to make metropolitan and larger city governments the locus of responsibility for public transport, integrating with its land use planning responsibilities. However, apart from the transfer to these municipalities of conditional grants for implementing bus rapid transit projects, little progress has been made in assigning regulatory functions or expanding responsibilities in managing subsidised rail and bus contracts.

Similarly, law enforcement is fragmented between the three spheres of government, resulting in inconsistent application of the road traffic regulations, such as overload control, public transport operating licences, etc.

Making metropolitan and large city governments the locus of responsibility for urban transport including all public transport necessarily creates financial risks for these authorities. Thus assignment of responsibility needs to be accompanied by appropriate mechanisms to effectively manage such risks. Achieving better institutional alignment between provinces, municipalities and PRASA in a manner that makes metropolitan government the key locus for decision-making in line with the National Land Transport Act 2009 would facilitate better integration between different types of public transport, enabling optimal matching of transport types to demand patterns. However, improving institutional alignment will require addressing the special circumstances of Gauteng, which contains three adjacent metropolitan areas which need to coordinate their transport approaches.

The integration of functions to a dedicated tier of government may determine an integrated transport system, operational efficiency, economies of scale, and increased funding.

Perhaps the most substantial short-term obstacle to achieving the policy objectives of the transport system is the lack of institutional and management capacity, especially at the local level. The uneven capacity of local government is a major constraint to effective and efficient service delivery. Municipalities operate in varying socio-economic circumstances and diverse levels of capacity. This manifests itself in the realm of land use and transport planning, tendering and contract management, and setting and promulgating regulations.

3.2.15 Funding

Current funding instruments available to the national, provincial and local transport authorities includes funds allocated through the Division of Revenue Act (DORA) comprising the Equitable share and Conditional Grants such as Provincial Road Maintenance Grant, Public Transport Infrastructure and Systems Grant, Public Transport Operations Grant, and Municipal Infrastructure Grant. User pay fees are generated through fees such as toll fees, vehicle license fees, fuel levies, carbon tax from vehicle sales; private sector bulk services contributions, parking, cross-border fees, etc. The financial markets contribute to transport funding such as Foreign Direct Investment mainly for Public Private Partnership projects, issuing of bonds, loans, etc.

The South African public sector invests about R50bn per annum on transport infrastructure and operations of public transport, while the private sector also invests in road infrastructure (the approximate proportion of investment is not known, but is substantial through private sector development bulk services contributions). However, there is need for additional investment to enable a sustainable transport system. The institutional fragmentation in transport has also lead to a multiplicity of authorities tasked with one or other element of the total transport system, resulting in inefficiencies. Another challenge is that the different components of the system are optimising against their own internal objectives often at the expense of the total transport system objectives. This is in the main due to the absence of a system level approach to investment in transport infrastructure.

Generally, funding is not aligned with policy objectives. The transport vision calls for an integrated, efficient, reliable, affordable, etc., transport system. This requires exorbitant levels of infrastructure and operational funding over a long period of time. The current policy and fragmented transport systems are not feasible and not sustainable. The integrated transport system must be affordable to both the authorities and the customer.

3.3 Summary of the current realities in the transport industry

The immediate challenges faced in transport that are constraining policy objectives have defined the key priority areas or thrusts to be focused on in the next five years. The fundamental challenges to the progress and roll-out of the national strategies are:

- **Public transport** integration, safety, accessibility, and efficiency remains a constant challenge even though an exorbitant amount of money was spent and continues to be spent on the IRPTN program and subsidies; one dimensional investment such as upgrading commuter rail rolling stock and Bus Rapid Transit relative to an integrated public transport system;
- Motorised private transport, be it the private car or mini-bus taxis, is the **dominant** mode;
- 88% of freight by weight is moved by road and 12% by rail reflecting a significant imbalance in the freight transport system; the cost of **freight logistics** is increasing where transport costs is the most signification component; cross-border operations (border control) limits productivity with a significant impact on the logistics value chain and the economy;
- South Africa's **road fatalities** and traffic accidents levels are among the worst in the world and show no significant reduced trend, indicating that the road safety strategy to date is not yielding effective results;

- With the exception of the national road network, the **road and rail infrastructure** is generally under-maintained and a lack of strategic management and maintenance system, and subsequently funding;
- The provision of **pedestrian and cycling facilities** are still not mandatory for new developments;
- Land use planning priorities and interventions to ensure increased desertification and targeted growth along core corridors are not happening at a fast enough pace and decision-making is not as yet properly integrated with urban transport plans. A lack of strategy and programme implementation for transport **funding** for transport operations and infrastructure; and
- A lack of **institutional and management capacity** is one of the most substantial short-term obstacles in achieving the policy objectives for transport.

4 NLTSF VISION

The policy framework within which the NLTSF operates is set out in Section 3 and the challenges identified in Section 4 serve to construct and condition the overall land transport vision for the Department for Transport. In order to achieve this, some key overarching strategic intentions were identified.

South Africa's transport policy intentions are comprehensive and address the strategic drivers such as sustainability, economic development, job creation and poverty alleviation, inequality, etc. The transport policy framework also demonstrates strategic intent, while the planning, funding and execution of transport plans and projects are relatively incongruent. The Transport Policy framework emphasis customer focus, while the recent transport statistics indicate perpetual inefficiency and infrastructure degradation.

4.1 Land transport vision

The vision for land transport to improve transport services and infrastructure is often driven or influenced by other strategies as indicated in the Introduction and Chapter 3. The NLTSF will help to enable the implementation of those strategies. Inevitably, therefore, the vision does not prescribe specific outcomes, but guiding principles which can be responsive to other strategies as they emerge.

The overall vision of the Department for Transport in the context of the policy framework within which the NLTSF operates and current national imperatives are to create:

An integrated and efficient transport system supporting a thriving economy that promotes sustainable economic growth, supports a healthier life style, provides safe and accessible mobility options, socially includes all communities and preserves the environment

The following are key strategic objectives over the next five years:

- a much improved sustainable public transport system with better and safer access, more frequent and better quality services and facilities to an agreed standard;
- significant reduction in road fatalities;
- greater mobility options particularly for those who do not have a car;
- safer and easier cycling and walking;
- better infrastructure, links and interchange with other means of transport;
- an improved and better maintained road and rail network;
- improved journey time reliability on all modes;
- different travel patterns and transport usage and, where appropriate, reduced need to travel by motor vehicles from having achieved an integrated land use and transport system;

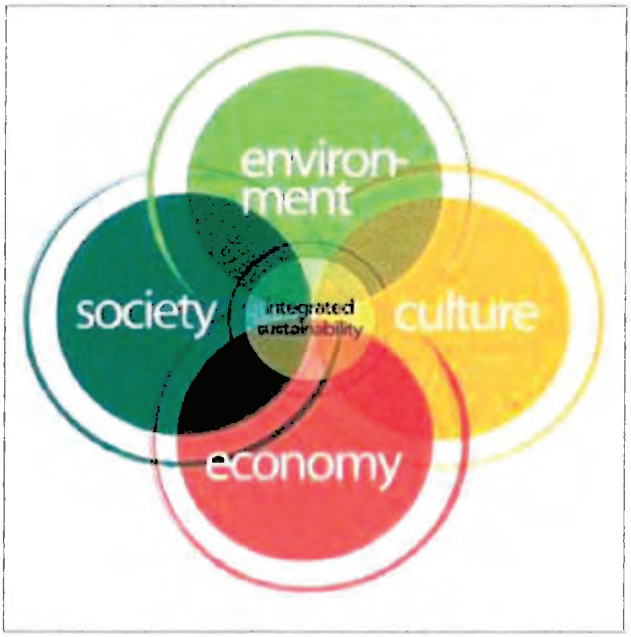
- a transport system that is consistent with the real needs of people living in different parts of South Africa and with differing abilities to afford travel;
- a transport system that charges the traveller a fair reflection of the costs of making a journey;
- a transport system that supports focused funding of transport priorities;
- developed sufficient institutional human capital to drive the vision of transport; and
- A transport response that supports rural transport development.

To achieve the bold vision for transport a number of objectives were developed. The objectives are aimed at supporting the wider vision of sustainability. The objectives aim to set an exciting new focus for transport and helps demonstrate clearly the case for supporting and investing in land transport.

4.2 Department of Transport's position on Sustainability

In general, sustainability encompasses a holistic consideration of economic, social, and environmental progress—usually referred to as sustainability dimensions—with a long-term perspective. **Figure 2** illustrates the integration of the environment, society, culture, and the economy in order to develop a sustainable transport system in South Africa.

Figure 2 Dimensions of sustainability as defined in the NTF



The National Transport Forum (2014) defines sustainable transport as transport that:

- Meets the needs of the present generation without compromising the ability of the future generations to meet their transport needs;
- Meets the basic access and development needs of individuals, companies and society;
- Is affordable, operates fairly and efficiently, offers a choice of transport mode, and supports a competitive economy, as well as balanced regional development;

- Is transport that is reliable, predictable and safe for all users; and
- Limits emissions and waste within the planet's ability to absorb them and uses renewable resources at or below their rates of generation.

The Department of Transport is equally determined to secure positive change through planning for and ensuring cohesive interaction of social, economic and environmental improvements. The approach accords with the NDP, the priorities of the MTSF and the National Transport Forum vision. This means working to five shared principles viz.:

- Work to achieve an efficient, competitive and responsive economic infrastructure network;
- enhancing vibrant, equitable and sustainable rural communities;
- achieve sustainable human settlements and improved quality of household life;
- promote a good responsive, accountable, effective and efficient local government; and
- protect and enhance our environmental assets and natural resources

Transport policies can contribute to a sustainable future by helping to promote healthy living and supporting a strong and prosperous economy. Transport has a significant impact on the social, economic and environmental fabric of the nation and the DoT aligns its vision to realise a dynamic, multi-modal sustainable transport system for South Africa.

4.3 NLTSF overarching goals

The value of transport in generally underestimated. Transport is a catalyst for economic development, job creation, social development, and general quality of life. The transport portfolio requires greater attention in all spheres of Government and the private sector.

A number of objectives or overarching goals were classified to support the wider vision of sustainability described above. The objectives support each other, for example, promoting better integration between land use planning and transport planning to encourage densification will create the high volumes of travel required to justify certain large public transport investments. These overarching goals for transport are:

- Incremental development with a ' back to basics' approach
- Integrate land use and transport planning
- Promote social inclusion and accessibility
- Improve safety and security
- Reduce transport impact on the environment
- Promote sustainable transport modes

4.3.1 Incremental development with 'back to basics' approach

An incremental approach is required to address the gradual implementation of the NLTSF through ITPs and subsequent derived projects. For example, the implementation of the Public Transport Strategy refers to two pillars to be implemented over three phases (time periods). The incremental application of accessibility in the Public Transport Strategy over time is demonstrated in Table 1.

In this particular example on Accessible Transport, it is evident that phase 1 for Pillar 1 was not implemented as an accelerated recovery and catalytic project, Similarly, efficiency improvements for existing public transport services were not implemented in the stipulated timeframe, instead BRT was implemented which was part of the Phase 2 program. Hence, the current focus in the forthcoming planning period, considering the current resource constraints and economy, is to initially focus on the basics, while incrementally developing the advanced transport system.

Table 1 Roll-out of the Public Transport Strategy's Two Pillars and their effect on the accessibility of public transport

	Phase One (Up to 2010) Accelerated Recovery & Catalytic Projects	**Phase Two (Up to 2014) Promote and Deliver Basic Networks**	**Phase Three (Up to 2020 and beyond) Advance and sustain accessible networks (national roll-out)**
Pillar 1 - Modal Upgrading of Existing Public Transport Services	Provision of low cost accessible features throughout existing PT system e.g. step heights, grab rails and high contrast livery	Introduction of higher cost accessible features throughout existing PT system e.g. real-time passenger information and access for passengers using wheelchairs	Fully accessible for all passengers throughout PT system
Pillar 2 - Provision of Integrated Rapid Public Transport Networks and Rural Public Transport Packages	Piloting of fully accessible Integrated Rapid Public Transport Corridors Piloting of a number of rural public transport services that are accessible including periodic access and learner services and demand responsive brokering services	Roll-out of fully accessible Integrated Rapid Public Transport networks Preparation of District Network Plans to provide accessible rural public transport services	Full accessibility for all passengers throughout PT system Roll-out of accessible periodic rural public transport services (access and learner) and demand responsive brokering services

The Department of Corporative Governance and Traditional Affairs developed the Back to Basics program for service delivery at local government level. However, the program involves all three spheres of Government. Government's goal is to improve the functioning of municipalities to better serve communities by getting the basics right. The building blocks for the back to basics approach are as follows (http://www.gov.za/about-government/back-basics):

Basic services: Creating decent living conditions

Municipalities must:

- Develop fundable consolidated infrastructure plans.
- Ensure infrastructure maintenance and repairs to reduce losses with basic services including roads, public transport and human settlements.
- Ensure the provision of Free Basic Services and the maintenance of Indigent register.

Good governance

Good governance is at the heart of the effective functioning of municipalities. Municipalities will be constantly monitored and evaluated on their ability to carry out the following basics:

- The holding of Council meetings as legislated.
- The functionality of oversight structures, Section 79 committees, audit committees and District IGR Forums.
- Whether or not there has been progress following interventions over the last three to five years.
- The existence and efficiency of anti-corruption measures.
- The extent to which there is compliance with legislation and the enforcement of by-laws.
- The rate of service delivery protests and approaches to address them.

Public participation

Measures will be taken to ensure that municipalities engage with their communities. Municipalities must develop affordable and efficient communication systems to communicate regularly with communities and disseminate urgent information. The basic measures to be monitored include:

- The existence of the required number of functional Ward committees.
- The number of effective public participation programs conducted by Councils.
- The regularity of community satisfaction surveys carried out.

Financial management

Sound financial management is integral to the success of local government. Performance against the following basic indicators will be constantly assessed:

- The number of disclaimers in the last three to five years.
- Whether the budgets are realistic and based on cash available.
- The percentage revenue collected.
- The extent to which debt is serviced.
- The efficiency and functionality of supply chain management.

Institutional capacity

There has to be a focus on building strong municipal administrative systems and processes. It includes ensuring that administrative positions are filled with competent and committed people whose performance is closely monitored. Targeted and measurable training and capacity building will be provided for councilors and municipal officials so that they are able to deal with the challenges of local governance as well as ensuring that scarce skills are addressed through bursary and training programs. The basic requirements to be monitored include:

- Ensuring that the top six posts (Municipal Manager, Finance, Infrastructure Corporate Services, Community development and Development Planning) are filled by competent and qualified persons.
- That the municipal organograms are realistic, underpinned by a service delivery model and affordable.
- That there are implementable human resources development and management programs.
- There are sustained platforms to engage organised labour to minimise disputes and disruptions.
- Importance of establishing resilient systems such as billing.

4.3.2 Support economic development

Transport is a key enabler in any successful economy in that it provides the means of moving people and goods. An ineffective and inefficient transport system stifles economic growth in that the access to opportunities may well be restricted and that mobility may be costly from a financial, social, and/or environmental perspective. As an example, congestion drives up fuel consumption, increases emissions and is extremely time consuming.

Improved access to employment and education also contributes to the country's long-term prosperity. Poor access is one of the major barriers facing the unemployed; more especially in rural South Africa.

The NLTSF aims to enable economic growth, development, and job creation by connecting current and new nodes as development corridors and by making better use of and maintaining the transport system, comprising:

- economic development corridors;
- regional economic competitiveness;
- efficiency in transport operations
- upgrading and maintenance of transport infrastructure;

The benefits are:

- Reduced travelling costs;
- Reduced need for building vast car parks on valuable land in the city centres that could have otherwise been used as highly priced office or retail space;
- Reduced reliance on rapidly decreasing oil supplies;
- Reduced reliance on imported fuels;
- Job creation;
- Increased property value in and around the core business areas and adjacent to public transport stations;
- Improved integration between various sectors;
- Community development and upliftment;

- Improved living standards; and
- Tourism.

4.3.3 Reduce transport impact on the environment

Transport has a significant role to play in adapting to the impacts of climate change. The NDP vision is that South Africa's transition to an environmentally sustainable, climate change resilient, low-carbon economy and just society will be well under way by 2030.

Rising concentrations of greenhouse gases are recognised to be causing global climate change. Transport, through the use of fossil fuels, is one of the top three sources that produce greenhouse gases, and accounts for around 10 per cent of CO_2 emissions in South Africa according to the GHG Inventory for South Africa: 2000–2010.

Reducing emissions from the transport sector is a key element of achieving a sustainable transport system. However, transport is a significant driver of economic growth and social wellbeing. So, given the growing demand for transport, the reduction of emissions poses a particular challenge.

Effective reduction of emissions requires a multifaceted approach which may incorporate both a reduction in the need to travel and through the use of technologies some of which may already available. An integrated planning approach is thus key to reducing emissions (as well as energy usage).

Emissions can be reduced by making smart choices, as individuals, about what, when and how to drive. The Department of Transport does not have a specific strategy on addressing transport's contribution to climate change and/or air pollution. The key variables through which to influence pollution levels/air quality are:

- the number of trips and distance travelled;
- land use (densification) and travel demand management
- congestion management;
- using public transport and NMT as a mode of transport;
- the fuel efficiency of vehicles;
- supporting the reduction in greenhouse gases and other emissions; and
- Reducing traffic congestion.

4.3.4 Integrate land use and transport planning

Better integration between land use planning and transport planning offers by far the biggest impact to the impact that transport has on the environment and sustainability. It can do so by encouraging densification and sustainable development, by creating local clusters of economic activity that require less mobility and by developing multi-modal logistic chains to cut wasteful and unnecessary trips. Some of the principles would include:

- Supporting compact community development and land use intensification that will support high volumes of travel required for public transport;
- Providing efficient land use and traffic policy enforcement;

- Efficient transport information management to enable data driven planning by developing a central land use / transportation data bank using GIS.

4.3.5 Promote sustainable transport modes

The DoT aims to encourage the change in transport by shifting to more energy efficient modes or routes—such as shifting from road to rail; or shifting passengers from private vehicles to public transport and non-motorised modes.

Ensuring sustainable access – especially by public transport, walking and cycling – is an integral element of planning new services and facilities.

Further, investment in sustainable modes of transport such as new designs of public transport vehicles can be expensive, but the benefits are much greater and can help towards achieving long-term economic sustainability.

4.3.6 Promote social inclusion and accessibility

Transport plays a central role in our daily lives. Availability and accessibility of transport influence where people live and work, leisure options, and opportunities to socialise. The success of the Department's equality and social justice agenda depends to a significant degree on the effectiveness of the transport system. Good access to public transport is essential to increase the life chances of the most disadvantaged and people living in deprived communities.

Where services and facilities cannot be provided in the immediate locality, transport services can contribute to social justice by:

- Helping more people into jobs and creating better jobs and skills
- Improving health and providing access to social services
- Reducing air and noise pollution from transport
- Developing strong and safe communities

4.3.7 Improve transport safety and security

Perceptions of safety are an important factor in how people use the transport system. Feelings of vulnerability can encourage captive public transport to shift to private car when they can afford it and it can deter car-users from switching to public transport. A safe and secure public transport system can benefit society by:

- Reduced accident rates, particularly for vulnerable road users, as well as improved perceived safety for all modes of transport;
- Work to eliminate traffic-related fatalities, and address concerns of personal safety and security;
- Public transport operators to carry out schemes to improve security on vehicles and at stations; and
- Enable people of all ages and abilities to travel efficiently and safely;

4.4 Renewed focus for the NLTSF

The NLTSF was developed as a guiding reference to give strategic direction to transport planning at all spheres of government. Having consulted stakeholders widely, the 2006 NLTSF functional areas were rationalised reflecting the changed emphasis in the transport industry. A radical and focused approach is required to deal with fundamental challenges in transport which implies a renewed focus. In bringing about change and to support the vision the following functional areas were developed:

1) Integrated Land Use and Transport Planning
2) Urban Transport
3) Rural Transport
4) Public Transport
5) Non-Motorised Transport
6) Learner transport
7) Freight transport
8) Transport Infrastructure
9) Cross-border transport
10) Transport safety
11) Institutional management incorporating land transport information systems, Inter-Government relations and capacity to deliver; and
12) Funding

5 THE STRATEGIC FRAMEWORK

The Strategic Framework describes what is required to realise the vision and overarching objectives for land transport in South Africa considering current challenges and what can be achieved over the next five years. The intent behind the approach of developing the framework is driven by the need for an appropriate affordable transport system that supports access to opportunities while considering sustainability, social aspects and the environment.

Sustainability - and the three key aspects of sustainability, namely the environment, the economy and society as a whole - has therefore been the underlying thread connecting this framework. The goal of sustainable transportation is to ensure that environment; social and economic considerations are factored into decisions affecting transportation activity. For economic growth and social equity reasons it is vital to establish efficient transport systems to meet growing demand as sustainably as possible. These would include a transport system that consumes less energy, reduce pollution, have a minimal impact on the environment and provide equity of access for people and goods[11].

Figure 3 describes the philosophy in deriving the framework. The broader policy framework and intents informed the vision and key priorities for land transport in South Africa.

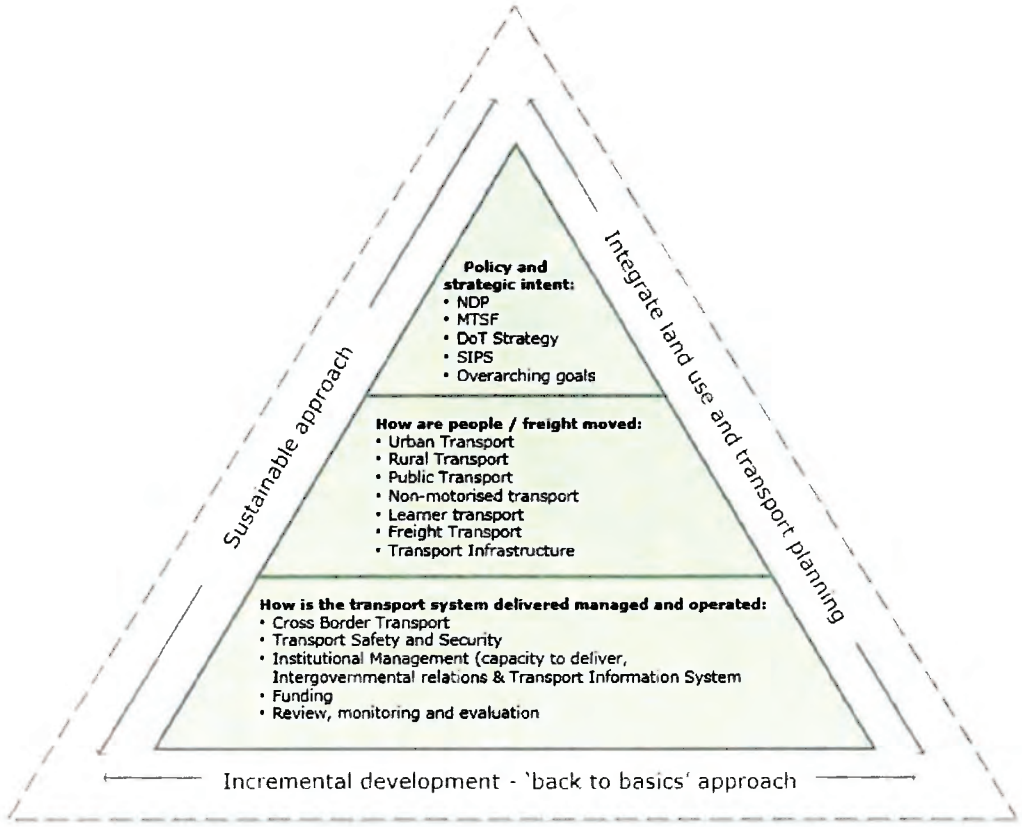


Figure 3 Land transport strategic philosophy

[11] Transportation Association of Canada, http://www.vtpi.org/tdm/tdm67.htm

The NDP vision is that South Africa's transition to an environmentally sustainable, climate change resilient, low-carbon economy and just society will be well under way by 2030. As a follow on to NDP, government developed the Medium Term Strategic Framework (MTSF) to help prioritise projects and programmes in South Africa that would work towards achieving the aspirations of the NDP. The Framework is further aligned with the Presidential Infrastructure Coordinating Commission Strategic Integrated Projects (SIPs) which have been developed to achieve the goals and objectives of the NDP and MTSF. It is imperative that the DoT, Provinces and Municipalities align its transport planning with these policies and the SIPs.

This Chapter outlines the vision, strategic intent and key performance areas for each key strategic element that were identified as the renewed focus of the NLTSF. The success in implementing the transport programmes and projects that emanate from the respective PLTFs and ITPs are reflected through the key performance areas defined in the NLTSF.

5.1 Integrated Land Use and Transport Planning

Vision

Transport infrastructure and operations form an integral part of land use planning and are designed, planned and managed in an integrated manner to prioritise densification, promote public transport over private transport, improve local accessibility and lower the carbon impact.

Strategic Intent

A key strategy of the NLTSF is to encourage efficient land and transport planning to enable better decision-making and positive outcomes. Transport projects can and should derive increased economies of scale and efficiencies from integration and coordinated planning. Land use and transport planning should be consistent with the SIP7 programme ensuring that transport planning (and its proponents/executors) becomes a key contributor and consideration within the broader planning and development environment at all spheres of government. Key considerations of social, environmental and economic factors with a longer term horizon framed on the basis of a shorter term delivery perspective.

The DoT and Provincial Government do not have full control over land use; however, they can choose to spend resources in areas where local governments are focusing on effective land use planning. It will not be sufficient for transport planning authorities to present plans which show the potential for structural change. Planning guidelines require spatial development plans to be integrated with the ITP and the IPTN and that the implementation of these plans be closely monitored to ensure compliance. There need for guarantees in place that corridor densities will increase in parallel with IPTN roll-out and that service distances will be limited to defined urban edges. In so doing the costs of IPTNs can be contained and a positive cycle of densification and increasingly efficient public transport can take hold.

Fundamental to long-term solutions will be the integration of public transport and land use planning to achieve a change in the spatial layout of the cities. This includes changing land use so as to shorten travel distances, creating bi-directional passenger flows throughout the day, and reducing the high differential between peak and off-peak demand. Strategies to support the densification of the cities in specific nodal areas and along identified corridors will assist in reducing the costs of public transport.

While solutions are needed to address the access needs of low income residents in poorly located, distant areas, transport subsidies should be applied in ways that help drive the restructuring of urban form rather than accommodate and subsidise further sprawl which will lead to demands for further increases in subsidies.

Objectives

The key objective of this strategic element is to ensure that macro transport sector planning is integrated and coordinated with all land use to facilitate multi-modalism on an ongoing basis. Transport's multidisciplinary nature necessitates a comprehensive, intermodal approach and integrated transport planning is therefore a positive way towards more sustainable transport systems.

Integrated transport planning takes into account transport system interdependencies, interactions between transport and land use, transport safety, traffic congestion, parking, travel demand management and accessibility. Collectively, integrated transport planning will help to identify and prioritise transport infrastructure and service improvements to meet community needs as well as government objectives.

The minimum requirements for the preparation of PLTFs and ITPs need to be updated with the necessary guiding principles around land use and transport integration to clarify growth and development goals and guide DoT investment. The principles will be designed to help authorities develop land use and transport plans in an integrated manner, prioritise investments and implement policies in each so that they work together to further the national objectives. The process involved in developing these principles will also play an important role in transforming cross-government communication into cross-government coordination and action.

The overarching vision of the DoT's Public Transport Strategy and Action plan (2007 to 2020) was to implement a continuous and incremental upgrading from the current basic commuter service to an upgraded modal service and then an integrated rapid public transport network. This was positioned as three clear phases where the first phase aimed to stabilise the existing passenger transport service delivery environment as well as to recover from the accumulated neglect of decades of under-investment. A review of the transport spend in South Africa shows that the incremental approach to improving the transport system as intended by the 2007 to 2020 Strategy have not been met. Despite significant investment in the BRT systems, the goal for the metropolitan cities to achieve a mode shift of 20% of car work trips to public transport networks by 2020 is not being achieved as shown by the modal share for work trips trends in **Appendix A**.

It is therefore recommended that the public transport strategy and action plan be revised to provide an update on recommended approaches in the major centres as well as covering recommended interventions across all public transport modes and all areas and all spatial typologies. This work should also draw on rail planning, rural transport plans and non-motorised plans and fully reflect the successes, challenges and limitations of the public transport investment strategy being followed from 2006 to date. The review must objectively assess lessons of implementation so far and seek improved efficiencies in IPTN implementation as well as address the critical issue of institutional capacity and funding constraints.

Key Performance Areas

- Update the public transport strategy and action plan;
- All Planning authorities to maintain and update a Transport Model that informs the Strategic Road Network Plan, Land Use Development, and subsequently informs the infrastructure investment and implementation plan, and funding needs. District and Local Municipalities could consolidate networks by developing strategic models for the region, and subsequently share resources and professional expertise for planning, management and implementation;
- All Planning Authorities to maintain and update a database of traffic and pedestrian counts;
- Develop appraisal guidelines and assessment criteria for all transport projects/schemes;
- Update Minimum Requirements for the preparation of PLTFs and ITPs;
- All Provinces to update PLTFs to be relevant in this planning period (2015 to 2022);
- All Municipalities to prepare and/or update Comprehensive, District, and Local Municipal ITPs incorporating Public Transport Plans comprising of IPTN, Rationalisation plan, Operating Licence Strategy and any Land Use Plans;
- Reduce monthly household disposable income spend on transport; and
- Reduced journey times on all modes of transport.

5.2 Urban transport

Vision

Promote and invest in appropriate and sustainable and integrated urban mobility which supports economic development and social inclusion.

Strategic Intent

South Africa is experiencing rapid growth of and migration to main urban areas. 40% of the population live in the five largest cities in South Africa and this number is currently increasing at a rate of 4% per annum. An efficient transport system serving well planned cities is a vital lifeblood for the effective urban function. Transport systems require intensive, consistent investment into appropriate and sustainable transport systems - congestion mitigation and improve air quality from transport related activities.

It is a well-accepted approach worldwide that efficient urban transportation implies putting effective public transport first. In South Africa, transport policy focus has progressively shifted towards giving greater priority to public transport (and more recently to non-motorised transport) over the provision for accommodating private transport. This has resulted in a series of integrated quality public transport programmes and planning and implementation of IPTNs. The success and financial feasibility of all planned IPTN interventions rely on increasing urban densities, mix use development and increasing the modal share of public transport among choice users. The range of strategies and measures to ensure these outcomes are fundamental to achieving better operational cost recovery in future. Without doubt substantial public transport investments are vital, yet this investment will not significantly improve the urban economy nor public transport effectiveness unless equal attention is placed on spatial densification.

Spatial integration in the urban context is key to reduce urban sprawl, integrate different communities (mixed income and mixed tenure), land use activities (mixed-use: commercial, retail, recreational, transport, residential, social services, etc.) and encourage the shift from a single motor car urban design concept to a new urban design concept based on public transport. Greater public and government awareness of transport's land use requirements will be promoted, and effective, coordinated land use and transport interventions will be initiated to counter unsustainable urban sprawl and unacceptably long travel distances.

The integration of public transport and land use planning to achieve change in the spatial layout of the cities is fundamental to achieving the long-term objectives of a sustainable transport system. This includes changing land use so as to shorten travel distances, creating bi-directional passenger flows throughout the day, and reducing the high differential between peak and off-peak demand. Strategies to support the densification of the cities in specific nodal areas and along identified corridors will assist in reducing the costs of public transport.

Commuter rail considerations must be fully integrated with urban development plans and be assessed as part of an integrated multi-modal transport and urban restructuring strategy. The recommendations of the PRASA Strategic Plan (2012) should input into multi-modal assessments of the appropriate serving approach and development of IPTNs and ITPs. High demand stations, should be regarded as major local attractors and be the focus for future mixed development. In this way progressive improvements in modal efficiencies will be achieved.

Where quality public transport systems are combined with and supported by excellent walking and cycling linkages, a complete transport solution is provided. Beyond the core capital investment in infrastructure being focused on the main corridors for rail and BRT systems, the cost of providing feeding services to trunk lines are very expensive given the low urban densities and the necessary transition to put in place formal bus operations to replace informal and sub-economic mini-bus taxi operations. A major opportunity exists to significantly improve cycling and walking links to these primary public transport systems. The potential benefits to overall transport system effectiveness and urban functioning through much more comprehensive inclusion of NMT provision must form a central pillar to urban transport strategy.

In South Africa, the transport sector is the second largest contributor (after the energy sector) to carbon emissions. Actions to reduce the transport related carbon emissions profile also support the urban development needs, namely promoting public transport over private car use, de-congesting roads through travel demand measures, shifting a greater proportion of freight onto rail, better spatial planning to limit urban sprawl, and investing in sustainable modes of transport such as NMT.

Objectives

- Provide an efficient urban transport system in all Metros that complements economic activity supplemented by appropriate systems such an Intelligent Transport System, Travel Demand Management, and Transport System Management through a central Transport Management Centre.
- Promote the development of an urban land use restructuring programme as part of the Urban Renewal Strategy. A clear and unambiguous document setting out requirements in support of urban corridor development and densification/infilling will be developed and published. The transport sector in government will support and make inputs to the Urban Renewal Strategy by means of a three-pronged urban restructuring initiative aimed at

(a) urban corridor development, (b) densification and infilling, and (c) rationalisation of transport and housing strategies.

- Support the implementation of corridor development and densification strategies and other aspects of IDPs that are effectively aligned with municipal transport plans. While solutions are needed to address the access needs of low income residents in poorly located, distant areas, transport subsidies should be applied in ways that help drive the restructuring of urban form rather than accommodate and subsidise further sprawl which will lead to demands for further increases in subsidies.
- Provide greater priority to public transport and to non-motorised transport.
- Develop stronger institutional alignment between provinces, metros and PRASA in a manner that makes metropolitan government the key locus for decision-making in line with the National Land Transport Act (2009) to ensure better integration between different types or modes of public transport, enabling optimal matching of transport modes and services to demand patterns.
- Develop actions to reduce the transport related carbon emissions profile.

Key Performance Areas

- Measure mode share and mode shift trends towards sustainable transport modes
- Measure and optimise traffic network performance (speed-density, traffic flow rate, queue length, delay, etc.) and where appropriate implement ITS, TDM, TSM and TMCs and incident management.
- Increase spend on transport
- Improved service quality and safety of public transport
- Improve access to main public transport nodes by improved walking links (20min or 1,5km), cycle networks and full cycle implementation programmes (within a radius of 5km) and prioritising NMT
- Assess land use and transport integration by measuring average travel distance and balanced/bi-directional flows
- Undertake Household Travel Surveys every five years
- Air quality monitoring and management – measure levels of particulate matter and develop actions to reduce greenhouse gas emissions.

5.3 Rural transport

Vision

Focus rural transport infrastructure investment so that the rural transport system can become a catalyst for sustainable economic development while improving access to social services and economic opportunities within the context of sustainable development and in accordance with the aims of the Rural Transport Strategy of South Africa (2007).

Strategic Intent

Lack of mobility in rural areas is one of the key drivers of migration into urban areas and impedes social and economic development of rural communities. Increasing the number of rural people with sustainable access to rural transport is expected to be very significant for the development of lower income countries[12]. Increasing mobility and access to rural communities will unlock social and economic benefits and provide them with access to education, health and other social amenities.

The remoteness from major economic hubs and low population densities isolates rural communities from the mainstream economy which impacts on the ability of transport to support national economic and social development objectives in these areas. The provision of transport infrastructure and services are generally not feasible and therefore it is important to also address issues of community sustainability.

In rural areas, the most effective way of improving access to essential services is by improving links between key rural nodes and employment nodes. Improving the lower order roads which links rural communities to the higher order road network will make rural transport both more accessible and more affordable, by reducing operating costs for road-based providers like taxis and buses.

An assessment and review of the relevance and success of the Integrated Sustainable Rural Transport Strategy (ISRTS) is required. This should be developed based on the progress made with the 13 rural nodes in the ISRTS and the success of any of the interventions. The rural access index of rural communities requires a review and update in order to develop a strategic rural road network plan with clear budget requirements for rural road network infrastructure upgrades and maintenance. Improvement in rural access is a key requirement for achieving a number of the Millennium Development Goals such as halving poverty, increasing access to education, reducing maternal mortality and improving child health[5].

The DoT is in the process of finalising the National Guiding Framework for the preparation of Integrated Public Transport Networks for District Municipalities. Although some District Municipalities prepared IPTNs, there are several other municipalities that are yet to address District IPTNs, which will address improved rural public transport service and infrastructure.

Objectives

The strategic objectives are:

- To improve economic and social access for rural communities;
- Improving access to essential services by improving links between key rural nodes and employment nodes or higher order road network; and
- Alignment of rural transport strategies with national rural development initiatives.

The DoT is also in the process of updating the Rural Transport Strategy (RTS). The Draft 2014 RTS promotes three major "action plans" viz.:

- Road maintenance and NMT promotion strategy;
- Continued Integrated Transport Planning in terms of District Municipality IDP programmes; and

[12] World Bank. Rural Access Index: A Key Development Indicator, March 2006

- Development of Integrated Public Transport Network Plans in terms of the Public Transport Strategy

Key Performance Areas

- Review the Integrated Sustainable Rural Transport Strategy and key rural communities for investing in transport and access
- Develop actions and measure impact of rural transport interventions on safety and travel time
- Improve rural accessibility to improve population having access to some form of transport and determine the accessibility index of key rural communities
- Develop a strategic rural road network upgrade and maintenance plan with budgets for rural road network infrastructure upgrades and maintenance
- Establish the rural transport forum at district level
- Measure Rural Access Index (which measures the number of people living within two kilometres of an all-season road and/or transport service, as a proportion of the total rural population)
- Measure and report on performance of rural public transport service using the following performance indicators:
- Cost per passenger trip
- Fare revenue per passenger trip
- Passenger trip time
- Operating subsidy per passenger trip
- Vehicle revenue kilometres
- Customer satisfaction index
- Number of passengers
- Vehicle operating cost
- Number of bicycle distributed to rural learners

5.4 Public transport

Vision

Ensure sustainable, equitable and uncongested mobility and accessibility "in liveable cities and districts through integrated public transport networks (IPTNs)" (Public Transport Strategy 2007), Ensure that passenger transport services are customer focused and "address user needs, including those of commuters, pensioners, the aged, learners, the disabled, tourists and long distance passengers" Public Transport Action Plan (2009).

Strategic Intent:

To promote a safe, reliable, effective, efficient, coordinated, integrated and environmentally friendly public transport system by developing norms and standards as well as regulations and legislation to guide the development of public transport for rural and urban passengers and to regulate inter-provincial public transport and tourism services.

The initial priority for Public Transport should be a radical improvement to operations, infrastructure, and quality of service that are customer focused; improved significantly for the current users and subsequently stimulate mode shift, especially from single occupancy cars. Public Transport improvements should focus on fleet upgrades, safety, security, reliability and efficiency, universal access, and special needs passengers; and complementary travel demand management measures such as HOV lanes, reversible lanes, integrated ticketing and fare management, etc.

To monitor and evaluate the implementation of the Public Transport Strategy and the National Land Transport Act (DoT), the Public Transport Strategy and Action Plan seeks to transform public transport service delivery by 2022. The strategic thrust is to stabilise the current passenger transport service delivery environment, enhance the institutional building blocks, fast track service improvements, and incrementally enhance and expand the passenger transport system. The linkage between public transport and NMT should start from initial phases of development planning and joined with transport planning to avoid infrastructural disparities and costly retrofits at later stages.

In order to provide effective public transport systems, as dictated by South African policy intent, substantial investments into both capital and operational funding are required.

The PRASA Strategic Plan (2012) proposed a bold plan to transport and modernise passenger railways, while improving integration between rail and other public transport modes to make it easier for passengers to use railway services as part of the wider integrated transport system. Commuter rail considerations must be fully integrated with urban development plans and be assessed as part of an integrated multi-modal transport strategy.

Because such a large proportion of all public transport is rendered by mini-bus taxi services, enhancing this sector could offer significant benefits but needs to be done in a way that does not add significant costs in the form of subsidies whilst improving productivity. This should include the improvement of standards, and regulation of the mini-bus taxi industry. The rationalisation of the public transport system is supposed to address duplication, parallel, and competing services, and potentially address the oversupply of mini-bus taxi services. The rationalisation of the public transport system has a significant impact on the number of operating licences issued and the subsequent cost to government.

Historically the major part of the public transport supply was left to the industry with little control. A stronger connect is required between the IPTNs, the issuing of operating licences to the industry as well as oversight of public transport services in terms of regulation, enforcement and quality assurance in accordance with the plans.

It is of critical importance to recognise the country's fiscal affordability challenges and the productivity limits due to the low density environment. Appropriate technical solutions must be proven to ensure the achievement of optimal social and economic return and all IRPTN corridors should be studied in detail to determine the relevant mode technology (quality bus, BRT, LRT, etc.) to promote the mode that offers the best cost/service trade-off for a given corridor.

Access to transport for people with disabilities must be improved in a manner that promotes incremental integration into the mainstream of public transport. Provide accessible transport across all modes of public and pedestrian transport by providing 'reasonable accommodation' for persons with disabilities initiated by prioritising high-impact, lower-cost actions.

Objectives

The objectives of the Public Transport Strategy through Integrated Rapid Public Transport Networks (IRPTN) are as follows:

- Place 85% of residents of the large cities within 1km walking distance of the IRPTN
- Link major origins and destinations (including airports, hospitals, recreational facilities, etc.)
- Reduce journey times to a level that is car-competitive (under 60 minutes for door-door commuter travel time)
- Implement 16-24 hour services through attaining peak frequencies for priority trunk road and rail corridors at every five minutes, off-peak frequencies every 10-30minutes and hourly late night services
- Use of a hybrid service structure incorporating elements of both trunk-feeder services and direct services
- Peak frequencies of 10 minutes and off-peak frequencies of 20-30 minutes
- Quality infrastructure to ensure excellent customer service through protection from the elements, pre-board fare collection, security, comfort, reliability, etc.
- Monitoring and control of operations through ITS
- Integrated Ticketing and Fare Management System
- Reinforce TOD with the IRTPN

The National Public Transport Strategy has three phases that should be addressed in the respective Planning Authorities' Public Transport Plans, and implemented accordingly. The IRPTN should include passenger rail where rail is the primary trunk network and all other modes are integrated with rail as one transport system. IRPTN corridors should be studied in detail to determine the relevant mode technology (quality bus, BRT, LRT, etc.) to promote the mode that offers the best cost/service trade-off for a given corridor.

One of the five thrusts of the Implementation Strategy is continuous upgrading of existing systems (modal upgrading). The public transport infrastructure systems grant is to provide for accelerated planning, construction and improvement of public and non-motorised transport infrastructure and services, where projects support an integrated network approach as defined in the Public Transport Strategy and in the National Land Transport Act incorporating:

- integration between different public transport services, including non-motorised transport infrastructure
- fare integration between different services
- marketing integration with unified branding and
- institutional integration between the services

One of the conditions of the Public Transport Operational Grant is that designs and business plans detailing subsidised services will have to be approved by the Public Transport Integration Committee comprising of the three spheres of Government to ensure alignment with Integrated Public Transport Networks (IPTNs). A more rigorous review of projects and funding requirements over the project life-cycle should be developed that assesses the feasibility of all project applications. Applications should be built around a business case that articulates:

- Appropriate technical design built on a full options analysis,
- Full life-cycle costing that incorporates capital and operational requirements,
- Financial analysis of sources of income that details fare revenue and local income stream projections,
- Rationalisation of all public transport operations,
- Socio-economic analysis enabling assessment of benefits versus costs incurred, and
- Institutional, management and contractual arrangements for the transition and ongoing project management.

Feasibility studies for the devolution of passenger rail services to the Metropolitan Municipalities should be carried out. The IRPTN must seek to rationalise public transport services to eliminate competition and redundancies, and implement gross cost contracts for subsidised services.

Key Performance Areas

- Improve Public Transport efficiencies in accordance with the objectives of the Public Transport Strategy through Integrated Rapid Public Transport Networks (IRPTN).
- Review subsidised public transport contracts based on rationalised routes and services and use economic and social indicators to measure the efficiency of the services:
    - Number of passengers
    - Vehicle operating cost
    - Cost per passenger trip
    - Fare revenue per passenger trip
    - Passenger trip time
    - Operating subsidy per passenger trip
    - Vehicle revenue kilometres
    - Customer satisfaction index
- Increase commuting to work trips by public transport and walking.
- Implement a rigorous formal appraisal methodology for major IPTN project interventions and funding applications supported by a strong socio-economic case for investment which covers the full range of impacts of improved public transport systems.
- Implementation of 'reasonable accommodation' for persons with disabilities initiated by prioritising high-impact, lower-cost actions.

- Increase the proportion of households in rural areas within 1km of an hourly (weekday) public transport service.
- Update the comprehensive public transport development strategy and action plan. This plan would supersede the 2007 Public Transport Strategy providing an update on recommended approaches in the major centres as well as covering recommended interventions across all public transport modes and all areas covering all spatial types. This work should also draw on rail planning, rural transport plans and non-motorised plans and fully reflect the successes, challenges and limitations of the public transport investment strategy being followed from 2006 to date. The updated Strategy must objectively assess lessons of implementation so far and seek improved efficiencies in IPTN implementation as well as address the critical issue of institutional capacity. The update will also incorporate Technology Choice Analysis (feasibility studies) to determine the most appropriate, cost effective and sustainable mode of transport for a corridor.

5.5 Non-motorised transport

Vision

NMT is to become a desirable means of accessing opportunities and services and is a primary consideration within the context of land use and transportation planning, civil engineering, transport infrastructure provision and safety. Cycling or walking in and around communities is both safe and reliable, for school children, leisure cyclists and those commuting to work on a daily basis. For each commute, wherever the destination or purpose of the commute, it is possible for NMT to be the mode of choice.

Strategic Intent

NMT is an integration element of the overall transport system and is a mode of transport in its own right. Hence, NMT must be planned on a systems basis comprising not just physical access ways but all the supportive elements to ensure equitable, convenient and safe use of the NMT network.

Walking is the ubiquitous mode of transport among learners and lower income people, and therefore emphasis should be placed on providing comprehensive NMT facilities. Inconsistencies and oversights within the regulatory frameworks will result in role-players not treating the NMT agenda with gravity and emphasis it deserves. The starting point should therefore be to address policy and legislative gaps as well as the need for a national directive as well as guidelines and standards that would ensure consistent planning and designs that receive the necessary funding.

Inconsistencies and oversights within the regulatory frameworks will result in role-players not treating the NMT agenda with gravity and emphasis it deserves. The starting point should therefore be to address policy and legislative gaps as well as the need for a national directive, guidelines and standards that would ensure consistent planning and designs that receive the necessary funding.

A major opportunity exists to significantly improve cycling and walking links to trunk routes. Where quality public transport systems are combined with and supported by excellent walking and cycling linkage, a complete transport solution is provided.

A lack of integration between public transport and NMT counteracts the full benefit that these efficient modes offer, including social accessibility, support of economic growth and effective mass mobility. There is an expressed vital need for better linkage between both modes in a more focused and systematic way. A wide range of coordinated activities and functions is required for successful NMT implementation and improvement programmes. Components include:

- Provision of unimpeded (no light poles, road signs, informal traders, etc.) minimum of 2m wide sidewalks and minimum 1.5m wide cycle lanes as a standard requirement for all municipal roads
- Signage & way finding
- Communication, travel planning and education
- Provision of Universal access for pedestrians, cyclists, and people with disabilities
- Enforcement
- Maintenance
- Raising awareness and advocacy

Objective

Promote high quality public transport networks where NMT is a basic provision in all transport planning and infrastructure projects.

The potential benefits to overall transport system effectiveness through much more comprehensive inclusion of NMT provision forms a central pillar to the transport strategy.

The linkage between public transport and NMT starts from initial phases of development and transport planning to avoid infrastructural disparities and costly retrofits at later stages.

Key Performance Areas

- Development of National guidelines and standards for non-motorised transport (pedestrians and cyclists) as a sub-sector of the transport system to ensure consistent planning and designs that receive the necessary funding
- Development of Complete Streets Plans incorporating universal access
- Length of quality sidewalks and cycle lanes constructed/maintained within 1.5km of main public transport nodes
- Length of cycle networks with supported full cycle implementation programmes along targeted desire lines with high potential for cycling
- Use of appropriate best practices in NMT design
- Pedestrian, cycling and motorist safety campaigns, enforcement of high-risk traffic behaviours and evolution of laws and attitudes with improvements in motorists' consideration for NMT users as mutual street users
- Investment in safe NMT facilities for learners at schools and surrounding areas
- Number of bicycles distributed through the Shova Kalula program
- Increase NMT modal share (walking and cycling) for educational and commuting trips

5.6 Learner transport

Vision

A safe, reliable and integrated transport service that caters for the needs of learners. (National Learner Transport Policy 2015)

Strategic Intent

The National Learner Transport Policy was developed in collaboration with the Department of Basic Education (DBE) and other stakeholders and aims to address the challenges of accessibility and the safety of learners. The environment within and the manner in which learners accessed centres of learning experienced serious challenges, among others, no services at all, unsafe and unsecure methods that were used, uncoordinated services, unscrupulous operations and non-standardised methods.

The majority (83%) of learners use either NMT (63.4%) or public transport (20.1%) to access institutions of learning. These statistics demonstrate the role of public transport and NMT in being a significant mode of travel by learners. The DoT is committed to the provision of safe and reliable learner transport. . In pursuit of the vision for the provision of learner transport, the Department seeks to prioritise the policies contained in the National Learner Transport policy and translate these into practical service delivery initiatives.

Objective

Provide transport that allows learners to get to and from educational institutions safely, securely and affordably and improve the quality of life for learners and students. This access should be primarily through public or non-motorised transport that is safe, secure, convenient and affordable.

Intergovernmental coordination must ensure that adequate infrastructure is provided for learner transport. Learner transport infrastructure plans must be incorporated into the ITPs, and no learner transport is required where there is a public transport service.

Provincial DoTs must ensure that learner transport services are integrated in order to render an effective and efficient system. Provinces, in consultation with Local Government, must ensure that learner transport services are accessible to learners in both the urban and rural areas by addressing the following:

- Planning is fundamental to the success of learner transport provision through establishment of a joint planning committee on learner transport with representatives of the provincial department of transport, provincial department of education and municipalities.
- Identification of learners who will be provided with subsidised services to feed into the planning process as well as the actual implementation of those plans to ensure that learners who qualify for subsidised learner transport services are provided with such services.
- Develop learner transportation framework inclusive of a policy, operating standards, safety guidelines and a code of conduct for drivers and learners.
- Develop educational programmes aimed at empowering vulnerable learners.
- Work with communities to develop safe walking and cycling to school programmes and ensure the safety and security measures are taken while learners are being transported.

- Monitoring and evaluation of the learner policy objectives through an independent assessment undertaken every three years on the impact of programme implementation.

Key Performance Areas

- Reduction in journey time for learners
- Reduction in injuries and fatalities
- Length of pedestrian and cycle facilities constructed/maintained
- Improvement on punctuality of learners
- Potential impact on academic performance
- Monitor and evaluate the learner transport provision programmes, transport services and the impact of the polices
- Prepare standard conditions of contract, operational requirements and performance specifications for learner transport service providers
- Registration and licensing of learner transport operators and demarcation of learner transport vehicles
- Provide for the design of a route network and the design of such a transport service in order to ensure learner transport is accessible and safe for all learners.
- Every rural based learner to access school within one hour
- Accessibility mapping for learners in urban and rural areas
- Increase funding for learner transport
- Monitor how younger children travel to school to encourage the habit of using a sustainable means of transport at an early age.

5.7 Freight transport

Vision

Provide safe, reliable, effective, efficient and fully integrated transport operations and infrastructure which will best meet the needs of freight customers at improving levels of service and cost in a fashion which supports government strategies for economic and social development whilst being environmentally and economically sustainable (National Freight Logistics Strategy 2006).

Strategic Intent

The freight transport system must deliver increased value creation by:

- Increased value to customers through increasing the competitiveness of businesses
  - Improving reliability and transit time for freight
  - Lowering transport system costs
- Increased profitability and sustainability in the transport industry
  - Decreasing the distorting effects of cross-subsidisation
  - Increasing the potential to reinvest

- Promoting value-based competition over price-based competition
- Internalising externalities to the maximum degree possible

- Decreased burden on the fiscus
  - Funding the non-commercial activities, to the extent that they achieve important national objectives, and if the cost of the user paying exceeds what is affordable to the customer group

The three modes of land freight transport are road, rail, and pipeline. However, the intermodal association include freight hubs, ports, harbours, and airports. Therefore the strategic goals for the three modes of freight transport, whilst incorporating inter-modalism, are as follows:

Road: "The road freight sector is a catalyst for economic growth as part of an integrated, efficient and sustainable freight transport system, whilst acting responsibly to preserve the road infrastructure." (Draft Road Freight Strategy for South Africa 2011)

Rail: Rail is a major carrier of freight with strong customer focus and high efficiencies. It is competitive in both the bulk freight and finished goods sectors with good linkages to "the last mile" for the local distribution.

Pipelines: Pipelines are an integral part of and strong alternative to bulk liquid/gas transport as appropriate.

Hubs and Ports: Freight hubs, ports, and logistics parks are upgraded, developed and maintained, and strategically located to enhance economic growth and optimise efficiency.

Objective

Freight movement has a significant impact on the national transport network and results in high transport cost in the logistics value chain. This constrains Southern Africa from being competitive in a global market and attracting sufficient international investment in supporting economic growth in the region. The primary objective is to reduce the cost of freight logistics and influence market forces to transform industry practice and behaviour, while maintaining profitable operations.

Another objective in terms of freight transport is to address the competition between the main land modes, road, rail, and pipeline and address the modal imbalance by facilitating the potential mode shift between modes, basically to address road congestion, road safety, and logistics cost.

Key Performance Areas

- Increased investment in freight transport infrastructure
- Promote a 24-hour economy as a mechanism to reduce cost and provide more robustness in delivery schedules
- Improve heavy goods vehicle safety performance; roadworthiness; and self-regulation (RTMS certification and compliance)
- Reduction in overloading by enforcing limits on axle limits and gross vehicle mass
- Reduction in overloading by maintaining consistency in overload control limits between SADC, national, provincial and municipal authorities

- Provision of alternative routes for the transport of hazardous materials
- Reduction in the cost of freight logistics
- Optimise road, rail and pipeline freight balance
- Separation of freight and commuter rail infrastructure to improve efficiencies in both sectors
- National (and SADC) strategic plan for freight hubs, terminals, logistics parks, and ports

5.8 Transport infrastructure

Vision

Safe, reliable, effective, efficient and fully integrated transport operations and infrastructure which best meets the needs of freight and passenger customers at improving levels of service and cost in a fashion which supports government strategies for economic and social development whilst being environmentally and economically sustainable" (Road Infrastructure Strategic Framework, 2006)

Strategic Intent

Although the regulatory framework prioritises public transport over private transport implying decreasing investment and disincentives for private cars, it is imperative to understand that an efficient and effective transport system depends on a primary road and rail network that is proactively managed and maintained.

Therefore, all spheres of Government will continue to develop, and maintain transport infrastructure for all modes including motorised and non-motorised modes, as well as intermodal facilities.

Objectives

It is critical that current road infrastructure funding mechanisms are assessed and any short comings identified. Further, although funding for the upgrading of the road network seems to be a problem, it can be stated that a lack of institutional capacity contributes to the backlog in road infrastructure provision through insufficient planning of road networks and projects.

The infrastructure will use sustainable materials where practical and feasible. The development, management, and maintenance of transport infrastructure has great potential for skills development and to generate employment, whilst delivering basic services, improving safety, and enhancing access and mobility.

Authorities will maintain an asset management system to ensure strategic planning and funding for transport infrastructure. All spheres of Government responsible for transport infrastructure will have functional infrastructure/asset management systems to plan, manage and maintain, and implement transport infrastructure incorporating motorised and non-motorised transport needs.

It is feasible to consolidate RAMS for regional networks for District and Local Municipalities and share professional resources over the region for planning, management and implementation; instead of each municipality pursuing its individual RAMS and professional expertise.

Provinces have a road maintenance funding program from Treasury known as S'Hambe Sonke. Similarly, there should be a dedicated funding program for Municipalities. Just as the S'Hambe Sonke program is aligned with RAMS, so should road funding for Provinces and Municipalities be aligned with the provision of professional expertise; either full time employees or contracted professional staff.

Key Performance Areas

- Provinces and Municipalities (and associated agencies) to operate a GIS based Asset Management System (pavement, bridges and structures, stormwater drainage, road signs and road markings, etc.)
- All transport infrastructure funding for Provinces and Municipalities (and associated agencies) to be motivated through the asset management system
- All transport infrastructure funding to be aligned with professional engineering expertise in the Provinces and Municipalities (and associated agencies)
- Three year MTEF for Infrastructure Investment and maintenance plans to be based on the asset management system
- All Provinces and Municipalities (and associated agencies) to prepare a Strategic Road Network Plan
- Review the standard road cross-sections to provide space for dedicated cycle lanes and sidewalks as a standard road cross-section

5.9 Cross-border transport

Vision

To facilitate seamless and integrated movement of people and goods, to reduce system costs as well as transit and turnaround times to enhance trade and economic development in the SADC transport system.

Strategic Intent

Moving freight and passengers across borders require compliance with specific procedures which are mandated and supported by the relevant legislation of both countries sharing the border, consistent with the SADC Protocol on Transport. Policy and regulation are of particular importance in cross-border transport as it relates to border crossing procedures for both import and export trade and transit shipments. The optimisation of freight and passenger movement assumes a corridor approach to ensure that all bottlenecks in the supply chain are addressed.

The efficient movement of passengers and freight through the transport system including road, rail, pipeline, and border posts should be facilitated through operational procedures integrated with infrastructure and relevant, contemporary technology.

Therefore, the DoT, Transnet, and Cross-Border Road Transport Agency with the support of the respective local Municipalities, road authorities, South African Revenue Services (SARS), etc., will ensure the facilitation of an efficient transport system by providing sufficient capacity, law enforcement, infrastructure, operations, etc.

Objectives

- The Cross-border transport system and operations to be efficient and streamlined to facilitate the legal movement of goods and people in the region, to complement the Free Trade Area in South, Central and East Africa, according to SIP17 (Regional Integration for African Cooperation and Development), in association with the proposed Border Management Agency.
- Participate in mutually beneficial infrastructure projects to unlock long-term socio-economic benefits by partnering with fast growing African economies with projected growth ranging between 3% and 10%.
- Optimise regional trade through the Regional Spatial Development Initiatives (regional corridors)
- Improve levels of service for passengers and freight at border posts.
- Reinforce the Spatial Development Initiatives through Road, Rail, border posts, and ports infrastructure development
- Harmonise road traffic enforcement regulations, road freight as well as passenger transport standards, and guidelines to ensure consistency for the regional travelling public, and seamless movement across borders. For example, vehicle fitness standards and roadworthy certification, permissible axle mass load and gross vehicle mass, etc.
- Infrastructures at most border posts require significant investment to accommodate the growth of movement in freight and passengers between countries. Multiple stakeholders are involved in sourcing, designing, constructing and operating the required infrastructure and clear policy guidelines and regulations are required to manage the investment efficiently.
- Traffic management strategies such as the use of intelligent transport systems (ITS) at border posts are beneficial for the accommodation of increased traffic volumes.
- Traffic data to be collected at border posts so that planning of facilities is matched to demand.
- Development of One Stop Border Posts is the ultimate scenario where an integrated border management approach facilitates information and facility sharing to eliminate duplication of processes.

Key Performance Area

- Operational efficiency at border posts
- Investment in infrastructure upgrades and maintenance
- Harmonised Regional Transport regulation, guidelines, and standards

5.10 Transport safety and security

Vision

Safe and efficient road transport, contributing to economic growth and development, through improved cooperation and compliance from road users, the business and NGO community and public and private sector interventions. [13]

[13] National Road Safety Strategy 2011 - 2020

A 50% reduction in incidents and deaths by 2020 with further annual decreases of 10% and zero tolerance for non-compliance.

Strategic Intent

In the SADC region, South Africa has the highest fatality per 100k population. South Africa also has the highest motorisation level of 190 vehicles per 1000 population (Setting the UN Decade of Action for Road Safety in motion in the SADC Region, 2011). High proportions (about 40%) of road fatalities were pedestrians. These statistics are significantly higher relative to global benchmarks. Rail Safety and Security currently also has a poor record in South Africa (RSR Annual Report, 2014).

Therefore, significant effort is necessary to address transport safety and security in south Africa, hence the need to improve transport safety and security to reinforce liveable cities and communities by implementing the Road Safety Strategy, addressing Rail Safety and security, and passenger, pedestrian, cyclist safety, and work zone safety (with elevated emphasis on women and children). The target for 2015 was to reduce the number of fatalities by 50%. It is evident that South Africa is not achieving its road safety objectives. The poor road safety record has detrimental socio-economic impacts. South Africa can learn a great deal from countries like Sweden, France, and Australia that have shown significant reduction (-50%) in accident rates, achieved through effective enforcement, education, engineering interventions, and evaluation ("4" Es); with sufficient political and financial support from key stakeholders in the transport industry.

Therefore the strategic intent is to achieve a 50% reduction in incidents and deaths by 2020 with further annual decreases of 10%. Through the dedicated and committed application of the *National Road Safety Strategy 2011 to 2020* achieve:

- Improved driver and road user behaviour through education and enforcement programmes,
- Appropriate engineering that facilitates and improves road safety for all users, and
- An evaluation and monitoring programme that provides **accurate incident statistics countrywide**.

Objectives

The implementation of the United Nations Decade of Action for Road Safety will enable the DoT to address road fatalities and remains one of the priority areas for the DoT. Their experience to date is that road safety campaigns must be conducted throughout the year through the 365 Days Road Safety Programme. The DoT will be more stringent in the application of regulation of road transport operations, law enforcement on issues such as vehicle and driver fitness, speed, etc. The implementation of these measures will be prioritised by provincial and local authorities as well.

Rail Safety and Security currently also has a poor record in South Africa. Significant improvements to rail safety have the potential for mode shift for passengers from road-based transport to rail. The safety and security on Gautrain is probably the standard to aspire to. Grade crossings and on-board safety will receive continuous monitoring.

The National Road Traffic Regulations, 2000 should review the rules of the road to add duties of motorists towards pedestrians and cyclists. The duty should be on motorists to give way to pedestrians and cyclists at all times and they should take proper care when passing or overtaking cyclists. It should further be amended to create specific offences of colliding with or endangering pedestrians and cyclists with strict penalties for such offences (Department of Environmental Affairs, 2015).

Passenger, pedestrian, and cyclist safety, specifically in urban areas, will be enhanced through 24-hour monitoring by visible policing, and Central Communication Centres (CCTC). Such interventions may stimulate greater interest in walking, cycling, and public transport.

Construction work zone safety requires stringent application of the Occupational Health and Safety procedures to ensure zero fatalities and injuries on construction projects. All spheres of Government and private sector implementing transport projects will adhere to OHS requirements to achieve zero incidents at work zones.

Law enforcement will be professional and consistent in implementing the road traffic regulations and influencing driver behavioural change.

It is critical that all spheres of government take a lead on Transport Safety and prepare MTEF action Plans, with budgets and human resources to implement Transport Safety plans. These plans should be reflected in the respective ITPs and IDPs.

Transport Safety is a national priority and will be addressed with the similar passion, effort, and resources that were once committed to the HIV/AIDS pandemic in the recent past in South Africa.

The overriding objective is to **reduce road crashes and their associated fatalities and injuries** thereby realising the Vision and meeting the Strategic Intent. The primary requirement is to **ensure that all levels of Government are informed of, understand and are actively implementing** the National Road Safety Strategy 2011-2020 (NRSS). This is premised on the fact that South Africa has been a party to the United Nation's Decade of Action (DoA) for Road Safety since its inception in 2011 with very little evidence of success.

International experience shows that "an adequately funded lead agency and a national plan or strategy with measureable targets is crucial components of a sustainable response to road safety."[14] Thus **capacitating and adequately funding** the RTMC (as the designated national agency for Road Safety) and the various Provincial and Municipal Authorities have to be a primary objective. Without this the implementation of the Strategy will fail.

Implementing the SA Road Safety Strategy 2011-2020 by all spheres of government as it has been developed and accepted remains the next key objective. This will require a multifaceted approach based on the five pillars identified within the DoA as key to successfully improving road safety. These pillars are:

1. Road safety management
2. Safer roads and mobility (NRSS: *Infrastructure*)
3. Safer vehicles
4. Safer road users (NRSS: *Road User Behaviour*)
5. Post-crash Response (NRSS: *Post-crash care*)

[14] Global Plan for the Decade of Action for Road Safety 2011-2020

To enable this, the 4Es approach of *enforcement*, *education*, *engineering interventions* and *evaluation* will become the accepted norm for "driving" road safety over the next five years. All levels of government will, through a systems based approach, apply these as follows:

- *Enforcement*: A zero tolerance approach towards illegal and irresponsible behaviour, tightening and stringent application of regulations, visible policing, etc.
- *Education*: Through a multi-sectorial approach identifying and engaging all stakeholders / influencers educate authorities, business and civil society in the approach and requirements of creating a safer road environment for all. The initiatives arising from this cannot be ad hoc but must be communicated consistently, frequently and broadly.
- *Engineering*: Going beyond just pure engineering of road facilities the approach will consider safety in design and network management for all road users with a specific focus on pedestrians and cyclists, vehicle standards, integrated and appropriate design in terms of both land use and user needs, the requirements of sustainable development, catering for human error, **safety of all** during construction (i.e. all road users and construction staff). A further objective here is to implement the Crime Prevention through Environmental Design (CPTED) approach of addressing personal safety (security).
- *Evaluation*: Success can only be confirmed or failures identified through monitoring and evaluating the outcomes of initiatives. An effective evaluation system is key to delivering on commitments to the DoA.

Key Performance Areas

The integrated strategy on Road Safety must be addressed in the respective Transport Plans, and implemented through multi-sectorial effort with private and public sectors, focusing on the highest risk factors through:

- Institutional
  - RTMC function and resources to take ownership of the Road Safety Strategy
  - Increase funding (at least 10% of infrastructure spend)
  - All spheres of government to implement Transport Safety plans reflected in the respective ITPs and IDPs.
- Enforcement
  - Constant daily visibility of officers (DoT 365 day program in accordance with the Decade of Action for Road Safety 2011-2020)
  - Independent oversight to address corruption and fraud
  - Independent oversight and audit at licensing centres
  - Investment in technology for officers such as in-vehicle real-time access to a comprehensive road transport offence register, eNaTIS, breathalyser testing, video cameras, etc.
  - Moving violations including speed, seat belt compliance, baby seats, driver and vehicle licences, public transport operating licences, etc.
  - Vehicle roadworthiness by annual vehicle testing for all vehicles over three years old and six monthly for public transport and heavy goods vehicles

- Freight and passenger overload control
- Increase in the self-regulation program for heavy vehicle operators

- Education
  - Road Safety programs in schools, tertiary education institutions and businesses
  - Public relations to engage the general public and creating continuous awareness
- Engineering
  - Creating a safe environment for pedestrians and cyclists where dedicated sidewalks and cycle lanes are mandatory requirements in all infrastructure development projects
  - Improvement of the road environment through proactive Road Safety Audits on the strategic road network within each planning authority
  - Construction work zone safety application to aim for zero incidents at work zones.
- Evaluation
  - Comprehensive data collection and extensive research to address prevailing conditions, local challenges, root-cause analysis, and relevant interventions and advancements, planning, and monitoring.
  - A project review system whereby changes/trials implemented can be valuated - systems, engineering, communication, etc.
- Emergency Medical Assistance: Improving post-crash care
  - Incident Management Systems expanded beyond the National Road Network, and incorporated in the Municipal Central Communications Centre/Disaster Management Centre
  - Road Accident Fund has appropriate local and regional offices
  - Post-crash counselling provided by hospitals

The ultimate performance indicators are the reduction in crashes, injuries and fatalities in the transport system.

5.11 Institutional management

The institutional management is governed by three key aspects which are addressed in this section viz., Capacity to deliver Intergovernmental relations and Transport information systems.

5.11.1 Capacity to deliver

Vision

A professional organisation with qualified transport professionals equipped and empowered to develop and manage an integrated transport system.

Strategic Intent

An effective public sector structure at all levels of transport planning, implementation and management that is adequately resourced and appropriately skilled to plan and deliver the requirements of the transport strategy within each level of Government.

Objectives

Institutional capacity across the sector is seen as a significant barrier to the effective and efficient implementation of transport management and improvement, even where financial resources are in abundance. Addressing the sector's capacity constraints will compliment any accelerated funding and implementation plan.

It is feasible to consolidate RAMS and Transport Models for regional networks for District and Local Municipalities and share professional expertise over the region for planning, management and implementation; instead of each municipality pursuing its individual Operational Systems and professional expertise. Thus, there is potential to share professional resources.

The provision of professional resources may be reinforced through funding approvals, where Treasury and the Department of Transport will endorse funding based on the availability of professional expertise; either full time employees or contracted professional staff.

Key Performance Areas

- Number of professionally registered personnel in Civil Engineering, Traffic Engineering, Transport Economics, Town Planning, Urban Design, and Transport Planning.
- Establishment and professional operation of the National Public Transport Regulator, Public Regulatory Entities, Transport Economic Regulator, and Transport Appeals Tribunal.

5.11.2 Intergovernmental relations

Vision

Integrated Land Use, and Transport Planning through vertical and horizontal coordination within and between the various spheres of Government and its agencies.

Strategic Intent

Develop an integrated land use and transport system by promoting a holistic multi-modal approach towards integrated land use and transport planning and implementation through collaboration and consultation. The National Transport Forum will serve as the support vehicle for land transport planning coordination through vertical and horizontal integration.

Objectives

All three spheres of government have a key role in integrated land use and transport planning, coordination, implementation and maintenance of an integrated transport system for South Africa. Integrated transport planning and implementation need a greater effort in coordination and collaboration within and between government structures. Although the three spheres of Government and its agencies are autonomous, they are required to work together on decision-making and coordination of budgets, policies, activities, information sharing, and granting approvals, authorisation, exemption, licence, or permission for the implementation of projects.

The Intergovernmental Relations Framework Act (Act 13 of 2005) provides a framework for the three spheres of Government and all organs of state to facilitate coordination in the implementation of policy and legislation, within the principle of cooperative governance set out in Chapter 3 of the Constitution. The Act makes provision for intergovernmental forums on National, Provincial and Municipal level.

Regulation and control in context of service delivery, spending of budgets, potential job creation, stimulating the economy, etc., can be tedious, time consuming, costly and counterproductive when addressing strategic planning and infrastructure development. For example, the approval of an occupational Health and Safety Plan by the Department of Labour could take up to six months to approval; and a Record of Decision for an Environmental Impact Assessment could take up to twenty-four months by the Department of Environmental Affairs.

Intergovernmental relations encompass all the complex and interdependent relations among various spheres of government as well as the coordination of public policies among national, provincial and local governments through policy alignment, reporting requirements, fiscal grants and transfers, the planning and budgetary process and informal knowledge sharing and communication among officials. Intergovernmental relations also refer to the fiscal and administrative processes by which spheres of government share revenues and other resources. These overall objectives are to be achieved by an intergovernmental system that ensures mutual consultation on policy and legislation, resolving disputes, coordinated strategic planning; and accountability for performance and expenditure in terms of legislation.

For example, addressing the upgrade, maintenance, or re-routing of a national road through a town, may be achieved through the principles of intergovernmental relations framework, where the local municipality and the road agency collaborate to address the project through the ITP, routine road maintenance program, weighted contribution of funding by proportioning through traffic and local traffic, etc.

Another example is the development and implementation of multidisciplinary projects that requires approval, authorisation, exemption, licence, or permission from various departments in the three spheres of government. In the spirit of the Intergovernmental Relations Framework Act and the Infrastructure Development Act, the project steering committee should consist of persons representing the relevant departments and organs of state affected by the project so that processes are addressed proactively and efficiently.

Thus, the ultimate objective is to achieve efficiency and expediency in the functioning of the Intergovernmental Relations Forums and Project Committees.

Key Performance Areas

The **National Transport Forum** will embrace the vision of intergovernmental relations for Integrated land use and transport planning in South Africa; provide practical advice to all spheres of government in planning and implementation of integrated and sustainable transport projects; facilitate the development of technical standards and guidelines for projects and programmes; coordinate and share data, data collection, and research, share best practice, and share resources and capacity building, etc.

- Facilitate the consolidation of planning boundaries for District and Local Municipalities to achieve economy of scale for planning, management and implementation; by sharing transport models, RAMS, data collection, professional expertise, etc.

- Efficiency in processing statutory requirements such as approvals, authorisations, exemptions, licences, or permissions, such as Record of Decision for Environmental Impact Assessment, Water Use Licence, Occupational Health and Safety Plan, etc.
- Facilitate research, and update technical guidelines and standards in the Urban Transport Grant (UTG), Technical Recommendations of Highways (TRH), and Technical Manual for Highways (TMH) series
- Approval of outstanding draft documents such as TMH16 South African Traffic Impact and Site Traffic Assessment Manual
- Devolution of functions to a single planning authority to achieve integration, operational efficiency, economy of scale, etc.
- Proactive stakeholder engagement involving the public sector, private sector, trade unions, etc.

5.11.3 Transport Information System

Vision

Establishment of a functional land transport information system that informs integrated land use and transport planning, infrastructure development, and operations.

Strategic Intent

An informed transport authority, adequately resourced and skilled to plan and deliver the requirements of the five year transport plan based on contemporary, reliable data and empirical analysis

Objective

To provide secure, reliable and accessible transport related information. Before 2020, each transport authority will have an established legacy, resourced and functioning body that oversees the management of the various aspects of the transport system and its subsystems.

Key Performance Area

Technology is a necessary tool to enhance transport planning and management. The integrated transport system is dependent on updated data systems such as eNaTIS, Operating Licence Administration System, RAMS, Transport Modelling, etc. Therefore, the three spheres of government will ensure a fully functional and updated GIS based Land Transport Information System.

5.12 Funding

Vision

Fiscally innovative, and appropriately prioritised funding aligned with the objectives and deliverables of national policy and strategic priorities for an integrated land transport system that provides efficient, reliable, and affordable access and mobility for people and goods

Strategic Intent

To ensure the provision of adequate funding for transport infrastructure, and operations for new development, management and maintenance of the transport system.

Objectives

There is need for greater focus on the fact that relatively little is being done to manage the existing transport system. The transport profession continuously demands resources for preservation of assets, safety and security, professional institutional capacity and infrastructure and operations management, and innovative implementation of travel demand management and transport system management.

The paradox to affordable transport and an integrated transport system, is the high cost for sustained operations and well maintained infrastructure. The DoT is committed to the detailed programming of the strategies and actions of the NLTSF as part of its budgeting and planning processes as required by the Public Finance Management Act. The DoT is further committed to the funding of the NLTSF through its existing budgets and through leveraging additional sources from Treasury and innovative funding and financing mechanisms. Furthermore, the DoT is committed to working closely with other spheres of government and the Treasury to ensure that adequate resources are available for the effective implementation of the mandate that the NLTSF obligates the transport industry in all spheres of Government. Thus, there is need for an overall increase in funding for land transport based on the following investment categories:

- annualised capital and operational requirements to maintain the current transport system and to provide basic improvements
- capital and operational investment to address the backlog progressively
- capital and operational investment for upgrading and expansion of the transport system
- Ring-fence funding strategy for transport

However, major projects require comprehensive appraisal and evaluation methodology which incorporates whole life assessment of investment, full costing approaches, the inclusion of wider economic and social impacts based on empirical analysis. These evaluations should be conducted at an overall sub-subsector level and for all major projects, and should provide a clear unconstrained indicator for funding priorities, where business plans are developed per project indicating the levels of subsidy, positive cash flow, debt, finance costs, transport pricing, etc. Treasury and the DoT will align funding for Transport with strategic outcomes such as RAMS, professional expertise, Air Quality Improvement, Congestion Management, etc.

Key Performance Areas

- A life-cycle cost approach for management and preservation of assets, and proposed transport projects.
- MTEF and DORA allocations for Public Transport Infrastructure and Systems Grant (PTIS) and Public Transport Operations Grant (PTOG).
- Financial modelling for revenue based projects, such as public transport projects.
- Economic evaluation of proposed infrastructure projects.

6 HOW WILL THE FRAMEWORK BE DELIVERED?

Enabling the delivery of the NLTSF is very important. The DoT is committed to the implementation and funding of the strategies and actions set out in this framework. The NLTSF in itself is a framework to guide the provincial and municipal transport plans. This section briefly provides the role of the various entities in preparing and implementing Transport Plans, aligned with the NLTSF.

The National Land Transport Act (NLTA) Section 34 (1) & (4) states the National Land Transport Strategic Framework (NLTSF) "must guide land transport planning countrywide". It is within this context that the Framework was prepared. It is the role of the Department of Transport to ensure the delivery of this Framework and annual reporting on the key performance areas.

The Framework is a synthesis of transport policy by the Department of Transport. This was done by consulting widely to reach a consensus between stakeholders. The Department therefore expects all planning entities to prepare transport plans within the context of the policies and principles in this Framework. However, the Framework is not intended to prescribe the requirements of the respective transport plans.

The DoT has recently established the National Transport Forum (NTF) which will assist the effectiveness of the NLTSF through all spheres of government

6.1 Development of programmes

The mechanism to deliver the Strategy and the Vision within the Transport Framework are programmes and actions developed through the PLTFs and ITPs at provincial and municipal government respectively.

The Department of Transport has a direct role to play in implementing national strategy and components of the Framework and translating national strategy into programmes (e.g. SIP's), projects and action and will support where appropriate the programme development at Provincial and Local levels. The Department of Transport is as much reliant on influencing South African central institutions as on developing its own programmes to deliver national strategies. It is therefore expected that programmes will need to be flexible and evolve with time.

The strategies selected need to be translated into programmes / projects. Once programmes have been developed, they will need to be prioritised using a common basis of assessment. The Common Basis Assessment should be used by all authorities to prioritise and make decisions on programme development to ensure that programmes help achieve the Vision of a coordinated transport system. In prioritising among strategies and in programme development it will be important to have a clear view of their real impacts and if the desired targets were achieved.

Translating strategies into programmes / projects requires decision criteria to test the relative costs, benefits and the extent to which the programmes / projects meet the national and local strategic objectives.

The development of the programmes will inevitably result in competing demands for scarce resources, both those of the Department and other key organisations, agencies and stakeholders. The guiding principle will be that the adopted programmes should provide overall value. These programmes will be developed and prioritised using the conventional transport assessment criteria of accessibility, economy, environment, safety and integration and the national strategic objectives and wider local objectives of the authority concerned reflected in the Common Basis Assessment. The criteria can help to determine the overall value and priority of projects in meeting the wider aims of the Department and the particular needs of local areas together with the guiding principles set out in the Strategy and the Vision in the Framework. Only those programmes / projects ranked very strongly should be considered for business case development or a feasibility study.

7 REVIEW, MONITORING AND EVALUATION

A practical approach is proposed which includes proper monitoring and review of the key performance indicators. The key performance indicators are necessary to measure the effectiveness of the NLTSF, ensure accountability by the DoT and the planning authorities, and monitor value for money.

In context of the "Back to Basics" program for service delivery by Cooperative Governance and Traditional Affairs (COGTA), there are several long overdue facets of integrated transport planning that must be prioritised, to establish a firm foundation for the development of an integrated transport system. The NLTSF is intended to establish a legacy beyond 2020 based on the principle of sustainability.

The purpose of transport indicators is to ensure a balanced view at the national, provincial and local levels of the critical role of transport services in reducing poverty, facilitating growth and contributing to achievement of key development targets and sustainability. Chapter 4 contains facts and trends, sets out the challenges, and presents some of the evidence available, which were taken into account in choosing the key performance indicators.

The key performance indicators in the NLTSF are intended to cascade into the PLTFs and the ITPs and subsequently escalate to the DoT annual monitoring and evaluation report on the performance of the Transport System.

Therefore, the DoT with the support of the Provinces, Municipalities, and will monitor and evaluate the key performance areas, and report progress on the KPAs in the DoT annual report.

Generally transport schemes including public transport investments have not been subjected to a rigorous formal appraisal methodology. Significant effort needs to be made in this area to better cover the full range of impacts of improved public transport systems. All transport schemes and major IPTN project interventions must be supported by a strong socio-economic case for investment. Appraisal guidelines should be developed for transport projects to include a suitable set of assessment criteria to discriminate between / prioritise projects in accordance with the overarching goals of the NLTSF.

Table 2 provides the KPIs and indicates the main implementation sphere (N = national, P = provincial and **Me** = Metros, **Mu** = municipal, **O** = other, (such as PRASA, SANRAL, CBRTA) with respect to rolling out the particular actions. Consultation may, however, involve other spheres of government, stakeholders or users. An **indicator** is defined as a variable selected and defined to measure progress towards an objective, whereas a **target** is defined as a specific, attainable, realistic, measurable, and timely objective.

The "✓✓" in Table 2 mark indicates which sphere has the lead coordinating and monitoring role in the cases where more than one government sphere is involved.

Table 2 Key Performance Indicators

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
Integrated Land Use and Transport	Update Public Transport Strategy and Action Plan	2016	✓✓				
	Update minimum Requirements for the preparation PLTFS & ITPs	2015	✓✓				
	Update PLTFs	2015/2016	✓	✓✓			
	Journey time to work and school (door-to-door) by all modes	45min (urban) / 30min (rural)	✓	✓	✓✓	✓✓	
	Reduce monthly household disposable income spend on transport	Reduction in proportion of households spending more than 10% of disposable income on transport	✓	✓	✓✓	✓	
	Review/update the NLTSF	2021/2022	✓✓				
	Densification of corridors and Transit Oriented Development (increase in GLA; and/or housing units)	Increase in GLA and/or housing units			✓✓		
	Transport Model	Planning authorities with updated and maintained Transport Models		✓	✓✓	✓✓	✓
Public Transport	Increase commuting to work trips by public transport and walking	70% by 2022	✓	✓	✓✓	✓	✓
	Increase in the proportion of households in rural areas within 2km of a transport service	40% by 2022	✓	✓✓		✓	
	Quality walking links to main public transport nodes in 20min or 1km radius	Kms of NMT network created	✓	✓	✓✓	✓✓	✓
	Quality cycle links	Kms of cycle lanes created	✓	✓	✓✓	✓✓	✓

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
	PTOG (operations)	Subsidy (R) Subsidy per km Subsidy per passenger	✓✓	✓	✓	✓	✓
	PTISG (infrastructure)	Spend on public transport infrastructure (R)	✓✓	✓	✓	✓	✓
	Safety	% reduction in incidents, fatalities and injuries on rail	✓✓	✓	✓	✓	✓✓
	Utilisation	Vehicle utilisation during peak and off-peak periods	✓	✓✓	✓✓	✓	
	Green House Gas Emissions	Reduce GHG emissions by 10% from current levels by 2020	✓	✓✓	✓✓	✓	
	Quality of Service	Customer satisfaction index	✓	✓	✓	✓	✓
	Promotion of Public Transport	ROI on marketing spend for Public Transport	✓	✓✓	✓✓		
	Accessibility	Number of buses, stations, and stops per corridor that provides access for special needs			✓✓		
	Regulation and Control of Public Transport	Number of operating licences issued		✓✓	✓		
	Reliability of scheduled services	95%		✓	✓		✓
Urban Transport	Attainment or maintenance of air quality standards	Annual monitoring of: - Ozone - Carbon Monoxide (CO) - Particulate Matter (PM)	✓	✓	✓✓		

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
	Traffic network performance	Traffic flow rate Queue lengths Network delays Person trips-km		✓✓	✓✓	✓	✓
	Household survey every five years	2018	✓✓	✓			
	Congestion Management	Average V/C ratio; and LOS D		✓	✓		✓
Rural Transport	Review the Integrated Sustainable Rural Transport Strategy	2016	✓✓				
	Strategic rural road network upgrade and maintenance plan with budgets	2016	✓	✓✓			
	Performance of rural public transport services	Cost per passenger trip Fare revenue per passenger trip Passenger trip time Operating subsidy per passenger trip Vehicle revenue kilometres Customer satisfaction index Number of passengers Vehicle operating cost Number of bicycles distributed to rural learners	✓	✓✓			
	Investment in safe NMT facilities for learners at schools and surrounding areas	No of schools	✓	✓	✓	✓	

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
	Improve rural access index to improve rural population having access to some form of transport	Improve rural accessibility to 50% in five year intervals	✓✓	✓			
	Increase in the proportion of rural roads in good and fair condition	Pavement Condition Index		✓	✓	✓	
	Rural access improved to eliminate constraints on the time which all children have to participate in education	% of schools in rural areas with reliable access	✓	✓		✓	
	Rural access improved for reliable supply of inputs to health facilities	% health facilities with reliable rural access	✓	✓		✓	
Non-Motorised Transport	Development of National guidelines and standards for non-motorised transport	Standardised national guidelines and design manuals	✓✓	✓			
	Development of Complete Streets plans incorporating universal access	Spend on implementing Complete Streets (R)		✓	✓✓	✓	
	Increase commuting by cycling	1% cycling mode share in work trips by 2022		✓	✓✓	✓	
	Climate impact value of cycling and walking		✓✓	✓	✓	✓	
Learner Transport	Increase funding for learner transport	Number of bicycles distributed	✓✓	✓			
		Spend on learner transport (R)	✓✓	✓			

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
	Contract, operational requirements and performance specifications developed for learner transport service providers	Implemented in all provinces by 2022	✓✓	✓			
	Monitor and evaluate the learner transport provision programmes	Punctuality of learners	✓	✓✓			
		Accessibility mapping for learners in urban and rural areas	✓	✓✓			
	Monitor travel behaviour / mode choice of learners	Majority share in sustainable modes	✓	✓✓	✓	✓	✓
Cross-border Transport	Operational efficiency at border posts	Waiting time/delay for freight and passengers at border posts	✓✓				✓
		Investment in infrastructure upgrades and maintenance at border posts (R)	✓✓				✓
	Harmonised Regional Transport policies and standards Investment in infrastructure upgrades and maintenance	Axle load limits, vehicles and road technical standards, and Road Traffic Regulations harmonised between for SADC	✓✓				✓
		Update the SADC Road Traffic Signs Manual	✓✓				✓
		Measure progress on the SADC Decade of Action for Road Safety Implementation Plan with ASANRA	✓✓				✓
	Investment in infrastructure upgrades and maintenance	National Roads based on the regional corridor network	✓				✓✓
		Rail corridor based on the regional corridor network	✓✓				✓

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
		% reduction in transport cost for SADC	✓✓				✓
Freight transport	Optimise road, rail and pipeline freight balance	% mode split	✓✓				✓
	Reduction in the cost of freight logistics	As reported by the annual state of logistics report by the CSIR	✓✓				
	Reduction in overloading by enforcing limits on gross vehicle mass	% reduction in overloading		✓✓	✓	✓	
	Improve heavy goods vehicle safety performance; roadworthiness; and self-regulation	% increase in RTMS certification and compliance	✓	✓✓			
	Provision of alternative routes for the transport of hazardous materials and/or heavy goods vehicles in urban areas	Number of towns/cities with alternative routes for hazardous materials		✓	✓	✓	✓
	Separation of freight and commuter rail infrastructure to improve efficiencies in both sectors	Current shared network vs dedicated network	✓✓				✓
	National (and SADC) strategic plan for freight hubs, terminals, logistics parks, and ports	National Strategic Freight Plan & Implementation Plan	✓				✓✓
	Mode shift from road to pipeline and rail	Strategy to be developed by the DoT	✓✓				
Road infrastructure	Asset Management System	Provinces with updated asset management system		✓✓			

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
		Metropolitan and District Municipalities with updated asset management system			✓	✓	
	Infrastructure Spend	Updated strategic road network plan; and MTEF implementation plan	✓	✓	✓	✓	✓
	S'Hambe Sonke Road Maintenance Program	% budget on transport infrastructure provided	✓	✓✓			
		% budget spent on transport infrastructure	✓	✓✓			
		Km maintained	✓	✓✓			
	Improve the condition of classified road network	Pavement Condition Index – improvement from "poor" to "fair" and "fair" to "good"	✓	✓	✓	✓	✓
	Social Investment	Number of people employed through infrastructure projects	✓	✓✓			✓✓
		% budget on labour	✓	✓✓			✓✓
	NMT	Km of road with standard cross-section including sidewalk and cycle lanes		✓	✓	✓	
		Km sidewalks built					
		Km cycle lanes built					
	ITS	% budget spend on ITS	✓	✓	✓	✓	✓
	Consistent pricing for road infrastructure for each category of road	Cost/km		✓	✓		✓
Rail infrastructure	Asset Management System	Rail condition Index	✓				✓✓

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
		PRASA asset management system	✓				✓✓
		TRANSNET asset management system	✓				✓✓
	Infrastructure Spend	Updated strategic rail network plan; and MTEF implementation plan for PRASA and TRANSNET	✓				✓✓
		% budget on rail infrastructure provided	✓✓				✓
		% budget spent on rail infrastructure	✓				✓✓
	Social Investment	Number of people employed through rail infrastructure projects	✓	✓			✓
		% budget on labour	✓	✓			✓
Transport safety and security	Root-cause study into the contributors to road incidents and crashes	Study based on data analysis leading to clear recommendations	✓✓				✓
	Reduction in the number of crashes expressed as the number of people per 100 million vehicle kilometres	% budget on training and development (academic and internships)	✓✓				✓
	Reduction in the number of crashes expressed as the number of people per 100 million vehicle kilometres	10% reduction in fatalities year on year	✓✓				✓
	Transport Safety Budget	10% of transport infrastructure spend	✓✓				✓
	Pedestrian, cycling, work zone and motorist safety campaigns	Ongoing	✓✓				✓

Strategic Element	KPI	Target	Responsibility Matrix				
			N	P	Me	Mu	O
Inter- Government Relations	Turnaround time for approvals, licences, R.O.D, etc.	To be determined by NTF and IGR process	✓	✓	✓	✓	✓
	Research	Update of Standards and Guidelines such as Research Reports, TMH and TRH, etc.	✓✓				✓
		Final adoption of standards, guidelines, etc. by COTO	✓✓				
Transport Information Systems Management	Fully functional and updated GIS based Land Transport Information System	eNaTIS OLAS National Transport Register	✓✓	✓	✓	✓	
Funding	A life-cycle cost approach for management and preservation of assets, and proposed transport projects	No. of feasibility studies with positive cost benefit ratio	✓	✓	✓	✓	✓
Capacity to Deliver	Increase professionally registered personnel	Number of professionally registered personnel in Civil Engineering, Traffic Engineering, Transport Economics, Town Planning, Urban Design, and Transport Planning.	✓	✓	✓	✓	✓

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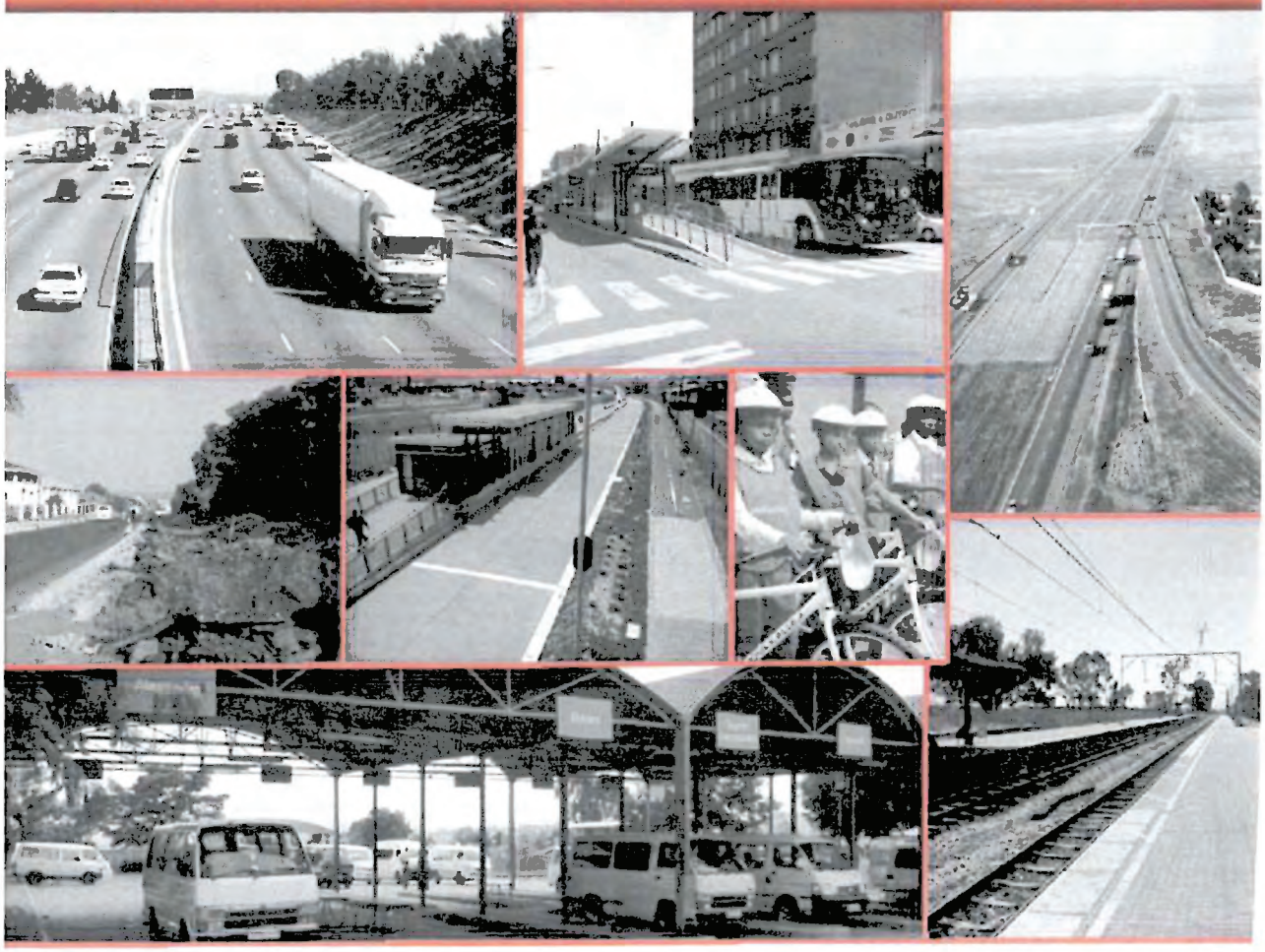
APPENDIX A
TRANSPORT RELATED TRENDS

"Transport, the Heartbeat of Economic Growth and Social Development"



transport

Department
Transport
REPUBLIC OF SOUTH AFRICA

APPENDIX A

A1 Transport Related Trends In Past Decade

A1.1 Urbanisation and population growth

Today over 35% of South Africa's people live in cities with a population above 1 million. **Figure 4** shows South Africa's urban population is doubling every 20 years implying that there will be twice as many people living in South African cities by 2045.

This is consistent with global trends revealing that by 2050 over 70% of the world's population will live in urban areas. The trend indicated in **Figure 4** demonstrates that urban areas are major attractors of people seeking employment, business and socio-economic opportunities.

Figure 4 also shows how the urban population growth rate has increased slightly over the past decade. It is however observed that urban areas have higher growth rates mainly due to rural-urban migration.

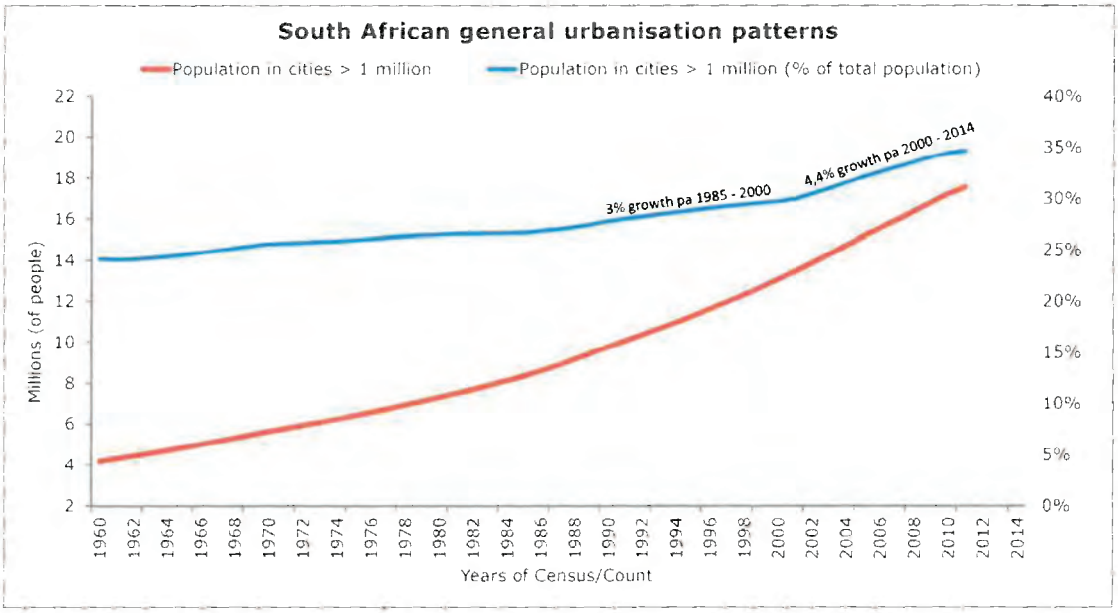


Figure 4 SA general urbanisation patterns
Source: (Statistics South Africa, 2013)

Figure 5 illustrates South Africa's population growth is about 8% from 40 million in 1994 to 52 million in 2013. This implies an increased demand land use, services, transport, infrastructure, etc.

Figure 6 illustrates the gradual increase in population (in orange) and the annual population growth rate since 1960.

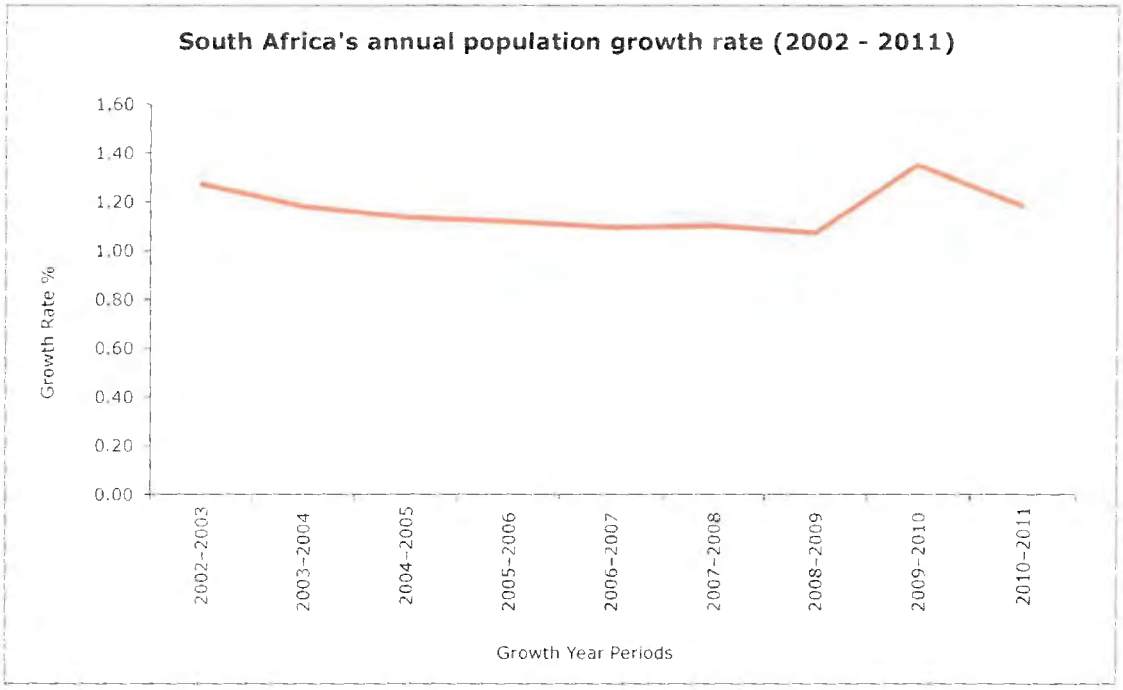


Figure 5 SA population growth rate 2002 – 2013
Source: (Statistics South Africa, 2013)

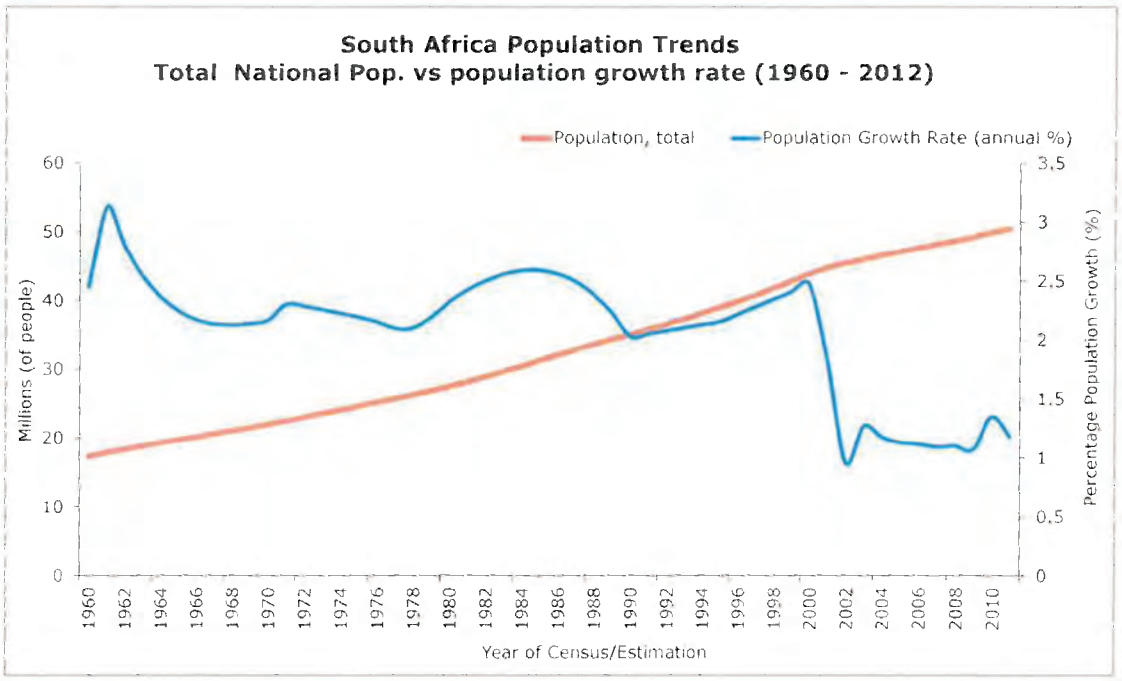


Figure 6 Total SA population growth vs annual growth rate
Source: (Statistics South Africa, 2013)

A1.2 Mode used by income group

Figure 7 highlights that there has been a decrease in the number of commuters from the lower income group who walk tow work and a there is a substantial increase of 15% of commuters that make use of a car as mode of transport in the R1,000 to R2,000 income group. On the other hand, there has not been a significant change in the mode for commuters earning more than R 3,000 per month.

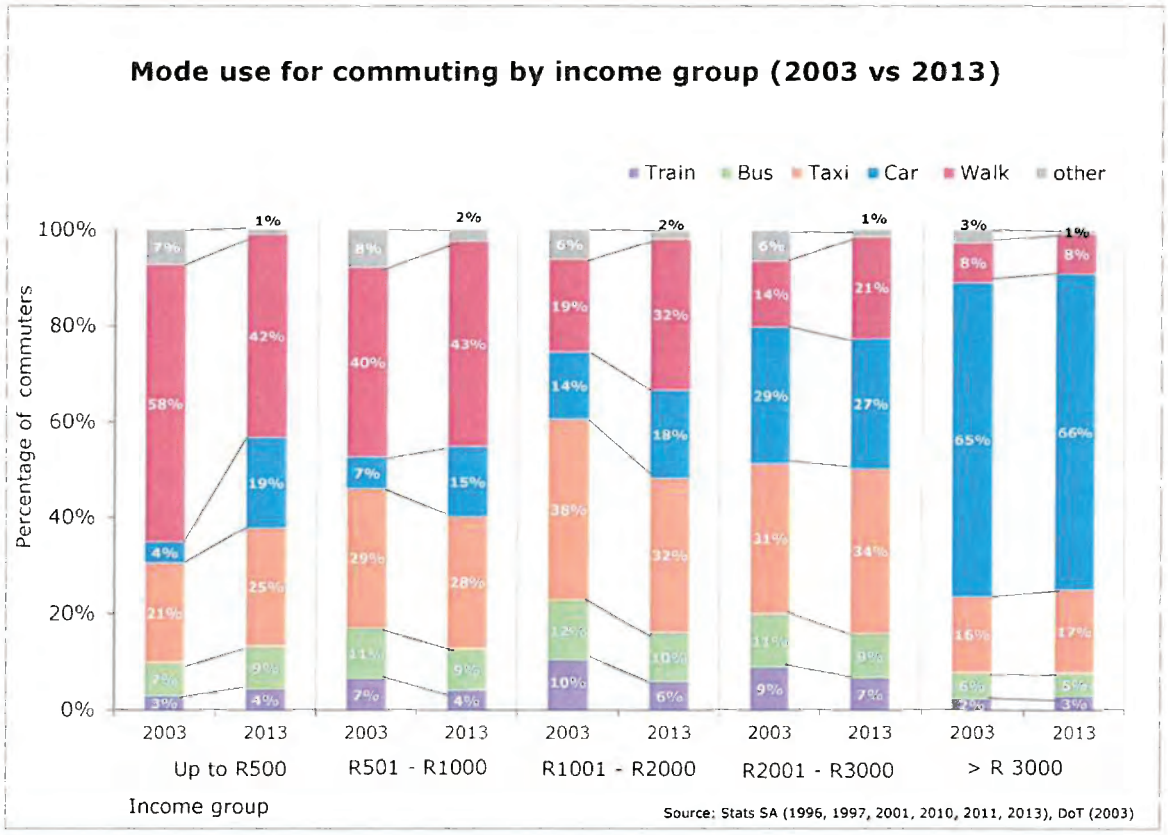


Figure 7 Mode use for commuting by income group
Source: (Department of Transport, 2003), (Statistics South Africa, 2013)

A1.3 Monthly disposal income spent on transport

Figure 8 highlights that a using a car as a passenger was the least expensive mode of travel compared to all other modes with 16% of commuter from the low income group. Travel costs are higher for those who drive cars, spending an average of R 1,011 monthly followed by those who use the bus and spend on average R 417.00 on the mode (Statistics South Africa, 2013).

South Africa spend about 40% of their income on transport cost alone and the trend is worsen. The high cost of mobility and the constraint it places on the lower income earners limits their ability to access healthcare, social and economic opportunities (Statistics South Africa, 2013).

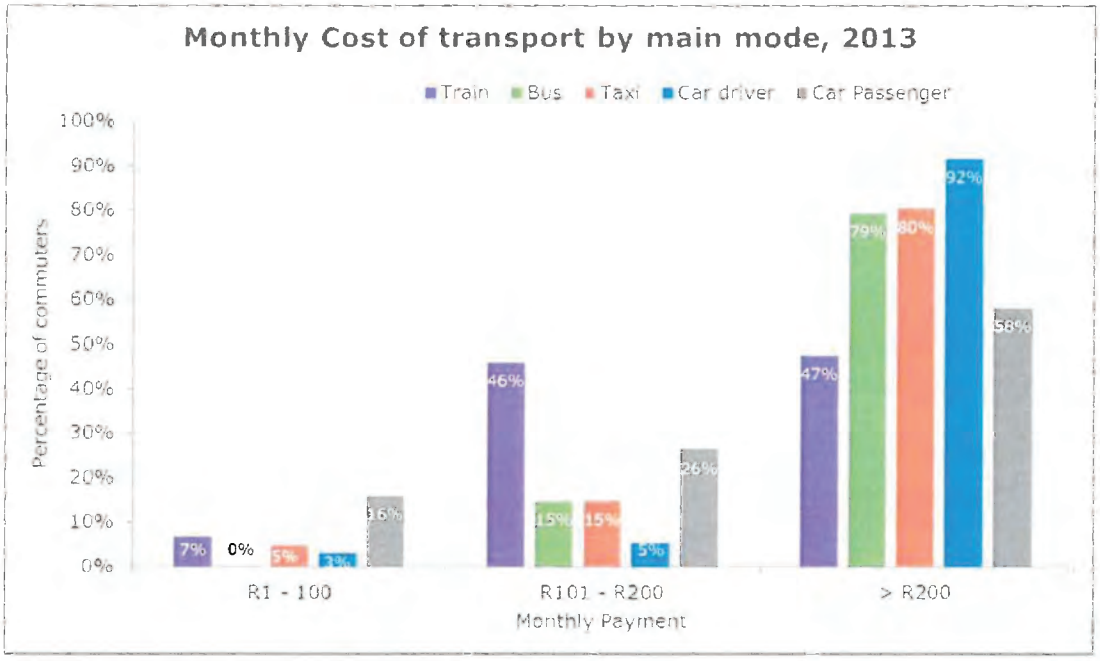
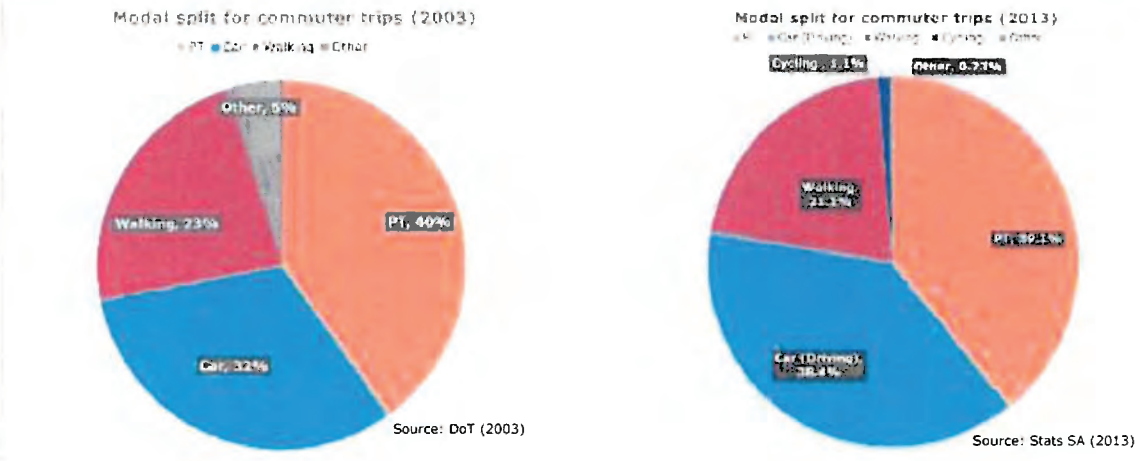


Figure 8 Monthly cost of travel 2013
Source: (Statistics South Africa, 2013)

A1.4 Travel modes

Figure 9 SA commuter modal split 2003 and 2013



The 2003 National Household Travel Survey data shows that in 2003 public and non-motorised transport used to account for 40% and 23% of commuters respectively as mode of travel to and from work. The pie chart on the right illustrates a slight decrease in the usage of cars and public transport in 2013, and commuters resorting to NMT as a mode of transport with 21.1% of the commuters using walking as a mode (Department of Transport, 2003), (Statistics South Africa, 2013).

Figure 10 Commuter transport public transport modal split 2003 and 2013

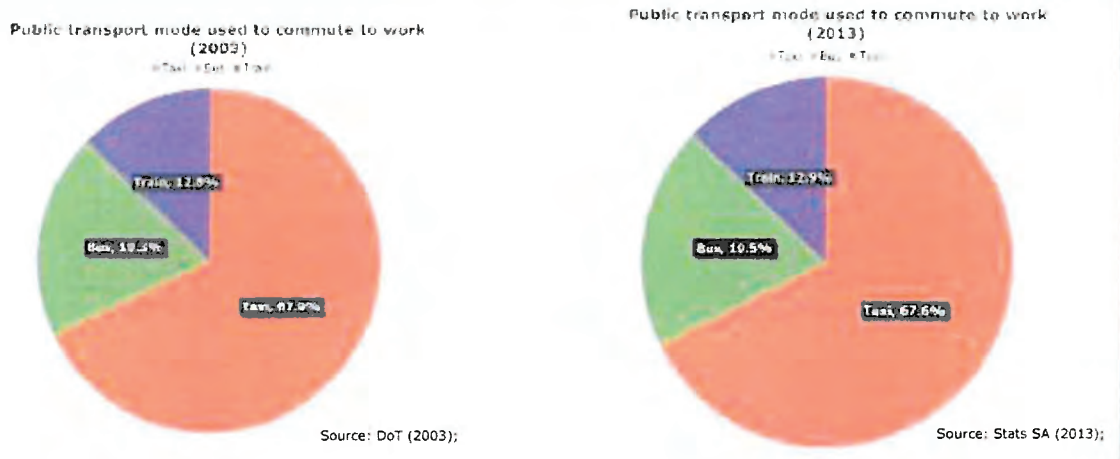


Figure 10 demonstrates little change in the public transport modal split between the years of 2003 – 2013. A slight reduction in taxi users and negligible increases in train and bus usage is also observed over this period. (Department of Transport, 2003) (Statistics South Africa, 2013).

Figure 11 Learner transport main mode 2003 and 2013

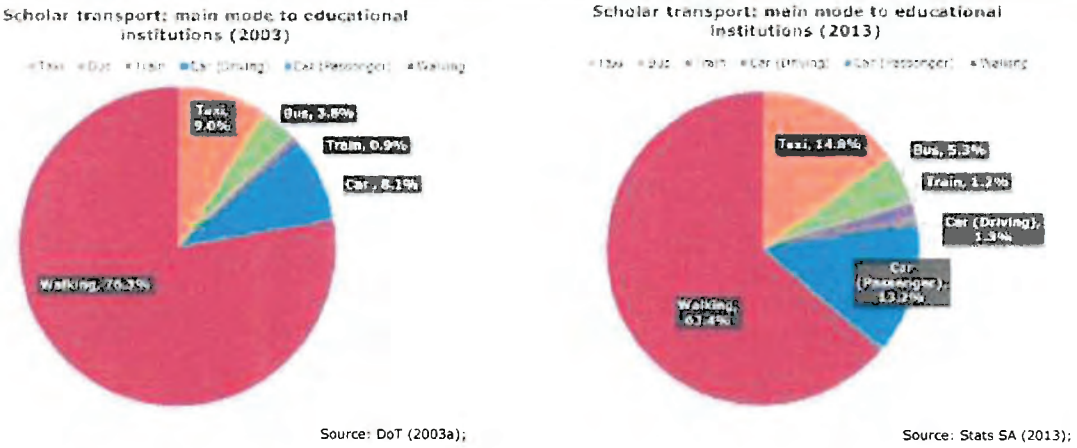


Figure 11 shows the decrease in walking to places of education between the years of 2003 and 2013 towards the taxi and modes. Furthermore, walking is still the most commonly used form of transport among learners, with 63 % of learners walking to places of education. This implies emphasis should be placed on providing NMT facilities and improved safety for learners at schools and surrounding areas (Department of Transport, 2003) (Statistics South Africa, 2013).

Figure 12 Modal split trend in SA for work trips

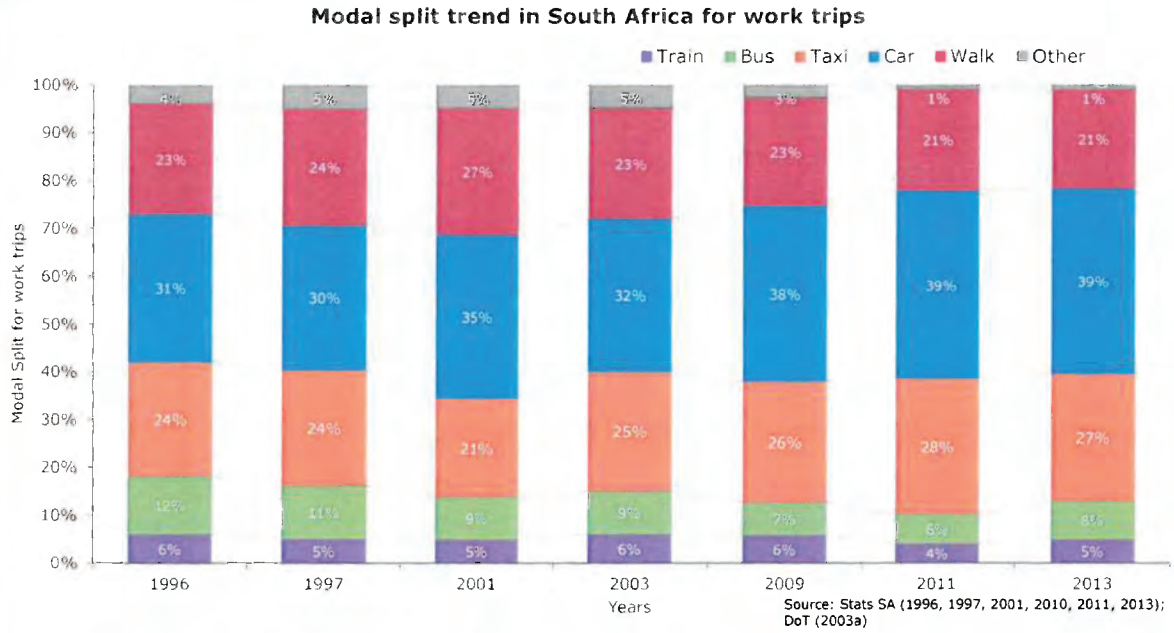


Figure 12 shows the trend of the modal split for commuters travelling to work. The use of cars (39%) and Taxis (27%) is still the most dominate transport mode in South Africa, despite investments in modern transport systems including Gautrain, and Rea Vaya and MyCity. The BRT systems and Gautrain are currently transporting less than 1% of the travelling population in their respective metros (Statistics South Africa, 2013).

A1.5 Passenger rail volumes in South Africa

The passenger rail volumes trend from 1979 to 2008 is illustrated in **Figure 13**. The passenger volumes dropped between the years of 1980 and 1991. From 1992, the volumes for rail commuters gained momentum and in increased to 18, 865 million passengers per km in 2008 (World Bank Data, 2012).

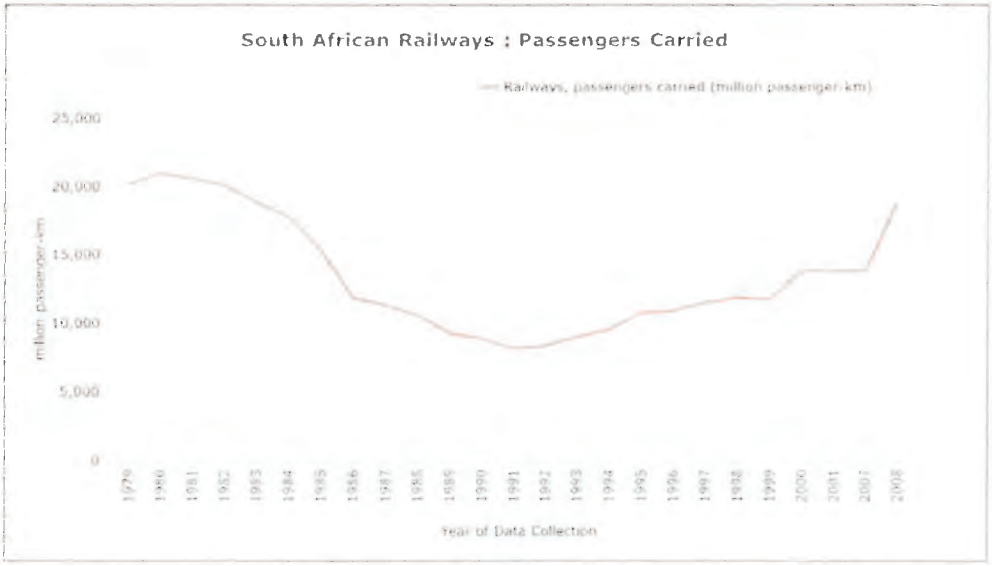


Figure 13 SA Passenger rail volumes.
Source: World Bank Data, 2013

A1.6 Travel time by mode

Figure 14 below reflects increasing travel time by mode between 2003 and 2013.

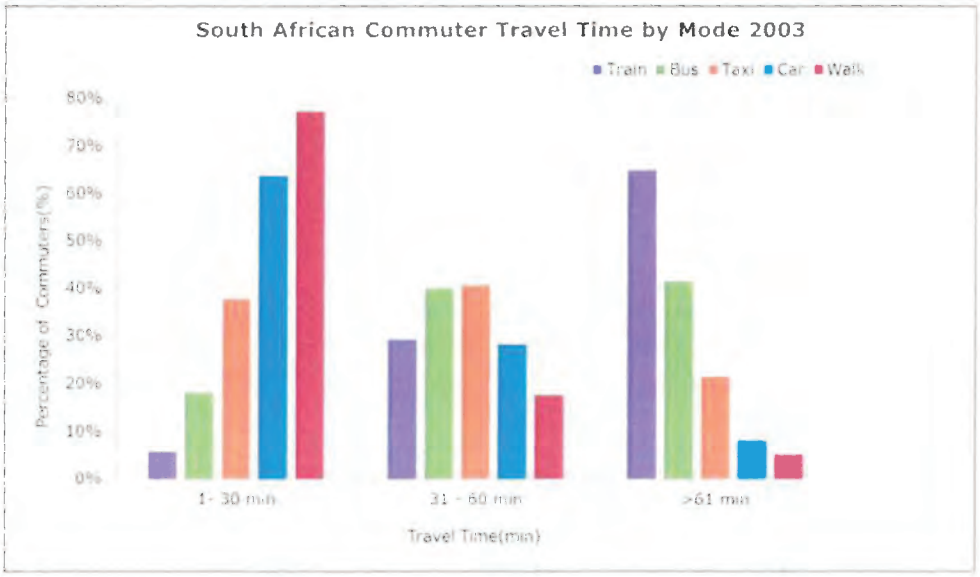


Figure 14 Travel time by mode (2003)
Source: (Department of Transport, 2003)

This is largely as a consequence of increased demand on transport, resulting in road traffic congestion due to the increasing rate of private car ownership, having a knock-on effect on public transport modes (notably bus and taxi). The spatially distorted nature of our cities and towns from pre-1994 planning practices and their perpetuation since, also contributes to travel time increases.

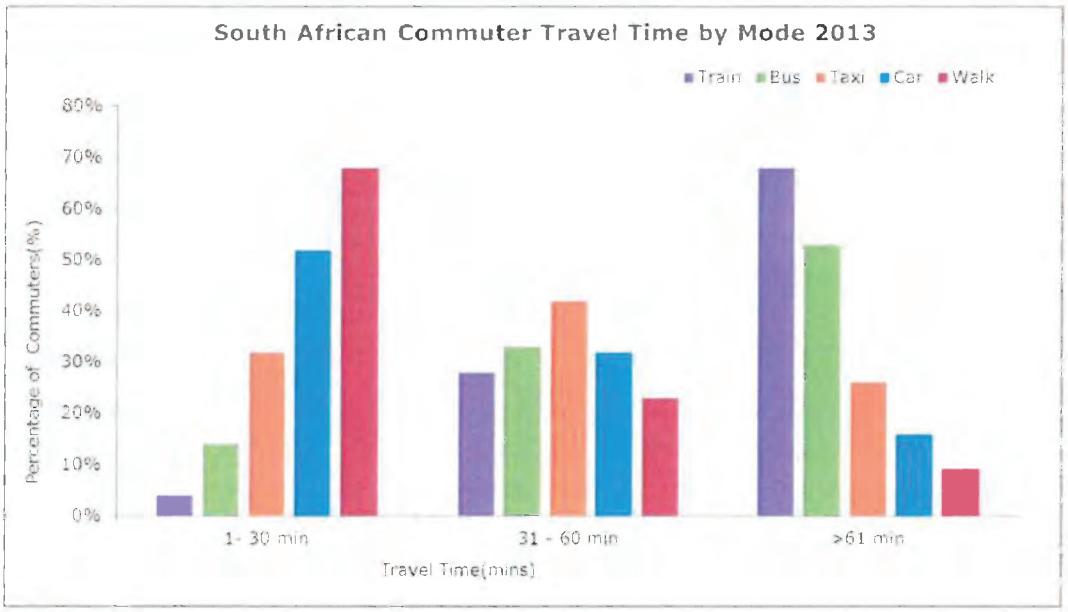


Figure 15 Travel time by mode (2013)
Source: (Statistics South Africa, 2013)

From **Figure 15** above, it is seen that buses and trains are the slowest mode of travel. About 66% of train journeys undertaken is in excess of 60 minutes. Taxis remain the fastest mode of public transport with average journey times of 51 minutes. Journeys on foot and those by car have the shortest journey times, with 60% of those on foot and 55% of car trips being less than 30 minutes.

Figure 16 below shows that about 57% of the population is able to access public transport within a five minute walk. The number of people living more than 15 minutes from a public transport stop has increased by at least 3% between 2003 and 2011, which implies accessibility has reduced in the past decade, whilst those living less than five minutes from public transport has reduced by 4%.

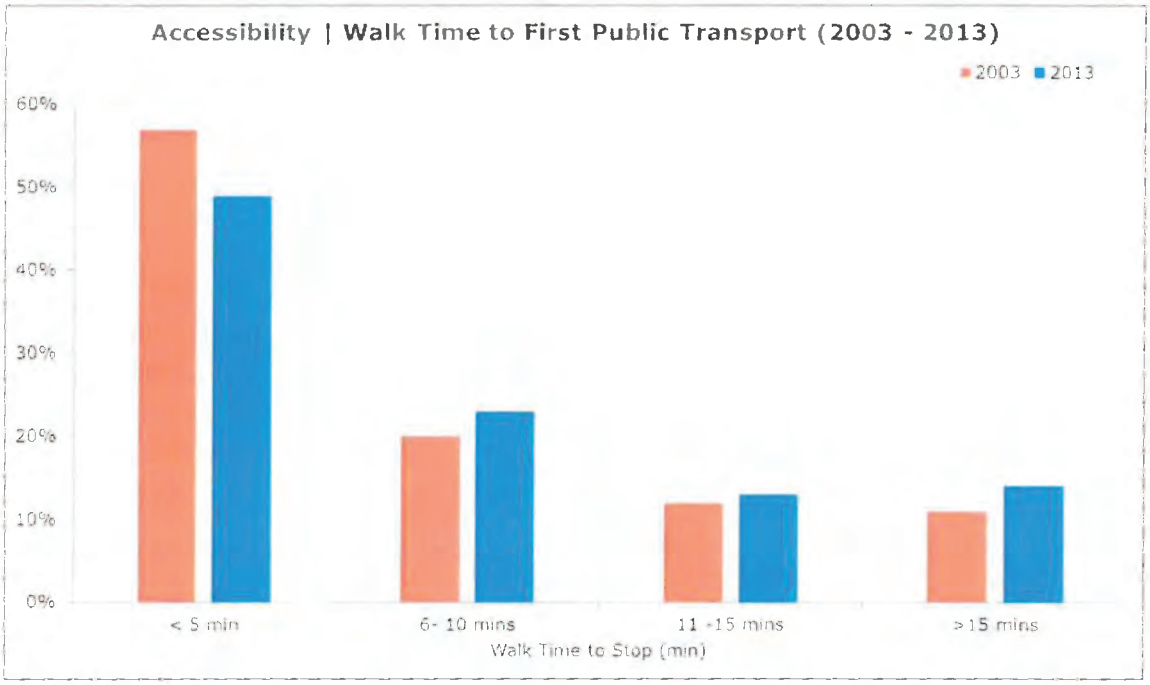


Figure 16 Walk time to the nearest public transport stops (bus, taxi or train)

Source: **(Department of Transport, 2003)**; **(Statistics South Africa, 2013)**

Figure 17 shows that 54% of the populations walk for more than 90 minutes to the closest health care facility, followed by a 49% of the population than can access the facility less than 15 minutes of walking. This implies that a large number of commuters are not conveniently located from social amenities, and taxis are considered to be the next fastest mode of transport to use.

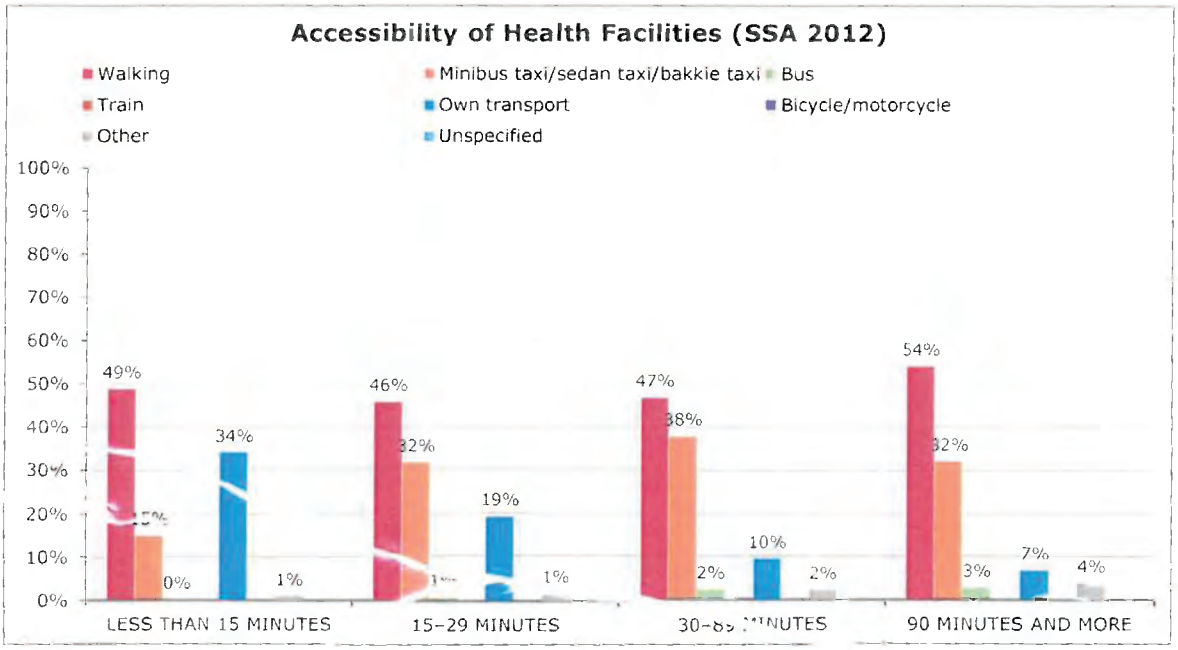


Figure 17 Access to health facilities

Source: **(Statistics South Africa, 2013)**

A1.7 Infrastructure expenditure

The government's annual expenditure on road infrastructure has steadily increased from around R3 billion to about R13 billion between 2000 and 2012. Considering over 66% of South Africans commute by public transport and about 34% by car, the question that arise is why is only R3.7 billion spent on public transport infrastructure (a third of road infrastructure expenditure).

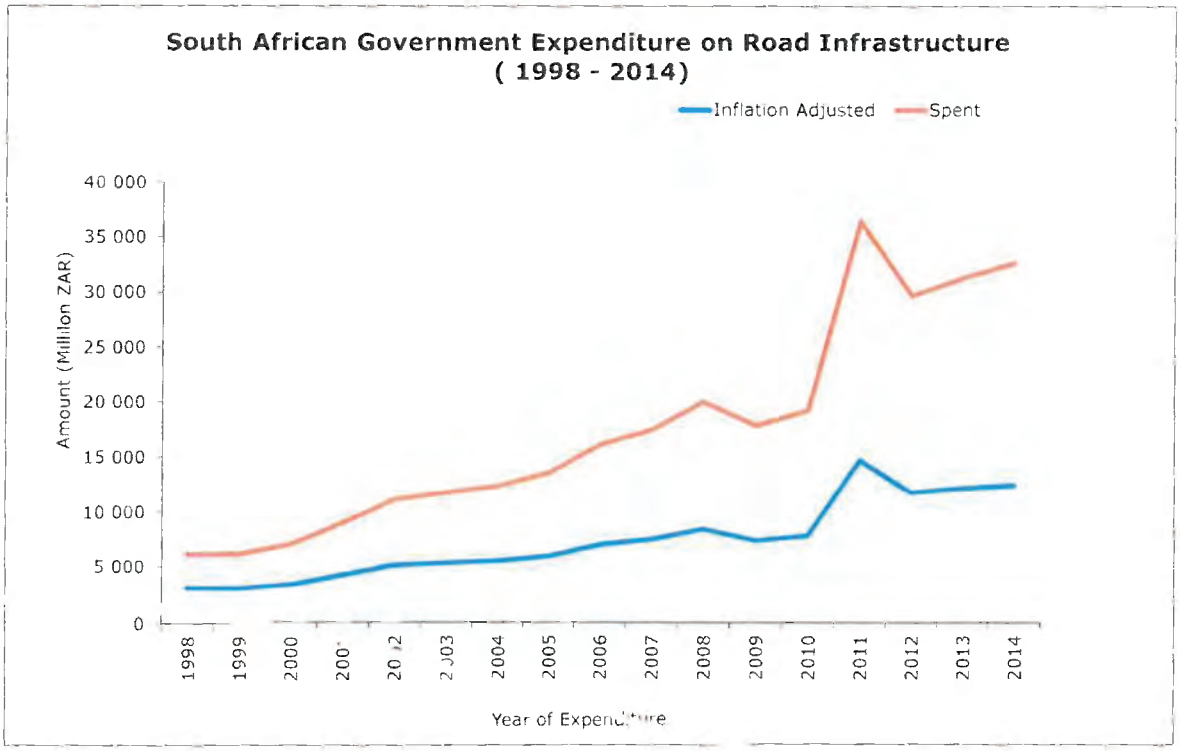


Figure 18 Government Expenditure on road infrastructure

Source: DoT Annual Report 2012

A1.8 Greenhouse gas emissions

The environmental toll of our unsustainable travel patterns is reflected in Figure 19 and **Figure 20**, showing how greenhouse gas (GHG) emissions have increased between 1980 and 2012.

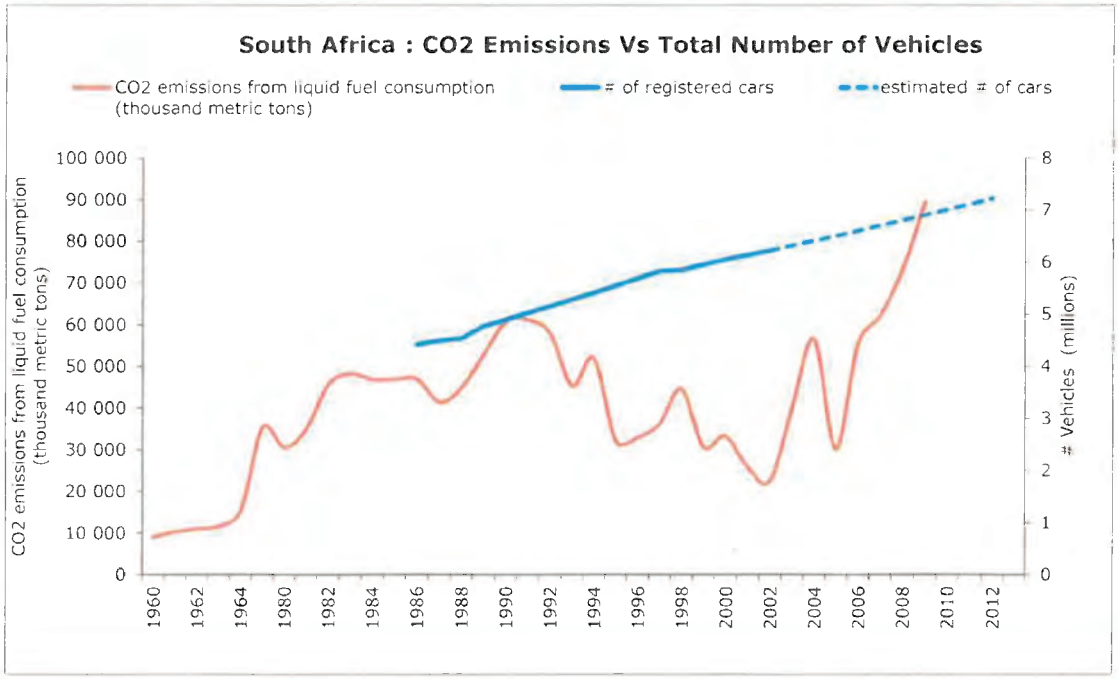


Figure 19 CO2 Emissions in relation to rising household consumption levels
Source: World Bank Data, 2013

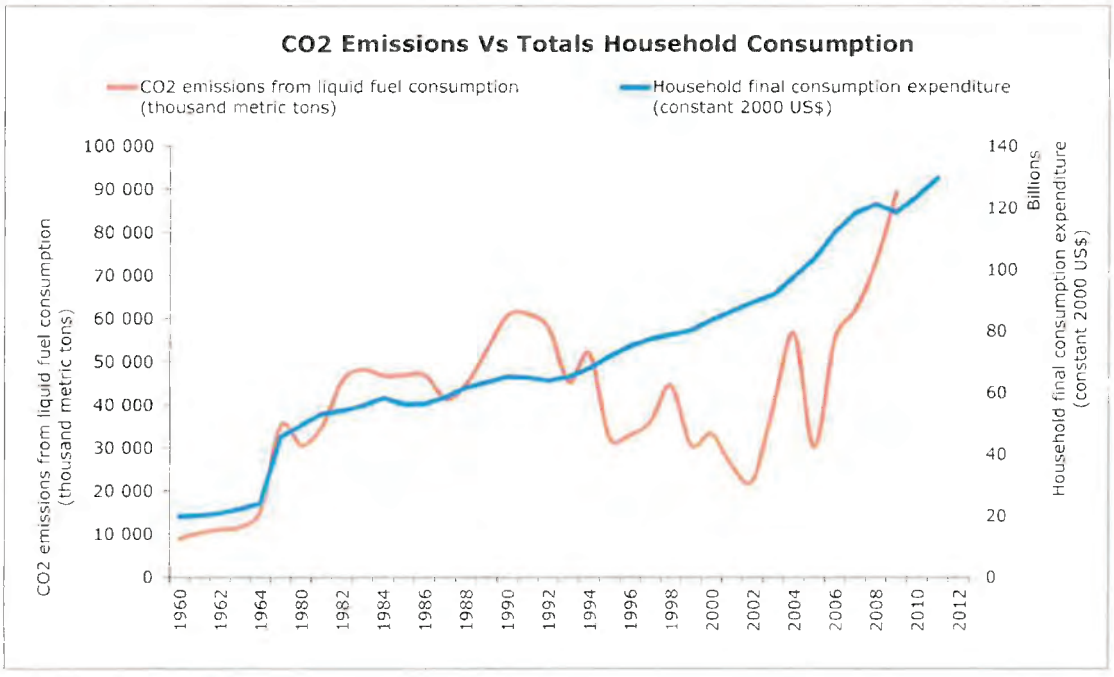


Figure 20 CO2 Emissions in relation to rising vehicle consumption levels

Source: World Bank Data, 2013

A1.9 Freight modal imbalance

Figure 21 demonstrates the imbalance in the way we move our goods. Is shows a significant imbalance of 88% of freight moved by road and only 12% by rail. This results in an underutilised railway system.

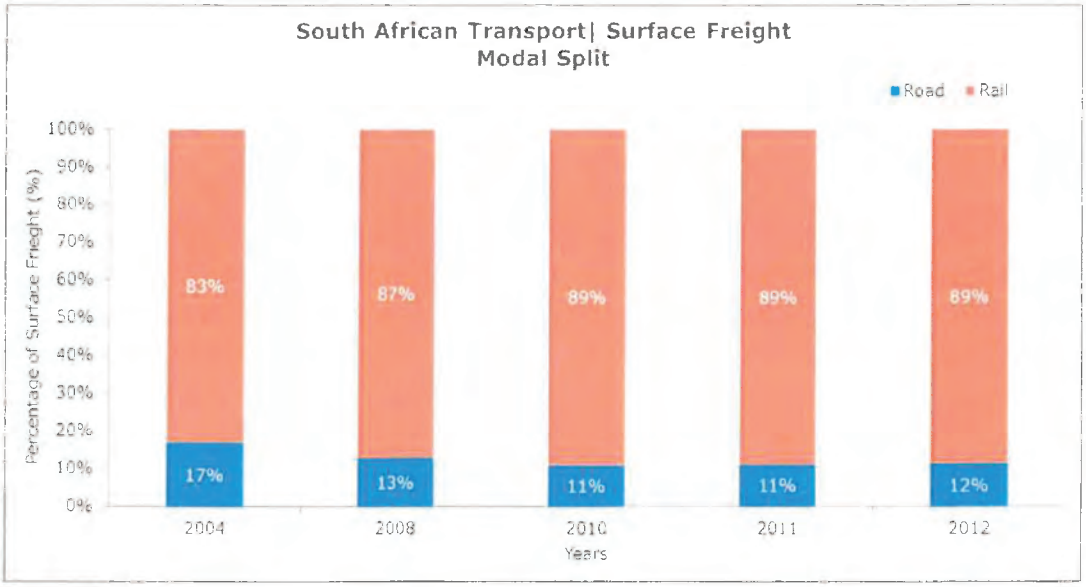


Figure 21 Road/Rail freight modal imbalance

Source: (Transnet, 2012)

Figure 22 below illustrates the overall upward trend in regional and cross border trade between South Africa and its SADC partners. South Africa's borders are critical points for facilitating the unimpeded movement of goods and people, however there are currently bottlenecks in commercial supply chains and journeys of cross border travellers. These capacity constraints causes excessive delays of goods (and to passengers), which in turn increases the cost of freight.

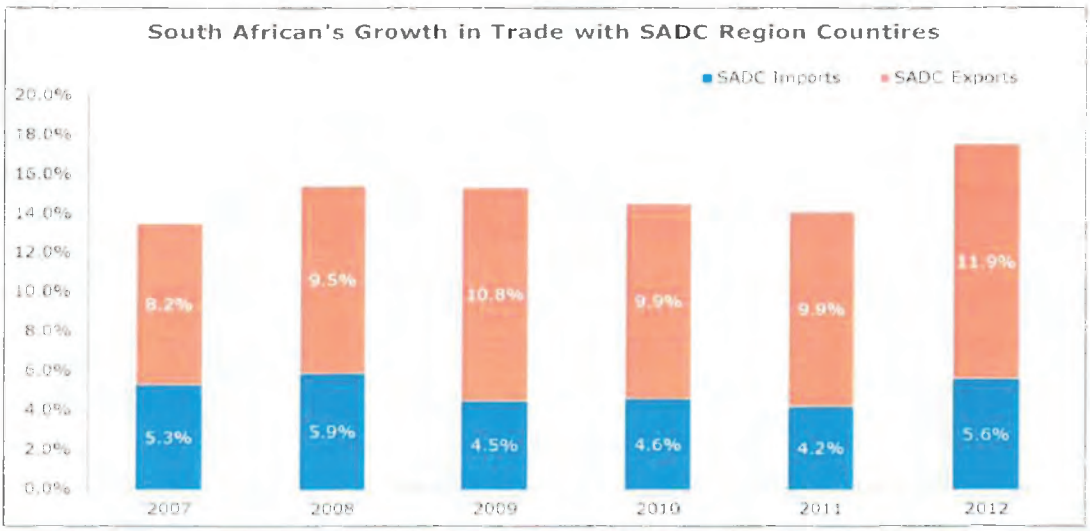


Figure 22 SA's SADC trade growth

Source: (CSIR, Univerity of Stellenbosch, Imperial Logistics, 2014)

A1.10 Road safety

South Africa has one of the worlds' worst road safety records at ±26 fatalities/100,000 people while comparable developed countries have an accident rate as low as 3.2 fatalities/100,000. **Figure 23** below illustrates that South Africa's road fatality statistics have worsened between 2001 and 2011 and that South Africa is not achieving its road safety objectives. The poor road safety record; has detrimental impacts on South Africa' economic productivity.

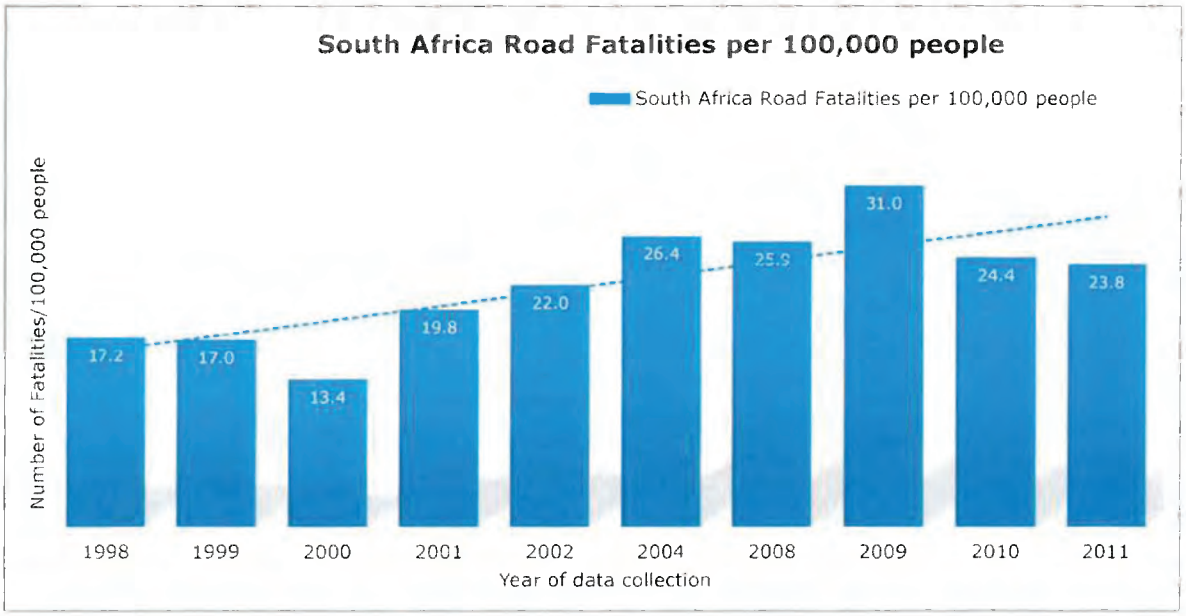


Figure 23 SA road fatalities trends

Source: (Road Traffic Management Corperation(RTMC), 2000 - 2011)

South African accident statistics are poor when compared with Europe (France) and Australasia. **Figure 24** illustrates a comparison between the mentioned countries in 2000, 2005, 2010 and 2011. In all the years analysed, Australia has the least road fatalities per annum whilst the number of fatalities in RSA is significantly higher than France and Australia.

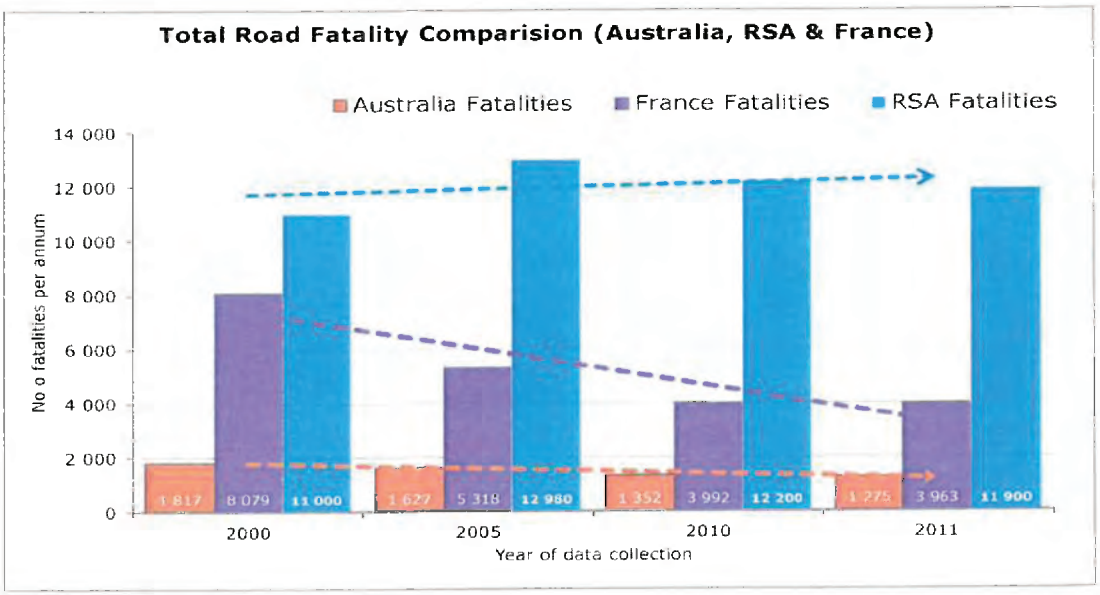
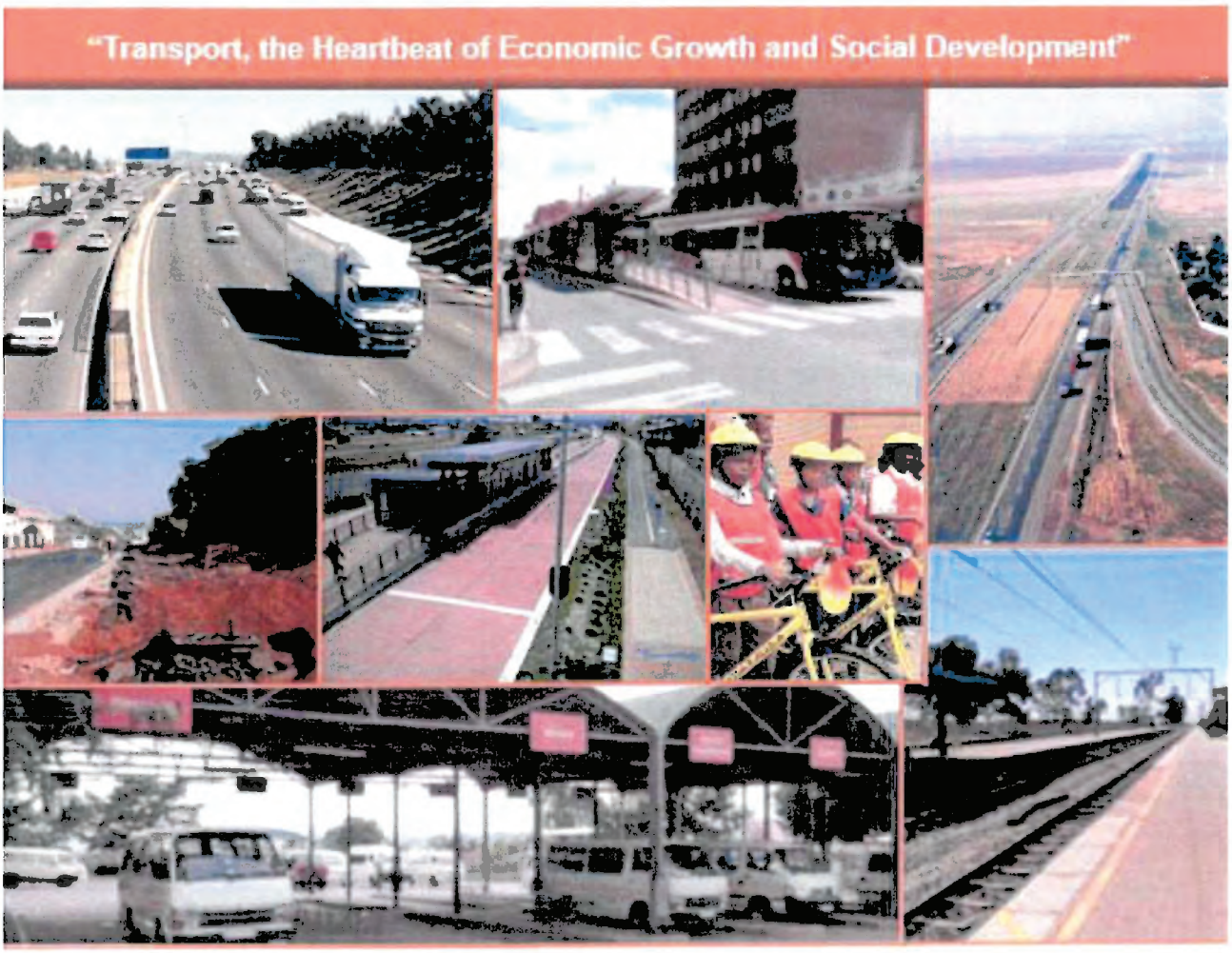


Figure 24 Total road fatality comparison

Source: International Road Federation, 2014



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