South Africa **Yearbook** 2018/19

Transport

The Constitution of the Republic of South Africa, 1996 identifies the legislative responsibilities of different spheres of government regarding airports, road infrastructure, rail, maritime, road traffic management and public transport. Transport is a function that is legislated and executed at national, provincial and local government level.

The implementation of transport functions at the national level takes place through public entities that are overseen by the Department of Transport (DoT), each with a specific delivery mandate, as specified in legislation establishing these entities.

The *1996 White Paper on Transport* focuses on and defines the infrastructure and operations of rail, pipelines, roads, airports, harbours, and the intermodal operations of public transport and freight.

The DoT is responsible for implementing the legislation and policies for the subsectors mention above by doing the following:

- conducting sector research
- formulating legislation and policy to set the strategic direction of subsectors
- assigning responsibilities to public entities and other spheres of government
- regulating through setting norms and standards
- monitoring implementation.

Over the medium term, the DoT aims to focus maintaining national and provincial road networks, providing passenger rail infrastructure and services, and facilitating integrated public transport networks. These activities will contribute to the realisation of Outcome 6 of Government's 2014 – 2019 Medium Term Strategic Framework (MTSF) of maintaining an efficient, competitive and responsive economic infrastructure network.

Legislation

For the cross-modal functions of public transport and freight, the principle guiding documents are the National Land Transport Act, 2009 (Act 5 of 2009), the public transport strategy and the national freight logistics strategy.

The DoT is further guided by the following legislation and policies:

- The Transport Laws and Related Matters Amendment Act, 2013 (Act 3 of 2013) aims, among other things, to amend the Cross-Border Road Transport Agency (C-BRTA) to collect toll on behalf of the South African National Roads Agency (SANRAL).
- The National Land Transport Act of 2009 clarifies the concurrent roles and responsibilities of the different spheres of government in relation to public transport. It also consolidates public transport planning, service delivery, regulation and monitoring in the municipal sphere, establishes the national and provincial public transport regulators, and enhances overall transport regulatory functions.
- The incorporation of the Shosholoza Meyl train service and the Autopax long-distance bus services into the Passenger Rail Agency of South Africa (Prasa) was finalised in the Legal Succession to the South African Transport Services Amendment Act, 2008 (Act 38 of 2008).
- The National Road Traffic Amendment Act, 2008 (Act 64 of 2008) and the Cross-Border Transport Amendment Act, 2008 (Act 12 of 2008) allow for better road-traffic enforcement and improved cross-border regulation.
- The Administrative Adjudication of Road Traffic Offences (Aarto) Act, 1998 (Act 46 of 1998).
- The Civil Aviation Act, 2009 (Act 13 of 2009), was promulgated to harmonise and rationalise safety and security legislation for aviation to ensure compliance with International Civil Aviation Organisation (ICAO) standards.
- The Air Service Licensing Amendment Act, 2008 (Act 21 of 2008), addresses corporate governance issues relating to the Air Services Licensing Council. The department plans to implement the airlift strategy and improve aviation safety and compliance with the standards set by the United States of America (USA) Federal Aviation Administration's international aviation safety assessment, and by the ICAO, an organ of the United Nations (UN).
- The Road Accident Fund (RAF) Amendment Act, 2005 (Act 19 of 2005)creates an equitable, affordable and sustainable system for victims of road accidents and their families. In November 2009, Cabinet approved the policy to provide benefits to road-accident victims as a form of social security and to move away from the fault-based systems.
- The RAF (Transitional Provisions) Act, 2012, (Act 15 of 2012) provides for transitional measures regarding certain categories of third parties whose claims were limited to R25 000 under the RAF Act, 1996 (Act 56 of 1996) prior to 1 August 2008.
- The DoT has published a revised version of the Road Accident Benefit Scheme (RABS). The Bill proposed that the RABS Administrator replace the RAF. The new regulations, rules and forms were drafted to enable a better understanding of how the proposed scheme would operate in practice. The RABS Bill provides for a new no-fault benefit scheme and a new Administrator called the RABS Administrator, which will replace the current RAF and compensation system administered by it. The RABS Bill forms part of an initiative to replace the third-party compensation system currently administered by the RAF with a new scheme that is reasonable, equitable, affordable and sustainable.

Budget

The department's expenditure is expected to increase at an average annual rate of 10.1%, from R55.8 billion in 2018/19 to R74.5 billion by 2021/22.

The expenditure is driven by transfers to the South African National Roads Agency (PRASA); the Passenger Rail Agency of South Africa; and provinces and municipalities for the construction, operations and maintenance of transport infrastructure and services. Total transfers account for 97.8% of the department's total budget in 2019/20. Goods and services, the department's second largest spending area, accounts to R2.8 billion of the total budget over the medium term. Spending on goods and services increases at an average annual rate of 8.5%, from R738.1 million in 2018/19 to R943.2 million in 2021/22. This is mainly due to expected increases in spending in the Civil Aviation programme for costs related to watch-keeping services and investigations into aviation accidents and incidents.

Spending on compensation of employees amounts to R1.7 billion of the department's total budget over the medium term, increasing at an average annual rate of 8.2%, from R483.6 million in 2018/19 to R612.2 million in 2021/22.

Role players

Airports Company South Africa

The Acsa is regulated in terms of the Airports Company Act, 1993 (Act 44 of 1993) and the Companies Act, 1973 (Act 61 of 1973), and is listed in terms of the Public Finance Management Act, 1999 (Act 1 of 1999).

The company was formed to own and operate the nine principal South African airports, including the three main international gateways: OR Tambo International Airport in Johannesburg, Cape Town International Airport and King Shaka International Airport in Durban.

The company is one of the concessionaires operating Mumbai International Airport in India and Guarulhos International Airport in Sao Paulo, Brazil.

Over the medium term, the ACSA will continue to focus on the development, management and maintenance of the country's nine principal airports. These airports are expected to accommodate a total of 65.2 million departing passengers and 806 214 arriving aircraft over the period. The company has two main income streams: aeronautical revenue, which is generated from passenger facilitation and airline services, and includes charges and tariffs such as aircraft parking and landing fees; and non-aeronautical revenue, which is derived from property rentals, advertising and parking fees.

Aeronautical revenue is expected to contribute to R14.1 billion of the company's total revenue over the medium term, increasing at an average annual rate of 7.5%, from R4 billion in 2018/19 to R4.9 billion in 2021/22. Non-aeronautical revenue accounts for R13.1 billion of the company's total revenue over the same period, increasing at an average annual rate of 7.7%, from R3.7 billion in 2018/19 to R4.6 billion in 2021/22.

Expenditure is expected to increase at an average annual rate of 8.8%, from R6.8 billion in 2018/19 to R8.7 billion in 2021/22. Spending on goods and services is expected to increase at an average annual rate of 5.6%, from R2.7 billion in 2018/19 to R3.2 billion in 2021/22. Spending on compensation of employees is expected to increase at an average annual rate of 7.4%, from R1.6 billion in 2018/19 to R2 billion in 2021/22.

Air Traffic and Navigation Services

The ATNS was established in terms of the ATNS Act, 1993 (Act 45 of 1993). Its mandate is to provide safe, orderly and efficient air traffic navigational and associated services to the air traffic management community. It does this on behalf of the State and in accordance with the ICAO standards and recommended practices, as well as the South African civil aviation regulations and technical standards.

The company's strategic goals are to:

- provide safe, efficient and cost-effective air traffic management solutions and associated services
- expand the company footprint to cover Africa and the Indian Ocean region.

ATNS has also adopted the promotion of mathematics and physical science as its flagship project, aimed at increasing the pool of potential candidates who can be attracted and trained as air traffic controllers. Since its inception in 1993, the company has renewed the majority of the national communication, navigation, surveillance and air traffic management infrastructure.

ATNS trains air traffic controllers from South Africa, Africa and the Africa-Indian Ocean area.

South Africa is one of the 36 council members of the ICAO Council, serving under Part 2 and is committed to regional aviation safety, security and environment issues.

Cross-Border Road Transport Agency

The C-BRTA was established in terms of the Cross-Border Road Transport Act of 1998. The agency's legislative mandate requires it to:

- advise the Minister of Transport on cross-border road transport policy
- regulate access to the market by the road transport freight and passenger industry in respect of cross-border road transport by issuing permits
- undertake road transport law enforcement
- play a facilitative role in contributing to economic prosperity of the region.

Passenger Rail Agency of South Africa

Prasa was established in terms of the Public Finance Management Act of 1999. Its mandate is contained in the Legal Succession to the South African Transport Services Amendment Act of 2008. The Act requires the agency to provide rail commuter services within, to and from South Africa in the public interest.

In consultation with the DoT, it also provides for long-haul passenger rail and bus services within, to and from South Africa.

In its ongoing effort to improve access to safe and reliable passenger rail services, over the medium term, the PRASA will focus on executing its capital programme by acquiring new rolling stock, refurbishing train coaches and upgrading and improving depots, stations and signalling infrastructure. The agency will also intensify its repair and maintenance regime for its commuter rail services (Metrorail) and long-distance mainline passenger services. The agency's capital programme over the medium term includes, among other things, the acquisition of 163 new train sets, eight new locomotives, the refurbishment of 1 140 train coaches, and the upgrading and improvement of 24 train stations. As such, the agency's capital expenditure is expected to increase at an average annual rate of 70.8%, from R3.1 billion in 2018/19 to R15.6 billion in 2021/22.

The agency expects Metrorail passenger trips to increase from 289 million in 2018/19 to 438 million by 2021/22, and for passengers on mainline passenger services to increase from 504 000 to 644 000 over the same period. This increase in passenger ridership is expected to be driven and supported by infrastructure acquisitions and improvements, intensified repairs and maintenance operations, and security improvements. As such, spending on activities related to Metrorail is expected to increase at an average annual rate of 8.4%, from R8.3 billion in 2018/19 to R10.5 billion in 2021/22, while spending on activities related to mainline passenger services is expected to increase at an average annual rate of 9.2%, from R1.1 billion in 2018/19 to R1.5 billion in 2021/22. Spending on Metrorail and mainline passenger services is expected to account for R33.6 billion of *the* agency's total expenditure over the medium term.

Expenditure is expected to increase at an average annual rate of 7.2%, from R15 billion in 2018/19 to R18.4 billion in 2021/22, mainly driven by repairs and maintenance, contracted security and depreciation. Transfers from the department amounts to R28.5 billion of the agency's total revenue over the period, with the remainder generated from sales of train and bus tickets, rental income from the leasing of properties, onboard sales, and interest earned. Total revenue is expected to increase at an average annual rate 2.7%, from R13.8 billion in 2018/19 to R15 billion in 2021/22. This is mainly due to transfers from the department, which include an additional R1.5 billion over the medium term for repairs and maintenance. The agency's number of personnel is expected to increase from 16 089 in 2018/19 to 16 446 in 2021/22. .

The DoT will continue its efforts to modernise South Africa's passenger rail services through the PRASA. Over the medium term, the agency will focus on executing its capital programme, intensifying its repairs and maintenance regime, and improving security on the rail network. This is in order to improve the reliability of services and increase passenger ridership. To this end, total transfers to the agency are expected to increase at an average annual rate of 11.4% from R15.8 billion in 2018/19 to R21.8 billion in 2021/22. These transfers account for R55.8 billion of the department's total budget over the medium term.

Cabinet has approved a baseline reduction amounting to R8.7 billion over the medium on capital transfers to the agency. Despite this reduction, overall capital transfers are expected to increase at an average annual rate of 20.7% from R8.4 billion in 2018/19 to R14.7 billion in 2021/22. This includes transfers for the rolling stock fleet renewal programme, which increase at an average annual rate of 22.7%, from R4.7 billion in 2018/19 to R8.6 billion in 2021/22. Capital transfers to the agency over the medium term are expected to fund the acquisition of 163 new trainsets, eight new locomotives, the refurbishment of 1 140 train coaches, and upgrades and improvements to 24 train stations. Current transfers are expected to subsidise 438 million passenger trips on Metrorail and 644 000 passengers on the long-distance mainline passenger services over the period ahead.

During the 2018/19 financial year, the DoT will intensify efforts to stabilise PRASA by dealing with capacity challenges, appointing a new board that will lead the turnaround strategy, and attend to senior management vacancies in the organisation. Among areas to be given attention are challenges facing PRASA in the Western Cape. To this effect, the Department and PRASA have begun tackling safety and reliability of Metrorail in this corridor to ensure provision of safe rail travel, especially for the working class. PRASA is in the process of implementing a signalling programme to replace the old one and this project is nearing completion. Also at an advanced stage is the construction of the Central Operation Centre for the control of rail operation in the entire Western Cape.

The Department is also working to roll out rolling stock, including putting in place enabling infrastructure such as depot programme, perway and electrical works to support deployment of new rolling stock fleet. To this effect, the construction of the train-manufacturing factory at Dunnotar, Ekurhuleni has been completed.

National Ports Regulator

The NPR was established in terms of the National Ports Act, 2005 (Act 12 of 2005).

Its primary function is the economic regulation of the ports system, in line with government's strategic objectives to promote equity of access to ports and to monitor the activities of the Transnet National Ports Authority (TNPA).

In accordance with this mandate, the NPR performs certain functions and activities including:

- regulation of pricing and other aspects of economic regulation
- promotion of equity of access to ports facilities and services
- monitoring the industry's compliance with the regulatory framework
- hearing any complaints and appeals lodged with it.

In addition, the NPR is a key component of the ports regulatory architecture envisaged in the National Commercial Ports Policy.

The TNPA is the largest port authority in Africa. It owns and manages ports at Richards Bay, Durban, East London, Port Elizabeth, Mossel Bay, Cape Town, Saldanha and Ngqura.

The TNPA provides suitable infrastructure as a conduit for the country's imports and exports. Besides being the port landlord, it also has a control function, which includes:

- providing vessel-traffic control and navigational aids
- licensing and leasing terminals to operators
- monitoring the performance of port operators
- ensuring the orderly, efficient and reliable transfer of cargo and passengers between sea and land.

Based on the *White Paper on the National Commercial Ports Policy (2002),* the vision for South African ports is to become a system of ports, seamlessly integrated in the logistics network, that is jointly and individually self-sustainable.

The NPR functions with certain statutory and non-statutory committees that concentrate on aspects of its mandates. The NPR is an independent regulator, within the context of the prevailing policy and regulatory framework and it is funded by fiscal allocation from national government.

The NPR performs functions that relate mainly to the regulation of pricing and other aspects of economic regulation, the promotion of equal access to ports facilities and services, the monitoring of the industry's compliance with the regulatory framework, and the hearing of any complaints and appeals lodged with it.

Railway Safety Regulator

The RSR is the custodian of railway safety in South Africa.

Its functions include:

- issuing and managing safety permits
- conducting inspections and audits
- investigating railway accidents
- developing regulations, safety standards and related documents which form the basis of the regulatory regime
- issuing notices of non-conformance and non-compliance
- imposing penalties for non-compliance with the Act and safety standards adopted by the board of directors of the RSR.

The RSR is central to the safety of both passengers and the environment in the railway industry, and to that end has taken a bold stand to adopt the vision "Aspiring to Achieve Zero Occurrences".

Road Accident Fund

The mandate of the RAF is derived from the RAF Act of 1996 as the payment of compensation for loss or damage wrongfully caused by the driving of motor vehicles in South Africa.

The socio-economic mandate of the fund is to reintegrate victims of road accidents into society from a health and economic perspective, and to protect wrongdoers and their families from financial ruin.

Over the medium term, the fund will continue to focus on compensating road accident victims for losses and damages, as required by the RAF Act of 1996. As such, the fund will endeavour to improve its claims processing and productivity. Productivity is expected to increase as the fund anticipates adding 20 posts in 2019/20. With the increase in the number of personnel in the fund from 3 083 in 2018/19 to 3 103 in 2021/22, spending on compensation of employees increases at an average annual rate of 12.3%, from R1.8 billion in 2018/19 to R2.6 billion in 2021/22.

The number of open claims received but not finalised is expected to increase marginally, from 215 439 in 2018/19 to 217 336 in 2021/22. The fund's total expenditure is expected to increase at an average annual rate of 12.6%,, from R77.7 billion in 2018/19 to R111 billion in 2021/22. Despite the growth in expenditure the accumulated deficit is expected to increase to R402 billion in 2021/22 from R241.8 billion in 2018/19. The fund derives its revenue from the RAF fuel levy, which is expected to remain unchanged over the medium term. Total revenue is expected to increase at an average annual rate of 2.8%, from R42.3 billion in 2018/19 to R45.9 billion in 2021/22, in line with expected increases in fuel sales.

Road Traffic Infringement Agency

The RTIA promotes road traffic quality by providing for a scheme to discourage road traffic infringements to support the prosecution of offences in terms of national and provincial laws relating to road traffic, and implements a points demerit system.

The RTIA's objectives include:

- administering the procedures to discourage the contravention of road traffic laws and to execute the adjudication of infringements
- enforcing penalties imposed against people contravening road traffic laws
- providing specialised prosecution support services
- undertaking community education and community awareness programmes to ensure that individuals understand their rights and options.

The pursuit of this mandate entails the management and rollout of the Aarto Act of 1998, which includes the implementation of the driver points demerit system and rehabilitation programmes.

Road Traffic Management Corporation

The RTMC pools national and provincial government resources for the provision of road traffic management. This includes cooperative and coordinated road traffic strategic planning, regulation, facilitation and law enforcement.

South African Civil Aviation Authority

The SACAA is mandated with controlling, promoting, regulating, supporting, developing, enforcing and continuously improving levels of safety and security throughout the civil aviation industry.

The SACAA presented the revised Cross-Functional Accident Reduction Plan aimed at reducing accidents in the general aviation sector, in a coordinated manner.

The new Cross-Functional Accident Reduction Plan features the following:

- in-depth statistics gathered, however a number of accident investigations remain open to complete the analysis
- although not yet comprehensive, industry activity is being captured by the SACAA to inform future strategies
- expanded scope of stakeholder consultation prior to the finalisation of the strategy
- more in-depth experience in dealing with accidents.

The revised Cross-Functional Accident Reduction Plan still seeks to improve pilot competency development within the training environment with the authority intensifying its oversight role over pilot training schools.

South African Maritime Safety Authority

SAMSA and the DoT are working on mobilising the maritime sector, organising its industries and drawing the attention towards what the sector can contribute to the achievement of government's social and economic goals.

SAMSA has successfully pulled together elements of the sector and created a cohesive sense of the boundaries and drivers of the country's performance, with regional and international positioning options.

The maritime economic sector is of central and strategic importance to the National Growth Path (NGP), the BRICS bloc and South Africa's influential role within the African Union (AU), India-Brazil-South Africa bloc and the Southern African Development Community (SADC).

The widening trade balance is to no small measure because of a lack of focus on shipping logistics and maritime transport. South Africa is the only country in all these partnerships that has no focused shipping and maritime transport sector policy and strategy, and owns no ships.

The increase in South Africa's registered commercial cargo vessels is a strategic move to expand both training opportunities for the country cadets as well as business trade opportunities.

Through SAMSA, the DoT continued investing in intelligent surveillance breakthrough technologies in ship-tracking and maritime traffic management.

In the two years since the launch of Operation Phakisa, the country increased its focus on the opportunities provided by its more 3 000 km of coastline.

SAMSA struck a partnership with the Nelson Mandela Metropolitan University and the Department of Higher Education in a National Cadetship Programme. This has resulted in 124 cadets being placed on 18 partner vessels.

South African National Roads Agency SOC Limited

The South African National Roads Agency was established by the South African National Roads Agency Limited and National Roads Act of 1998. The agency is responsible for the management of South Africa's national road network, including finance, planning, design and construction, provisioning, operating and maintaining national roads.

South Africa has 750 000 km of roads – the 10th longest road network in the world and by far the longest in Africa.

At the core of this network is the spine – a national network of 22 197km, which is managed by SANRAL. It stretches from Beit Bridge in the north to the southern-most parts of the continent, and from Oranjemund to the KwaZulu-Natal coast.

As of 1 April 2018, SANRAL manages a national road network of 22 214km. Of this, 19 262km (87%) are non-toll roads and 2 952km (13%) are toll roads.

These roads are the country's single biggest public asset and critical to South Africa's future economic and social trajectory. These roads facilitate development, commerce, mobility and access.

SANRAL's overarching objective is to meet the needs of South Africa in terms of its national road network. The accelerated implementation of the National Development Plan will be at the core of government initiatives over the next decade and the quality of the country's primary road network will be critical to the success of the NDP.

This is governed by the four pillars of Roads, Road Safety, Stakeholders and Mobility as contained in its strategy – Horizon 2030.

This strategy includes a Transformation Policy which has the aim of promoting small, emerging, black construction companies and related industries, while also better supporting the transformation of the industry to reflect the demographics of the country.

Over the medium term, the agency will continue to focus on undertaking preventative maintenance to improve and preserve the national road network. As such, the agency plans to resurface 3 300km and improve 1 500km of roads, upgrade intersections to interchanges, and build new interchanges and bridges. To carry out these activities, allocations to the strengthening programme increase at an average annual rate of 17.7%, from R1.5 billion in 2018/19 to R2.4 billion in 2021/22, while allocations to the improvement programme increase at an average annual rate of 25.6%, from R3.6 billion in 2018/19 to R7.2 billion in 2021/22, mainly due to upgrades to the N2 (Cape Town), N3 (Mariannhill) and N2 North and South coastal roads.

Total expenditure is expected to increase at an average annual rate of 5.1%, from R33.2 billion in 2018/19 to R38.6 billion in 2021/22. The bulk of the agency's total expenditure comprises payments to service providers for routine road maintenance and/or construction over the medium term. As a result, goods and services expenditure accounts for 74.3% of total expenditure over the medium term.

The agency generates revenue from transfers from the department for the non-toll road network and income from fees on the toll road network. Revenue is expected to increase at an average annual rate of 4.6%, from R25.6 billion in 2018/19 to R29.3 billion in 2021/22. Departmental transfers for the non-toll road network are expected to amount to R64.5 billion over the medium term, while toll revenue is expected to increase at an average annual rate of 1.9%, from R5.3 billion in 2018/19 to R5.6 billion in 2021/22.

In the 2018/19 financial year, the department will continue to develop the road network to unlock the Northern Mineral Belt in the Waterberg District (Limpopo), the Durban-Free State-Gauteng Logistics and Industrial Corridor; the South Eastern node and corridor development, including Mthatha airport and the N2 Wild Coast; and also to unlock economic opportunities in the North West.

As part of reviewing the Gauteng Freeway Improvement Scheme, the Department will heighten consultations with all involved government spheres and non-governmental stakeholders. These consultations will form a critical path towards the discussion of the SANRAL Operating model, which includes the New Toll Roads Policy.

Rail Networks

The South African rail network is the eleventh largest in the world at 22 298 route kilometres, and total track distance of 30 400km. Public sector railways comprise three distinct vertically integrated entities, namely the Transnet Freight Rail (TFR) division of Transnet SOC Limited (previously Transnet Limited), the PRASA, and the Gautrain Management Agency. They fulfil distinctly different roles and responsibilities and have different objectives and service delivery requirements.

The department has developed a business case which was approved by the National Treasury. This paved way for the revitalization of the commuter rail network in South Africa. This modernization programme covers selected metropolitan areas and includes the upgrading of the signaling system, stations, construction of a rail manufacturing plant and the manufacturing of 3 600 new trains.

In the 2018/19 financial year, the DoT intends to finally process the approval of the *White Paper on the National Rail Policy.* This policy will allow the development of the National Rail Strategy, which will guide implementation and monitoring of the Rail Policy.

Transnet SOC Limited

Transnet is a focused freight-transport and logistics company wholly owned by the South African Government.

It comprises the following operating divisions:

- The TFR
- Transnet Rail Engineering
- Transnet Port Terminals
- Transnet Pipelines
- TNPA.

Transnet Port Terminals

Transnet Port Terminals is expected to spend R33 billion over the next six years on upgrading and expanding South Africa's ports, as part of a massive state-led infrastructure drive aimed at boosting the country's economic growth.

The expansion projects will see major increases in the container-handling capacity of the ports in Durban, KwaZulu-Natal and Ngqura outside Port Elizabeth in the Eastern Cape.

Over the next 20 years, Transnet Port Terminals, which operates 45 cranes in seven ports across the country, will buy 39 new ship-to-shore cranes.

The Ngqura Container Terminal, which has been earmarked as a trans-shipment hub, will be expanded from 800 000 to two million TEUs by 2018/19.

Container capacity is also being created in other terminals, such as the Durban Ro-Ro and Maydon Wharf Terminal, through the acquisition of new equipment, including mobile cranes and various infrastructure upgrades.

The port is said to be the deepest container terminal in sub-Saharan Africa and will accommodate the new generation of giant container ships that regularly visit the country's shores.

Given its positioning and size, the Ngqura Trade Port will go a long way in boosting South Africa's trade with other countries in the region and is expected to support the country's new growth path. The planning of the Ngqura has been integrated with that of the Coega Development Zone.

The bulk handling capacity at Ngqura, Richards Bay in KwaZulu-Natal, and Saldanha in the Western Cape will also come in for major expansion.

Safety-critical, environmental and legal compliance projects are also in the pipeline. Some R1.2 billion will be spent on creating new capacity, including new storage areas, at Richards Bay. Transnet is also pursuing the re-engineering of the port to create additional capacity for bulk products at the terminal.

Saldanha's iron-ore bulk facility, which has undergone significant expansion in recent years, will be further expanded, taking its capacity to 82 Mt a year.

Transnet Freight Rail

TFR is the largest division of Transnet. It is a world-class heavy haul freight rail company that specialises in the transportation of freight.

The company is proud of its reputation for technological leadership beyond Africa as well as within Africa, where it is active in some 17 countries.

TFR has positioned itself to become a profitable and sustainable freight railway business, assisting in driving the competitiveness of the South African economy.

The company is made up of the following six business units:

- Agriculture and Bulk Liquids
- Coal
- Container and Automotive
- Iron Ore and Manganese
- Steel and Cement
- Mineral Mining and Chrome.

Forming an integral part of the southern African economy, Transnet:

- moves 17% of the nation's freight annually
- exports 100% of the country's coal
- exports 100% of the iron ore
- 30% of the core network carries 95% of freight volumes
- has annual revenues of over R14 billion
- will invest R35 billion in capital over the next five years
- has 38 000 employees countrywide.

The company maintains an extensive rail network across South Africa that connects with other rail networks in the sub-Saharan region, with its rail infrastructure representing about 80% of Africa's total.

Gautrain

The Gautrain is an 80 km-long mass rapid transit railway system that links Johannesburg, Pretoria and OR Tambo International Airport.

It was built to relieve traffic congestion in the Johannesburg-Pretoria traffic corridor and offer commuters a viable alternative to road transport, as Johannesburg had limited public transport infrastructure.

The Gauteng 25-Year Integrated Transport Master Plan will ensure integration of transport with spatial patterns as well as the integration between various transport modes to transport people effectively.

The Gautrain ferries more than 60 000 people a day (including weekends) or 1.2 million people a year.

The Gautrain Management Agency is planning to extend the rail route by 150 km over the next 20 years, including routes through Randburg, Fourways, and Soweto.

This expansion is expected to create 211 000 jobs.

A feasibility study that included demand modelling to determine transport needs for Gauteng in 2025 and 2037, indicated that the "cost of doing nothing" in the province will lead to major road congestion in 2037, at which stage cars will travel at an average of 15 km/h due to doubling of car growth.

The feasibility study identified the following main links and stations of the Gautrain rail network extensions:

- On the link between Jabulani via Cosmo City and Samrand to Mamelodi, stations include Roodepoort, Little Falls, Fourways, Sunninghill, Olievenhoutsbosch, Irene, Tshwane East and Hazeldean.
- The link between Sandton and Cosmo City has a station at Randburg.
- On the link between Rhodesfield and Boksburg there will be a station at East Rand Mall and possible link-up with the OR Tambo International Airport Midfield terminal development.
- A future link from Cosmo City to Lanseria Airport.

Passenger rail safety

The National RSR Act, 2002 (Act 16 of 2002), is the enabling legislation for setting up the independent RSR, reporting and accountable to the Minister of Transport.

The mandate of the RSR is to:

- oversee safety in railway transport, while operators remain responsible for managing the safety of their operations
- develop an appropriate regulatory framework through the development of regulations and standards for safe railway operations
- monitor and ensure safety compliance by conducting audits, inspections, safety assessments and occurrence investigations
- collect and disseminate information relating to safe railway operations
- promote the harmonisation of the railway safety regime of South Africa with SADC railway operations
- promote improved safety performance to support the use of rail.

In pursuance of this mandate, the RSR has, in collaboration with the railway industry and the South African Bureau of Standards, developed a series of standards to ensure a common and consistent approach to railway safety in areas such as safety management, technical and operational requirements, and the management of human factors.

A key to the successful regeneration of the railway system in South Africa, and indeed the subregion, is the interoperability of the railways.

This implies consistent standards and common usage of technology where railway infrastructure is used by more than one operator.

The RSR and the railway industry continue to collaborate in developing the overarching broad technical and operating standards.

The need for harmonisation of safety standards within the SADC region is of strategic importance. The RSR is facilitating efforts to adopt and align the current railway safety standards by regional railway operators through the Southern African Railway Association.

Since the RSR's creation, there has been increased awareness of safety in railways, improvements in safety management and accountability, and standardisation of safety management systems among railway operators in South Africa and regional railways operating into South Africa.

The permit system employed by the RSR ensures the standardisation of safety management systems.

Through its Southern African Railway Association membership, the RSR plays a leading role in regional safety issues. The RSR played a central part in developing the Regional Safety Policy Framework and safety standards and in updating the Handbook on the Transportation of Hazardous Materials by Rail.

Since the reintroduction of the railway police, there has been a significant drop in crime on trains and at train stations.

South African Airways

SAA is the leading carrier in Africa, serving 56 destinations, in partnership with SA Express, Airlink and its low-cost carrier, Mango, within South Africa and across the continent, and nine intercontinental routes from its Johannesburg hub. It is a member of the largest international airline network, Star Alliance.

SAA is the leading carrier in Africa, serving 26 destinations across the continent, as well as major destinations within South Africa and internationally from its Johannesburg hub at OR Tambo International Airport and is a member of the largest international airline network, Star Alliance.

SAA's core business is the provision of passenger airline and cargo transport services together with related services, which are provided through SAA and its four wholly owned subsidiaries:

- SAA Technical
- Mango, its low-cost carrier
- Air Chefs, the catering entity of SAA
- South African Travel Centre.

SAA's long-term Turnaround Strategy is a three-phase implementation approach with continuous and cyclical monitoring and review over a 20-year period.

One of the key elements of the strategy was increased focus and emphasis on governance and accountability. SAA believes these will go a long way in restoring the airline's reputation in the global markets and among its stakeholders.

This makes SAA one of the world's leading carriers in the areas of environmental responsibility and sustainability.

As part of its Five-Year Corporate Plan aimed at achieving and maintaining financial sustainability in the shortest time possible, SAA signed a code-share agreement with TAAG Angola Airlines. The agreement was effective from 15 January 2018. It will see SAA code-sharing with TAAG on their direct services between Johannesburg and Luanda and between Cape Town and Luanda. In return, TAAG Angola Airlines will code-share with SAA on its direct services between Johannesburg and Luanda and will include Johannesburg and Harare, Johannesburg and Lusaka, and Johannesburg and Hong Kong in the near future.

Interline agreements between airlines ease travel for customers who fly on more than one airline to reach their destination, while the airlines save on operation costs.

A code-share agreement enables SAA to offer flights with the SA code on flights operated by TAAG, and TAAG will in turn be able to offer flights with the DT code on flights operated by SAA.

The SAA is the first airline globally to install the Satellite Authorisation System (SatAuth) that allows for secure credit-card transactions anywhere in the skies.

SAA installed the device on one of its Airbus A340-300 aircraft at the SAAT maintenance facility in Kempton Park, Johannesburg.

The system also provides pinpoint accurate aircraft tracking services for operational purposes. It will allow for secure credit card transactions at any point and real-time positioning of any flight, anywhere, impacting fuel-saving interventions in-flight as well as providing full visibility of actual flight paths versus planned routing at any time. SatAuth, the first product of its kind, was developed in South Africa.

SAA is plannning to install SatAuth across its entire long-haul fleet over time.

SA Express

SAX is a domestic and regional passenger and cargo carrier established on 24 April 1994. Although the airline is operationally independent of SAA, its flights are incorporated within the strategic alliance with Airlink and SAA.

SAX became the first airline in the country to adopt a new method of taxiing after landing that burns less fuel and cuts fuel emissions.

This simple but unusual method of using only one engine to taxi off the runway to the terminal after landing, cuts the amount of fuel burned by an average of 20 ℓ on every landing.

A flight from Johannesburg to Bloemfontein typically uses 1 000 ℓ of fuel, so saving 20 ℓ is a reduction of 2%, helping the airline to become more cost-efficient.

Programmes and projects

Road Transport Management System (RTMS)

The RTMS is an industry-led voluntary self-regulation scheme that encourages consignees, consignors and road transporters to implement a management system that preserves road infrastructure, improves road safety and increases productivity of the logistics value chain. This scheme also supports the DoT's National Freight Logistics Strategy.

The system's key components are load optimisation, driver wellness, vehicle maintenance and productivity. It is designed to show transport companies how to take greater corporate responsibility for road safety.

A national RTMS steering committee is responsible for the promotion and administration of the RTMS in South Africa. It comprises individuals representing major industries and aligned stakeholders within the country.

Road safety and road infrastructure are public concerns subject to strict regulation by government. Overregulation, road deterioration and high accident rates pose a significant threat to the long-term sustainability and global competitiveness of the road logistics value chain.

This prompted users of road haulage (consignors and consignees) and providers of road haulage (hauliers) to jointly develop strategies aimed at protecting the road network, improving road safety and transport productivity for the benefit of the country's citizens and the industry itself.

The RTMS is a self-regulating scheme with standard rules that aim to become the business norm, supporting the principles of good corporate governance and ensuring that no one gains an unfair advantage by poor compliance to transport regulations.

Furthermore, industry recognises its critical role in the economy's growth. Efficient movement of goods between a country's centres of production and its shipping ports boosts competitiveness in international markets.

National Transport Master Plan

The long-term vision of NATMAP 2050 is to sustain South Africa's projected growth and focus on integrated transport planning to ensure that the different modes of transport complement each other.

Government policies, plans and programmes, including the NDP and the NGP, enjoin the nation to create a social contract to help propel South Africa to a higher developmental trajectory, as well as build a more cohesive and equitable society.

The transport sector is critical to realising the implementation of the 2030 vision of advanced economic development, job creation, growth and provision of equitable access to opportunities and services for all, while fostering an inclusive society and economy.

National Road Safety Strategy (2016 – 2030)

The DoT is currently involved in projects that are intended to improve Road Safety and ensure that road users are safe and secure. In an effort to improve Road Safety, the department will continue to monitor the implementation of the National Road Safety Strategy in the 2018/19 financial year.

This strategy arises from lessons learned and premised on the UN Decade of Action for Road Safety. It seeks to provide an overall direction on the implementation of all road safety programmes, by ensuring alignment and integration across the wide range of specific interventions that are undertaken in the reduction of road crashes and fatalities.

Maintaining provincial and national road networks

Roads are a crucial component of South Africa's transport system and economy. According to the land transport survey, which was released by Statistics South Africa in 2018, 77.3% of freight categorised as land freight in South Africa is hauled on its roads, accounting for 73.8% of total land freight income. This dependence on road infrastructure implies that the condition of roads has direct bearing on the ease of movement of goods and people across South Africa, which impacts overall economic growth. In this regard, the South African National Roads Agency carries out upgrades, maintenance and strengthening programmes of the non-toll and toll portfolios on national roads. Non-toll roads constitute approximately 85% of the national roads portfolio and are funded through transfers to the agency in the department's Road Transport programme for capital-related investment and road maintenance.

To improve and preserve the non-toll road network, allocations to the agency over the MTEF period increase at an average annual rate of 25.5%, from R6.9 billion in 2018/19 to R13.7 billion in 2021/22. The increase is due to the once-off reduction of R5.8 billion in 2018/19, which was effected to meet the agency's cash requirements for the Gauteng freeway improvement project. As a result, transfers for the Gauteng freeway improvement project are expected to decrease from R6.3 billion in 2018/19 to R633.1 million in 2021/22. As part of its non-toll road network projects, the agency plans to continue with the construction of the N2 Wild Coast highway and upgrading the R573 (Moloto Road). These projects will receive R3.2 billion and R3.3 billion, respectively, over the medium term.

About 49 000 kilometres (km) of the South African paved road network remain under the control of provincial transport departments. The bulk of maintenance operations carried out on provincial roads are funded in the Road Transport programme through the provincial roads maintenance grant. The grant receives allocations amounting to R36.5 billion over the MTEF period. The condition of roads, weather patterns and traffic volumes are factors that guide funding allocations for the maintenance of provincial roads. In Mpumalanga, where coal mining for electricity generation is concentrated, R526.2 million is allocated through the grant in 2019/20 for the maintenance of coal haulage roads. Over the MTEF period, the department plans to carry out the following activities related to the maintenance of provincial roads: resealing 14 816 lane km, rehabilitating 5 360 lane km, and black top patching 2.8 million square kilometres.

To carry out all departmental activities related to the maintenance of South Africa's road network, R102.5 billion is allocated over the medium to the Road Transport progra*mme.*

Moloto Rail Development Corridor

The Moloto Rail Project's main objective is to ensure that passenger rail as the backbone of an integrated multi-modal transport system using proven state of the art rolling stock and equipment. In addition this rail project would serve as a catalyst for economic development initiatives within and around the Corridor resolving challenges of safety, efficiency, reliability, affordability and overall integration with other public transport services.

The Moloto Development Corridor has its main objective to increase speed for buses from 70 km/h to 120 km/h and from 160 km/h to 200 km/h for standard gauge trains, thereby reduce travel time for commuters. This part of government's policy to develop an intermodal transportation solution and involves the following catalytic projects:

- 13 new train stations
- Koedoespoort Rapid Rail alignment (117 km of dual track)
- modal integration points
- surface 240 km of feeder routes
- Tshwane Bus Rapid Transit
- new dual 67-km carriageway from Siyabuswa to Moloto
- Mamelodi East and Greenview Pienaarspoort alignment.

Public transport

South Africa is on its way to becoming the first country in Africa to have rapid public transport networks. Such networks will not only change the face of the country, but also boost economic development, job creation and tourism.

South Africa's Public Transport Strategy, which comprises a multibillion rand transport infrastructure plan, is set to entirely reshape travel in South Africa. At the core of the plan is a high-quality integrated mass rapid public transport network that includes rail, taxi and bus services. The strategy aims to accelerate the improvement in public transport by establishing integrated rapid public transport networks (IRPTNs), which will introduce priority rail corridors and Bus Rapid Transport (BRT) systems in cities.

The Public Transport Strategy is expected to improve public transport services for more than half the country's population.

The long-term goal of the strategy is to have 85% of a metropolitan city's population within 1 km of the network, and provide a transport service that is clean, comfortable, reliable, fast, secure, safe and affordable.

The DoT continues to administer subsidies for buses and other subsidised forms of public transport.

This includes world-class airports, upgraded train stations, refurbished coaches and luxury buses, taxis and IRPTNs such as the BRT System.

Integrated public transport networks (IPTNs)

South Africa's urban areas are hubs of economic activity, therefore, it is crucial that they maintain optimal functionality and remain engines of socioeconomic growth. An integrated public transport network is central to the functioning of these hubs as they provide sustainable, affordable and functional transport solutions to urban commuters. During this last year of the MTSF, the department will continue with the implementation of the integrated public transport networks which is expected to reduce travelling times between residences and places of work.

To this end, the department makes allocations in the Public Transport programme for the public transport network grant, which funds the infrastructure and operations of integrated public transport networks in 13 cities across South Africa.

The programme also focuses on integrated public transport planning and construction in the 13 cities; and funds the indirect operating costs of services in 5 cities (Johannesburg, Tshwane, Cape Town, George and Nelson Mandela Bay) that operate bus rapid transit services. In these 5 cities, the grant is expected to support 182 264 weekday passenger trips in 2018/19, increasing to 296 240 weekday passenger trips by 2021/22. Allocations to the grant over the medium term are expected to increase at an average annual rate of 10 per cent, from R6.3 billion in 2018/19 to R8.4 billion in 2021/22.

Cities implementing the IPTNs carry a combined total of over 100 000 thousand passengers per weekday. Cities have facilitated the procurement of nearly 1 000 vehicles worth over R3 billion and these are universally accessible to all users, in particular; the elderly and people with special needs.

The Tshwane Rapid Transit (A Re Yeng) started operating in 2014.

All A Re Yeng buses are equipped with free wi-fi on the trunk route, full air conditioning, low-floor technology which supports Euro V emission levels, vehicle stability and a cashless automated electronic system that is fully monitored by camera and censors. The buses are operated by qualified former taxi drivers recruited from the various taxi associations in the city.

The A Re Yeng bus project will be rolled out in phases, culminating in the construction of 80-km long dedicated lanes. The route will comprise 51 bus stations that stretch from Soshanguve to Mamelodi, passing through the city centre and surrounding suburbs.

The City of Tshwane's launch follows on Johannesburg's Rea Vaya and Cape Town's MyCiti Integrated Rapid Transit systems.

The City of Johannesburg's Rea Vaya bus system route became operational in October 2013.

The route runs from Soweto and passes through Noordegesig, New Canada, Pennyville, Bosmont, Coronationville, Newclare, Westbury, Westdene, Melville, Auckland Park and Parktown; and links to the city centre.

The GO!Durban system was launched in 2015. Once completed, the GO!Durban will see minibus vehicles collect people from residential areas to transfer stations where, they will get buses to their preferred destinations.

About R20 billion set aside for transformation of Durban's public transport system is expected to connect 600 000 commuters across the city to nine public transport corridors by 2027.

In mid-2016, the first phase of Ekurhuleni's Harambee BRT service was implemented.

Harambee aims to connect the nine Ekurhuleni towns of Benoni, Germiston, Springs, Kempton Park, Edenvale, Nigel, Brakpan, Boksburg, and Alberton. Harambee's 56-km trunk route from Tembisa in the north to Vosloorus in the south will be built in phases, and started with the section from Tembisa via Kempton Park to OR Tambo International Airport.

All the South African BRT systems will expand in phases over the next decade.

Green Transport Strategy (GTS)

The NDP envisions that South Africa should have an environmentally sustainable, climate change resilient and low key carbon economy transition from the status quo. The Transport Sector has been identified as the fastest growing source of greenhouse gas emissions, accounting for around 10.8% of national greenhouse gas emissions.

Over the mediyum term, the DoT has focused on the development of the Green Transport Strategy to guide implementation of an environmentally friendly sustainable low carbon economy. The strategy will seek to address the adverse effects and impacts of transport on the environment and to also address the current and future transport demands based on the principles of sustainable development. The GTS will provide a clear and distinctive route of the environmental policy for the sector, by providing appropriate sector specific climate tools and corresponding mitigations and adaptations.

Electronic National Traffic Information System (eNaTIS)

eNaTIS provides for the registration and licensing of vehicles. It manages and records applications for and authorisation of driving and learner's licences.

It is also a law-enforcement tool used to ensure that the details of stolen vehicles are circulated and prevents irregular and fraudulent re-registration of such vehicles.

The system delineates the lifecycle of a vehicle, from the factory floor to the scrap yard.

It is compulsory for all new motor vehicles and motor vehicles requiring a police clearance to be microdotted. The registration of a motor vehicle introduced onto the eNaTIS by the manufacturer, importer or builder is only allowed if the microdot information was loaded onto the system.

The DoT and the South African Police Service (SAPS) would enforce the requirements through eNaTIS.

In November 2016, the Constitutional Court ordered control of the eNatis Traffic Management System be handed over to the RTMC.

S'hamba Sonke Road Maintenance Project

The S'hamba Sonke (meaning "Walking Together") programme was launched by the DoT in 2011 to address the backlog in road repairs.

The programme, through the Provincial Roads Maintenance Grant, consists of three budget components. The largest enables provinces to expand their maintenance activities. The other components allow provinces to repair roads damaged by floods and cover the cost of rehabilitation work created by coal haulage activities in Mpumalanga and Gauteng.

Through this programme, Government continues to address the spatial inequalities, create job opportunities, improve rural transport and its infrastructure, and also open the rural economy to new investment and development while also providing the much needed maintenance to the road infrastructure.

This programme has created 137 887 jobs, of which 28 933 are for youth, 54 918 taken by women and 180 are done by people living with disabilities.

Scholar transport

The Learner Transport Policy addresses challenges confronting learners who attend school far away from their homes.

Its aims are to:

- improve access to quality education by providing safe, decent, effective and integrated sustainable learner transport
- improve access to quality education through a coordinated and aligned transport system
- improve planning and implementation of an integrated learner transport service
- manage and oversee the implementation of an integrated learner transport service
- ensure an effective management of learner transport system
- provide for a safe and secure transport environment for learners through cooperation and collaboration with law enforcement authorities.

Non-motorised transport (NMT)

The promotion of NMT is mainly aimed at increasing transport mobility and accessibility, mainly in rural areas. The DoT has broadened its Shova Kalula Project into a more comprehensive NMT undertaking that incorporates, among other things, cycling and animal-drawn carts.

The Shova Kalula ("Pedal Easy") National Bicycle Programme aims to improve mobility and access to basic needs as well as social and economic opportunities for people especially in rural, remote and poorly resourced areas, including learners. Since the introduction of Shova Kalula, the DoT, in partnership with provinces, municipalities and private sector, has distributed more than 177 310 bicycles to destitute learners who travel long distances to their respective schools.

The project forms part of government's action programme and is expected to contribute to its antipoverty strategy and second-economy interventions. It is believed that these initiatives improve rural communities' mobility and access to economic opportunities.

The DoT aims to distribute one million bicycles a year across South Africa.

The Shova Kalula Project also incorporates microbusinesses that sell, repair and maintain bicycles to ensure the project's sustainability.

The Department of Environmental Affairs and KFW German Development Bank are in the secind phase of the Non-Motorised Transport Programme as part of South Africa's National Climate Change Response Policy, which sets the country's vision for an effective climate change response and the long-term transition to a climate-resilient and low-carbon economy and society.

Phase 1 of the programme was initiated in 2011 and focused on developing bicycle routes, parking facilities and rental stations with a view to promote non-motorised transport. The intended outcome was to reduce carbon emissions, improve air quality and advocate behavioural change towards a cleaner healthier lifestyle.

Given the success of Phase 1, the Department of Environmental Affairs secured a grant of €5 million to finance a five-year NMT Phase 2 from KfW Development Bank, within the framework of the German-South African bi-national Financial Cooperation.

Phase 2 comprises the extension of the existing bicycle networks to contribute towards efficient intermodal transportation networks within the cities. It will further include associated services such as the promotion of small, medium and micro-enterprise development through the establishment of bicycle empowerment centres.

Taxi Recapitalisation Programme (TRP)

The TRP is an intervention by Government to bring about safe, effective, reliable, affordable and accessible taxi operations by introducing new taxi vehicles designed to undertake public transport functions in the taxi industry.

The TRP is not only about scrapping old taxi vehicles, but also about how best to help operators to benefit constructively through empowerment. The compulsory requirements are also meant to ensure passenger comfort.

Through the TRP, government has ensured the following changes:

- introduction of safety requirements for passengers
- comfort for passengers by insisting on the size and number of seats
- promotion of accessibility on the size and number of seats
- branding and colour-coding of taxi vehicles so that legal taxis can be identified and differentiated from illegal ones, and so that members of the public can easily identify a taxi vehicle.

Resources

Roads

National roads

Government is responsible for overall policy, while SANRAL is responsible for road-building and maintenance.

The DoT continues to improve the road network by ensuring that it is well maintained and safe.

A new national roads plan was developed, acknowledging the importance of roads to the economy.

Provincial roads
Provincial governments are responsible for planning, constructing and maintaining roads and bridges, except those falling under SANRAL or local governments. The DoT helps provincial and local governments to improve and develop the state of their roads.

Municipal roads
The construction and maintenance of most roads and streets within the municipal boundaries of cities and towns is the responsibility of the municipality concerned.

Toll roads
The toll-road network comprises about 19% (3 120 km) of the national road grid. SANRAL manages some 1 832 km of these toll roads.

In its endeavour to continue the expansion and maintenance of the comprehensive national road network, SANRAL will continue the selective expansion of toll roads.

About 1 288 km of the tolled sections of national roads have been concessioned to private companies to develop, operate and maintain.

The N12 freeway was recently upgraded at a cost of R485 million. It entailed the rehabilitation and upgrading of the N12 from Eldorado Park to the North West border, with the entire section of the road developed into a dual carriageway.

The 20-month project involved the resurfacing of the freeway, clearing of drainage structures, replacing missing steel grids, reinstatement of road markings, erecting new road signs and replacing guard rails.

The N12 freeway serves as a critical freight link between Gauteng and the North West Province, including the Western Cape. It also services the mining, agriculture and tourism sectors.

The project had a strong economic empowerment component, with over 350 workers, particularly women and youth, as well as more than 20 local subcontractors from communities along the route.

The N2 Wild Coast Toll Road Project recently revised a route, spanning 410 km from East London to the Mtamvuna River Bridge.

The greenfields portion of the road will be a 112-km stretch between Ndwalane outside Port St Johns and the Mtamvuna River between Mzamba and Port Edward. It will include two mega-bridges over the Mtentu and Msikaba River gorges. The cost of building these bridges is estimated to be about R3.5 billion and construction was scheduled to begin in 2017.

Also included in the project are seven other major bridges, three interchange bridges and new roads. Construction on the greenfields portion of the road was expected to start in the second half of 2018.

The recent upgrade on the N1 highway between Pretoria and Bela-Bela is expected to increase the design life of the road by ten years.

The rebuilding of the 167 km of single carriageway on the N4 between Rustenburg and the Lobatse border post between Botswana and South Africa was scheduled to be completed by mid-2018.

Other upgrades on the 395 km of network under Bakwena's control include adding 70 km of dual carriageway on the N4 between Pretoria and Rustenburg in a R1.5-billion project. Bakwena has already added 35 km of dual carriageway on the N4, with the upgrade to be completed by 2020/21.

Bakwena is also spending R230 million on selected plaza and interchange upgrades.

Civil aviation
South Africa's nine major airports are:
- OR Tambo International in Gauteng
- Cape Town International in the Western Cape
- King Shaka International in KwaZulu-Natal
- Bloemfontein International in the Free State
- Port Elizabeth International in the Eastern Cape
- Upington International in the Northern Cape
- East London Airport in the Eastern Cape
- George Airport in the Western Cape
- Kimberley Airport in the Northern Cape.

Through the launch of the Pilot Cadet Training and Development Programme for those who had been previously disadvantaged, the three state-owned airlines – SAA, SAX and Mango – will strengthen their role as engines of economic growth in the developmental state, and as leaders in the transformation of the aviation sector.

Airlift Strategy
The Airlift Strategy introduced structured regulatory measures for increasing tourism growth for South Africa. In particular, this strategy is based on aviation policy directives and contributes to the county's growth by:
- aligning with the Tourism Growth Strategy and industry
- prioritising tourism and trade markets
- unblocking obstacles to growth through regulatory mechanisms, and bilateral and multilateral air-services negotiations.

The overall objective of the Airlift Strategy is to increase aviation's contribution towards sustainable economic growth and job creation. This requires the creation and maintenance of an enabling framework, within which both suppliers and consumers of air-transport services may exercise reasonable flexibility and choice.

The strategy enhances the prospects of South Africa as a preferred air-travel destination and synchronises the basis for bilateral air-services negotiations with other priorities.

The strategy also provides specific guidelines for various unique markets, with emphasis on the needs of intra-African air services, and aims to improve the regulation of particularly the supply side of air-transport services.

The department also developed the Airlift Implementation Plan, which provides a clear framework and capacity targets to be met.

Airlines
Several domestic airlines, as well as a number of smaller charter airline companies, operate in South Africa. SAA, British Airways (BA)/Comair, SAX, SA Airlink and Inter-Air operate scheduled air services within South Africa and the Indian Ocean islands.

In addition to serving Africa, SAA also operates services to Europe, Latin America and the Far East. Other airlines operating in the country are Kulula and Mango. Scheduled international air services are also provided by Air Afrique, Air Austral, Air Botswana, Air France, Air Gabon, Air Madagascar, Air Malawi, Air Mauritius, Air Namibia, Air Portugal, Air Seychelles, Air Tanzania, Air Zimbabwe, Airlink Swaziland, Alliance Express, BA, Cameroon Airlines, Delta Airlines, El Al, Egyptair, Emirates, Ethiopian Airlines, Ghana Airways, Iberia, KLM, Kenya Airways, LAM Mozambique Airlines, LTU International Airways, Lufthansa, MK Airlines, Malaysia Airlines, Martinair Holland, Northwest Airlines, Olympic Airways, Qantas, Royal Air Maroc, Saudi Arabian Airlines, Singapore Airlines, Swissair, Taag, Thai International, Turkish Airlines, Uganda Airlines, United Airlines, Varig, Virgin Atlantic, Yemenia, Zambian Air Services and Zambian Skyways.

Freight transport

Ports

Along its 3 000 km-long coastline, South Africa has eight commercial seaports: Richards Bay, Durban, East London, Ngqura, Port Elizabeth, Mossel Bay, Cape Town and Saldanha.

South Africa is situated on a major sea route, which facilitates the safe and secure movement of about 500 Mt of crude petrochemical sea trade. This represents over 30% of the world's petrochemical production, on board over 5 000 tanker voyages of very large crude carriers per year.

The nine commercial ports are crucial to South Africa's transport, logistics and socioeconomic development. About 98% of South Africa's exports are conveyed by sea.

The Port of Durban is the busiest container terminal in Africa and the second busiest in the southern hemisphere following Melbourne, Australia. The Ports Authority alone employs 6 200 people at the Durban Port, with an estimated 30 000 people employed indirectly.

Richard's Bay is the busiest port in South Africa by tonnage and is one of the top two coal-handling ports in the world. Richard's Bay focuses on bulk cargo handling while the Durban Port focuses on general cargo. It has also been earmarked for expansion projects with R3,7 billion set aside for mobile and quayside equipment, as well as weighbridges. Safety-critical, environmental and legal-compliance projects would also be carried out.

Cape Town, located at the southern-most point of Africa, is ideally positioned as a hub terminal for cargo to South America and the Far East. West/East Africa cargo has grown substantially, making the Cape Town Container Terminal the terminal of choice for trans-shipment cargo. The terminal handles 3 161 vessels per year for a gross tonnage of 44 501 297.

The Port Elizabeth Container Terminal is one of the three specialised container-handling facilities along the South African coastline. The terminal currently handles 1 271 ships with a total gross tonnage of 25 756 823.

Pipelines

South Africa consumes about 25 billion litres of petroleum products a year.

Transnet Pipelines transports almost 50% of all refined petroleum products in the country for the emerging and major oil companies of South Africa. The Tarlton storage and distribution depot is a vital conduit in the supply of fuel to Botswana. Transnet Pipelines plans to enhance this service.

Transnet Pipelines transports all the crude requirements for the inland refinery at Natref, from where almost 70% of their refined products and 80% at Secunda are transported through the pipeline network to the final markets.

Transnet Pipelines owns, maintains and operates a network of 3 000 km of high-pressure petroleum and gas pipelines.

Investment in the pipeline sector is ongoing. Construction on a R5.8 billion fuel pipeline between the Mozambican Port of Matola in Maputo and Kendal in South Africa started in 2009. The 450-km pipeline transports up to 3.5 Ml a year and is expected to prevent potential fuel shortages in South Africa.

The pipeline facilitates the importation of petrol and diesel from Mozambique, which has extensive natural gas and coal reserves, but no oil reserves. Of the pipeline's total capacity of 3.5 Ml of fuel and diesel, a maximum of 1.5 Ml is diverted to Mbombela. The remainder is transported to Kendal.

More than 60% of South Africa's liquid-fuels demand lies within the Durban-Johannesburg corridor. The Durban-Johannesburg pipeline is no longer adequate for the transportation of the required volumes of petroleum products from the coast to the inland regions.

The multiproduct pipeline, being constructed at a cost of R23 billion between Durban and Johannesburg, will replace the existing Durban-Johannesburg pipeline.

Freight

Africa's road access rate is only 34% compared with 50% in other geographical zones. Yet roads remain the dominant mode of transportation, accounting for more than 90% of passenger and freight transport in Africa, compared with around 50% of freight in Europe.

Government will also review its rail investment programme to accelerate the shift of freight transport from road to rail.

Transnet will invest about R63 billion in the freight rail system by 2020. For its part, organised business will continue to promote greater use of rail freight by companies.

Maritime

Marine transport encompasses all forms of transport by sea, intermodal links and inland ports. It serves a large degree for the freight market, and in the South African context offers no significant passenger-carrying ability.

The DoT is responsible for South Africa's maritime administration and legislation, which SAMSA controls on its behalf in terms of the SAMSA Act of 1998.

The broad aim of SAMSA is to maintain the safety of life and property at sea within South Africa's area of maritime jurisdiction, and to ensure the prevention of marine pollution by oil and other substances emanating from ships.

The Department of Environmental Affairs is responsible for combating pollution and uses Kuswag coast-watch vessels to perform this function. SAMSA is responsible for introducing and maintaining international standards set by the International Maritime Organisation (IMO) in London, United Kindom (UK), with respect to:

- ship construction
- maritime training and training curriculums
- watch-keeping
- certification of seafarers
- manning and operation of local and foreign ships
- maritime search-and-rescue
- marine communications and radio navigation aids
- pollution prevention.

SAMSA has an operations unit, a policy unit and a corporate support division to handle all financial, human resources and information technology issues.

Other functions include registering ships, establishing a coastal patrol service and managing marine casualties and wrecks.

SAMSA is steadily improving its capacity to monitor safety standards of foreign vessels. Numerous ships calling at South Africa's major ports are inspected, and those not complying with internatiomanal safety standards are detained until the deficiencies are corrected.

The South African Marine Corporation, Unicorn Lines and Griffin Shipping are South Africa's predominant shipping lines. Their fleets of container, oil tanker, general cargo and bulk cargo vessels operate not only between South African ports and as cross-traders to other parts of the world.

Comprehensive Maritime Transport Policy (CMTP)

South African's length of the coastline is estimated to be approximately 3 000 km. In South Africa, the greatest challenge has been the absence of maritime transport policy that is required to provide guidance to the industry. This much awaited Maritime Transport Policy will create certainty in the transport sector and the logistics market.

There are over 89 464 merchant ships trading internationally, transporting different types of cargoes and registered in 150 nations, thus growing marine international trade by 4% per annum. South Africa currently has four ships on its ship register and there is commitment to grow the register through the creation of a conducive environment and providing incentives to ship-owners as an encouragement to set up offices and possibly register under the South African flag.

The department maintains a single emergency towing vessel that is available to respond to emergency incidents. which is mainly deployed in the western Sea-board. This exposes certain areas of the coastline, especially of the Indian Ocean, to risks from ships oil pollution in the event of accidents or incidents. The DoT is working on a long term strategy to enhance capacity and capability for oil pollution surveillance and response.

The development of the Ports Economic Participation Framework, which is prioritised for the remaining period of the MTSF, will lay a firm legal basis for the effective implementation of the relevant provisions of the Ports Act of 2005. In order to increase the direct contribution of the maritime transport sector to the economy, revitalisation of merchant shipping through the development of a private sector driven national shipping carrier(s) and promotion of coastal shipping servives for specific cargoes is very essential.

Following the approval of the CMTP by Cabinet, the DoT has embarked on the process of developing a Maritime Transport Strategy 2030.

The CMTP serves as the embodiment of government's commitment to the growth, development and transformation of South Africa's maritime transport sector. It represents South Africa's long term vision, the underpinning philosophy and principles that inform its development and the direction that government has committed to take the sector to reach its full potential.

As a priority, the department will also be establishing the Maritime Transport Sector Development Council to drive the sector growth and development initiatives. Through this initiative, a transforming and inclusively growing maritime transport economy that leverages South Africa's competitive advantage in geographic position, nature and heritage; supported by people, innovative insfrastructure and service excellence, will be built.

South African Maritime Training Academy (SAMTRA)

The SAMTRA at Simon's Town in the Western Cape provides advanced training to the broader maritime sector, including the merchant navy, harbour-craft operations, the fishing industry and the South African Navy.

The South African Merchant Navy Academy, General Botha, established at Granger Bay, is integrated with the Cape Peninsula University of Technology, with a similar training facility at the Durban Institute of Technology.

Deck and engineering students and officers complete their academic training at the Cape Peninsula University of Technology and the Durban Institute of Technology, while lower classes of certificates are offered at the Training Centre for Seamen, situated in the Duncan Dock area in Cape Town. This training institution also caters for deck, engine-room and catering department ratings.

SAMSA is responsible for setting all standards of training certification and watch-keeping on behalf of the DoT, while the Maritime Education and Training Board is responsible for accrediting all maritime courses.

Other maritime training organisations offer a wide range of courses that have been developed within the South African maritime industry. These are situated mainly in the ports of Cape Town and Durban and, to a lesser degree, Port Elizabeth.

As part of an initiative to reduce the vacancy rate of at least 45 000 jobs in the maritime industry, 12 Further Education and Training (FET) colleges across the country started to offer courses aimed at equipping young people for a career in the industry.

The FET colleges will meet at least 80% of the industry's skills demands, producing artisans such as riggers, welders and boiler makers. Annually between 1 200 and 1 600 students enter the maritime industry after completing their studies.

Through its involvement in the AU, South Africa was leading the development of an integrated African Maritime Strategy.

Safety of travellers

Arrive Alive

Government's Arrive Alive Road-Safety Campaign has become an important part of the DoT's road safety projects and awareness efforts, especially during critical periods for road traffic management such as the Easter long weekend and the December holidays.

At the end of 2015, it was announced that the RTMC could not use the Arrive Alive campaign anymore, as it had been registered as a brand. The safety campaign remains in place, operating under the name 365 Days of Road Safety Programme, which would focus on creating awareness all year round.

The goals of the campaign are to:

- reduce the number of road-traffic accidents in general, and fatalities in particular, by 5% compared with the same period the previous year
- improve road-user compliance with traffic laws

- forge improved working relationships between traffic authorities in the various spheres of government.

The campaign emphasised that the reduction in road deaths was urgent and non-negotiable.

The RAF pays out about R15 billion to victims of road accidents every year.

The department intends to harmonise road traffic law enforcement and establish a Single Traffic Police Unit. As part of efforts to alleviate the scourge of road accidents and incidents, the department continues to work tirelessly to ensure that law enforcement is declared an essential service to guarantee availability of traffic officers on a 24/7 on our roads. Anti-fraud and corruption operation will continue to be intensified at all public and private driver learning testing centres and driving schools around the country.

UN Decade of Action for Road Safety 2011 – 2020

South Africa is a signatory to the UN Decade of Action for Road Safety 2011 – 2020. The UN General Assembly resolution proclaiming a Decade of Action for Road Safety 2011 – 2020 was tabled by the Government of the Russian Federation and co-sponsored by more than 90 countries.

The initiative aims to save lives by halting the increasing trends in road traffic deaths and injuries world-wide.

It is based on the following pillars:

- Pillar 1 – Building road safety management capacity
- Pillar 2 – Improving the safety of road infrastructure and broader transport networks
- Pillar 3 – Further developing the safety of vehicles
- Pillar 4 – Enhancing the behaviour of road users
- Pillar 5 – Improving post-crash response.

As part of the Decade of Action for Road Safety 2011 – 2020 campaign, Government is targeting the reduction in fatalities by 50% in 2020.

South Africa's efforts are focused on four key areas:

- fatigue or driver fitness
- drinking and driving
- use of seat belts
- pedestrian safety.

A key aspect of the integrated Road Safety Management Programme is increasing pedestrian safety. In planning and design, SANRAL provides for interventions such as traffic calming, safe stopping areas for public transport, and pedestrian bridges. The DoT also engages communities adjacent to national roads to find solutions to pedestrians' needs.

To contribute to safety on the roads, SANRAL has developed a database of projects that need to be implemented in areas that are hazardous to pedestrians. The solutions range from pedestrian bridges, pavements, road safety education and traffic calming measures.

When it comes to managing safety on freeways, SANRAL's incident management system, supported by central coordination centres, embraces interaction between emergency services and law enforcement agencies on all declared national routes.

Maritime safety

An estimated 7 000 vessels pass around South Africa's coastline annually, of which many are laden tankers carrying in excess of 30 Mt of crude oil. South African weather conditions present regular challenges to vessels, often resulting in distress calls to the Cape Town-based Maritime Rescue Coordination Centre (MRCC).

Piracy constitutes a serious challenge to the development and stability of the SADC member states, given the importance of the region's international seaborne trade and its vital contribution to regional food stocks and economic development.

Threats of piracy are of particular concern to the SADC, whose coastline and shipping lanes are extremely vulnerable to maritime crime. As the SADC's coastal area does not fall within patrol areas of the international anti-pirate forces, the SADC will have to take responsibility for its own maritime security.

The threat around the Horn of Africa and SADC waters detrimentally affects the SADC's trade and economy.

The SADC's Maritime Strategy entails a regional partnership with all member states contributing within their means. Not all members necessarily have the essential maritime and military capabilities, but they still contribute in other ways by providing land-based equipment such as radar and soldiers to patrol coastlines and islands.

The SADC has established robust rules of engagement for anti-piracy, which are largely consistent with those of other regions and task forces.

Regarding the legal framework, SADC member states are expected to:

- ratify or accede to international maritime conventions/treaties/ regimes and the incorporation of these into their national law
- put in place comprehensive legal regimes at national level, consistent with international law, to prosecute pirates
- stop the practice of "catch-and-release" of pirates since it allows experienced pirates to execute more sophisticated acts of piracy
- strengthen and harmonise regional and domestic legal frameworks for arrest, awaiting trial detention, prosecution and imprisonment or repatriation of pirates
- take responsibility for its own maritime security in cooperation with other regions, task forces, navies and role players.

The MRCC enables South Africa to exercise its responsibilities to the international community by employing state-of-the-art search-and-rescue infrastructure and services.

South Africa has a well-established pollution prevention strategy, and is ready to respond in case of threats to the environment or to provide assistance to vessels at risk.

South Africa acts in terms of the Indian Ocean Memorandum of Understanding (MoU) on Port State Control and has a similar agreement with the states of West Africa in the form of the Abuja MoU.

Search and rescue services

The Southern African Search and Rescue Organisation (Sasar) has been in existence since 1957. It was formalised through the enactment of the South African Maritime and Aeronautical Search and Rescue (SAR) Act, 2002 (Act 44 of 2002). The Act gave the organisation a statutory mandate to coordinate all SAR activities within South Africa's area of responsibility.

South Africa is responsible for a huge SAR area, representing about 10% of the globe and about 28.5 million km^2 in total. To manage this vast area, the South African area is divided into the aeronautical and maritime SAR areas.

The aeronautical SAR region covers Lesotho, Namibia, South Africa and Swaziland, and associated flight information regions.

The maritime SAR area stretches about halfway between South Africa and South America on the western side, and about halfway between South Africa and Australia on the eastern side. It also borders on Namibia, Angola, South Africa and Mozambique on the northern side and then extends to the south pole.

Relevant operational structures and substructures were established for Sasar to execute its mandate successfully.

The Aeronautical Rescue Coordination Centre (ARCC) and the MRCC are the primary structures responsible for the execution of Sasar's statutory mandate. The ARCC and the MRCC are based at the ATNS and SAMSA.

SAR only works when several countries and all stakeholders collaborate across borders. This culture of collaboration dates back to 1959 when the Convention on International Civil Aviation first made provision for cooperation between states.

According to this provision, states will individually or in cooperation with other states, arrange for the establishment and prompt provision of SAR services within their territories to ensure that people in distress get assistance.

Regional cooperation also uses scarce resources and helps nations to avoid duplicating efforts and facilities.

Through this collaboration, services are provided for poor states in a uniform way across a wide area. Collaboration also reduces the overall cost of SAR operations.

The SADC approached the ICAO and the IMO to fund the training requirements identified for the region.

In collaboration with the Department of Environmental Affairs, the DoT is also planning to create SAR capacity in the Antarctic region.

The DoT, the South African National Defence Force, Telkom, Portnet, SAMSA, SACAA, ATNS, SAPS, the Independent Communications Authority of South Africa, SAA and the Department of Cooperative Governance are members of Sasar and contribute their services and facilities.

Voluntary organisations such as the 4x4 Rescue Club, the Mountain Club of South Africa, Hamnet (the national amateur radio emergency communication network) and the National Sea Rescue Institute are also members of Sasar.

The ARCC Centre is an operational facility of Sasar that promotes the efficient organisation of search and rescue services and coordinates aeronautical search and rescue operations. This plays a significant role in improving the safety of South African airspace.