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SANRAL

INTEGRATED REPORT: VOLUME 1

2017

SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD



Reg. No. 1998/009584/30



**BUILDING SOUTH AFRICA
THROUGH BETTER ROADS**



Integrated Report 2016/17
The South African National Roads Agency SOC Limited
Reg no: 1998/009584/30



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CHAIRPERSON'S REPORT



The publication of SANRAL's Annual Report for 2016/17 comes at a time of major changes both within the organisation and in the broader governance environment within which we operate.

Within SANRAL we said goodbye to our founding CEO, Nazir Alli, who retired after a lifetime of service to our country. Our organisation and the broader transport sector were greatly enriched by Nazir Alli's insights and experience. The modernised state of our national road infrastructure can, to a large degree, be attributed to his drive and decisive leadership.

As a Board and an organisation we were fortunate to welcome a new Chief Executive Officer, Skhumbuzo Macozoma, who is well-equipped to lead SANRAL into a new era of growth. SANRAL is proud to have found

someone of his calibre and experience and we are encouraged by the positive reaction to his appointment by SANRAL's stakeholders, from the broader engineering sector to investors.

Road management, planning and engineering are fields that are continually evolving and SANRAL needs organisational renewal to meet its mandate to manage the growing primary road network and create economic value for the nation. Through the years SANRAL has built an enviable reputation as a global leader in road management, planning and engineering and will be applying this experience and knowledge in new ways to serve South African society and support development.

Our track record as an organisation also speaks to the quality of our corporate governance and financial management. The Board embraces the principles contained in the King IV report on corporate governance and we pro-actively implement its recommendations. I want to express my appreciation to the members of the SANRAL Board who are contributing to high standards of corporate governance within the organisation. A word of thanks goes to each and every staff member – both at head office and in the regions – who assists in the building of a strong organisation with a reputation for quality and professionalism.

The Board and management have commenced with a process of reviewing SANRAL's long-term strategy to ensure the organisation responds to changes in its environment. In the coming year, we will consult widely with stakeholders as we develop SANRAL's new Horizon 2030 strategy.

At SANRAL, we are mindful of the impact our procurement policies and practices have on the lives of South Africans and the transformation of the construction industry. These policies, which were originally tailored with the aim of promoting small, emerging, black construction companies, are being reviewed alongside changes to public procurement regulations, with the aim of better supporting the transformation of the industry to reflect the demographics of the country. In addition, SANRAL is conscious of the fact that the company operates within the public contracting arena where accountability and transparency are of the utmost importance.

Since year-end the possibility of a sovereign downgrade by Moody's Investment Services has

become a reality, and so have the expected negative consequences. This risk relates particularly to the toll portfolio and results from the low collection rate on the Gauteng Freeway Improvement Project (GFIP). The agency has implemented a number of strategies to improve toll collection and ameliorate this risk. It is important to note that SANRAL's going concern status remains intact.

During 2016/17 SANRAL awarded 172 contracts worth almost R16bn for new works, rehabilitation and road maintenance projects. SMMEs earned a total of R4bn through contracts with SANRAL, more than R2.1bn of which went to 1 045 black-owned enterprises. Our commitment to promote the growth of small and medium-sized businesses, which reduces unemployment and helps build a skilled workforce, is reflected in the growing value of contracts allocated to black-owned companies, and enterprises owned by women and the youth. Through this approach we are making a contribution to the transformation of the South African economy and the empowerment of emerging contractors – many of whom receive their first experience in the construction and engineering sectors by working on SANRAL projects.

SANRAL is equally committed to identifying, developing and nurturing the talents of the next generation of engineers and artisans through our investments in education and training. We support students at tertiary institutions across the country and award scholarships to high school learners who use the opportunities provided by SANRAL to access further educational opportunities. Our Technical Excellence Academy in Port Elizabeth has grown into a valuable institution where newly qualified engineers receive practical experience prior to entering the professional arena.

We value our productive partnerships with top institutions of higher learning to promote interest in STEM-subjects – science, technology, engineering and maths. We work closely with universities involved in advanced research on aspects of transportation, engineering, construction and road safety. Through our sponsorship of chairs in Pavement Engineering at the University of Stellenbosch, and Transport Planning at the University of Cape Town, SANRAL contributes greatly to knowledge generation and the training of people who go on to serve the broader transportation and engineering sectors.

This investment in future generations will prove valuable as SANRAL's responsibilities continue to grow. The road network managed by SANRAL expanded during the past year and we are now responsible for over 22 197km of national and provincial roads. The confidence in our ability to oversee this extensive network that stretches across our country is reflected in decisions taken by provincial governments to entrust the management of additional roads to SANRAL.

The vast majority of these roads are not tolled, with road maintenance and improvement being funded through allocations from government. SANRAL also manages a portfolio of toll roads, which augment the resources available to refurbish and expand the road network to enable economic growth and avoid congestion, which can be a major inhibitor of business efficiency and productivity and the quality of life of citizens. We are making measurable progress in the roll out of interoperability across the tolling network to ensure seamless travel on our road network and the introduction of a central transaction clearing house will bring major benefits to all road users.

SANRAL works closely with concessionaires on many of the major freeways and the past year has seen the completion of extensive work to rehabilitate and upgrade the roads for which they are responsible. One example is Bakwena's R260m rehabilitation of the N4 from Zeerust to Swartruggens in the North West.

Similarly, major projects on SANRAL's non-toll portfolio are nearing completion. The government allocated funds for the Moloto Road upgrade and, during 2016, the project was launched with a sod-turning event. This project demonstrates SANRAL's ability to work with communities and alongside the national and provincial governments to upgrade an important road artery that is vital to regional economic growth and to improve road safety, as well as promoting job creation.

Large sections of the national road network are being rehabilitated in the Free State and Northern Cape. Through SANRAL's pavement management system, sections of the roads that are in poor condition are identified and rehabilitated while additional work is done to reduce flood risk and damage to the carriageways. Upgrading of vital sections of the N7 and N12 are nearing completion, and the rehabilitation of structures on the N14 between Upington and Kuruman will benefit the

regional economy and improve the quality of life of communities who depend on this important road. The ring roads at Polokwane and Musina will benefit the entire regional economy and facilitate management of the growth in traffic volumes between South Africa and its neighbouring states. Improvements to the Mount Edgecombe Interchange on the N2, including the addition of five major bridge structures, will bring much needed relief to local road users and visitors to KwaZulu-Natal.

The N2 is the primary road link between the Eastern Cape and its neighbouring provinces. Major improvements to the road between Grahamstown and the Fish River Pass are currently underway. In addition, the implementation of the N2 Wild Coast improvement is an important project that will facilitate economic growth and upliftment in the region. These improvements will be funded through a hybrid model, with the first allocations coming from government to enable the construction of bridges in 2017.

SANRAL's introduction of freeway management systems to monitor transport networks in the metros of Gauteng,

Cape Town and KwaZulu-Natal and coordinate emergency responses is making a major contribution to road safety. These systems recently received an award for outstanding achievement from the Intelligent Transport Society of South Africa.

We are justifiably proud of the contribution that SANRAL has made to the development of the new National Road Safety Strategy 2016 - 2030, which was approved by Cabinet during the course of the year. Road safety is something that SANRAL integrates into the design and engineering of the national roads. Our innovative interventions and our commitment to create safer roads, together with improved post-crash responses, have placed SANRAL at the core of the national efforts to improve road safety and reduce the number of fatalities on the country's roads.

In addition, SANRAL seeks to create safer road users. We recognise the fact that about one-third of all schools in the country are located within 5km of the SANRAL road network. Our aim is to empower communities – especially pedestrians and school children – with sufficient knowledge about road



safety. We are working closely with universities, and national and provincial departments to conduct research on road safety and develop material that can be integrated into the curriculum of schools. In the past year SANRAL has expanded its Safe Routes to School project which combines road safety education for learners and teacher training packages with the introduction of safe road infrastructure.

Our success can, in no small measure, be attributed to the commitment of our employees and we are fortunate to be able to attract and retain some of the most talented people in the industry. SANRAL strives to create a diverse workforce and the organisation is committed to employment equity at every level of our business. Our commitment to gender equity and the fast-tracking of female talent in key sectors is borne out by appointments and promotions made in the past year as well as in the allocation of bursaries and scholarships. Our investment in human resources and skills development through the years will become increasingly important in the near future as a new generation of professionals moves into important leadership positions within SANRAL.

I would like to thank our outgoing Minister, Ms Dipuo Peters, and Deputy Minister Sindisiwe Chikunga for their support and guidance. At the end of March 2017, we welcomed Mr Joe Maswanganyi as the new Minister of Transport and SANRAL is looking forward to working with him to continue the delivery of the road infrastructure necessary to enabling the country's development.



Roshan Morar
CHAIRPERSON



CHIEF EXECUTIVE OFFICER'S REPORT



The year under review has been one of change and has seen the start of a number of key projects. Leading an entity such as SANRAL, even if only for four months of this period, has already proved challenging and rewarding.

I am honoured to be just the second CEO in our long history. The first, Mr Nazir Alli, stepped down after a lifetime dedicated to public service. During his 18 years at the helm of the agency, he kept the importance of quality road infrastructure firmly in the public conversation. Our world-class national road network is a tribute to his drive, commitment, vision and energy.

This legacy of leadership is a major factor in the success and stability of SANRAL, and is rooted in our belief in the importance of our purpose, a belief held in common

with our shareholder over many years. It is a great challenge to lead the incredibly talented and dedicated people who work for SANRAL.

It is well known that the physical development of a country starts with the development of the road network. During the financial year under review, SANRAL has pursued its mission to be a world leader in the provision of a superior national road network, in order to move people and goods and build our national economy. It is in this context that SANRAL has undertaken its programme to construct new links and preserve the nation's assets by maintaining the existing roads.

Major projects

The country's R3.6tn investment in Strategic Integrated Projects (SIP) is dependent on the quality of the road network available to support economic activity. SANRAL is a key agency in the delivery of the state's massive investment in economic infrastructure

In order to ensure the viability of the existing road network, in line with a long term national strategy, SANRAL has implemented several new projects in the road sector. The objective is to build up a road network that will address future development needs as well as alleviate the acute problem of traffic congestion, either by increasing the capacity of the road network or reducing traffic in congested areas by constructing ring roads and roundabouts.

SANRAL's mandate is to finance, improve, manage and maintain the national road network, the "economic arteries" of South Africa. In fulfilling this mandate, we strive to protect and preserve the environment through context-sensitive solutions, and to support the development of our country's human capital through contributions to tertiary institutions and cooperative governance.

During the year under review, we have executed this mandate by breaking ground on a number of flagship projects: the Moloto Road upgrade project, the N2 Wild Coast road project, Polokwane ring road project and the Musina ring road project.

We believe that implementation of these projects will boost economic growth, improve road safety and create opportunities for communities which these roads will connect.

Transforming the way we do business

In the course of fulfilling our mandate, we awarded 172 contracts worth approximately R15.9bn for new works, rehabilitation and improvement, routine and special maintenance, and community development.

Small, medium and micro enterprises (SMMEs) earned R4bn on contracts, meaning that we directed almost 25% of our contract expenditure to economic empowerment. More than half of these SMMEs were black-owned.

In addition, we trained 4 257 people (including 1 690 women) in road-building and other skills through 8 604 courses at a cost of R16.9m. We created the equivalent of 19 047 full-time jobs, 11 242 of which were taken up by youth. Additional opportunities for sub-contracting, employment and training were generated by the SANRAL community development programme.

As we strive to keep pace with our country's aspirations, more than 20 years after democracy, we look to strengthening the role the agency can play in transforming the economy. Our strategy will encompass actions that we need to start right now to address future challenges. This includes transforming the entity from within, amending our supply chain management policies to ensure inclusive investment in the construction industry and economy, and working with our stakeholders to deliver on government's promise to move South Africa forward.

Our commitment to innovation is in order to create value, and we seek innovation not just in project roll-out and services, but in everything we do and everywhere we operate. We need a constant flow of new ideas and different approaches to meet the challenges and opportunities of the future. The work we do cuts across all provinces, therefore it must be brought to life with a local focus. That implies locating critical decision-making where the needs are and where our resources live.

Funding

SANRAL has to remain at the top of its game to ensure that the road network remains in excellent condition. This is done through technical expertise and careful use of funds. In delivering its core mandate of managing 22 197km of roads, SANRAL applies engineering standards that will ensure good quality roads with adequate capacity and thereby maximise its limited annual budget and funds contributed by private

finance. Good road-riding quality and improved safety are testimony to this concern with standards.

During 2016/17, R11 807.4m was spent directly on non-toll roads, and this was split between capital works (R5 860.8m) and maintenance (R5 946.6m). At the same time, R4 073.4m was spent directly on toll roads, comprising R2 016.7m for capital projects and R2 056.7m for maintenance work.

We remain committed to ensuring parity in allocating funds to maintain the toll network despite the financial challenges of GFIP and Moody's downgrading of the sovereign credit rating along with the ratings of state-owned entities. We will continue to work with government to mitigate this risk.

Government, as SANRAL's shareholder remains committed to the agency's future and this is reflected in the steady growth in the annual budget allocation for the non-toll network. The role of private finance in infrastructure development is amplified in the national development plan, and we will continue to engage South Africans in this regard in the interests of economic and social development

SANRAL employs the procedures and practices of sustainable development to ensure that it manages the impact of road construction, maintenance and operation on the physical, social and economic environment as responsibly as possible.

Developing communities

During the past financial year, we continued to support learning and development in partnership with universities with a strong focus on science, technology, engineering and mathematics (STEM). A highlight in this regard was the University of the Free State's Family Math & Family Science initiative which continues to expand into new communities. A total of 176 primary schools from predominately rural communities in the Free State, Northern Cape, Eastern Cape and Gauteng provinces were actively involved in 2016. A total of 327 teachers, 13 787 learners and 8 161 parents benefited from the project's activities. A total of 32 subject advisors were trained to act as coordinators in their respective education regions, assuming the responsibility of supporting educators in the implementation of the programme.

In addition, a total of 133 students, including 32 women, were awarded SANRAL bursaries and 194 learners with a high aptitude for mathematics, physical science and English were recipients of SANRAL scholarships.

Through the SANRAL Technical Excellence Academy, 27 candidate engineers – 10 of whom are women – underwent training in 2016/17. The academy provides dedicated training and work exposure to civil engineering graduates, the majority of whom have been beneficiaries of SANRAL bursaries.

This pioneering, structured training programme equips graduate engineers with the necessary skills, competencies and knowledge required for road design. It enables trainees to complete the required experiential training for registration in one of the professional categories governed by the Engineering Council for South Africa (ECSA) within an accelerated

timeframe. The academy, which was established in 2014 with three graduate engineers, will be expanded over the medium term to yield larger numbers of registered engineers, supply the market and strengthen professional capacity within roads authorities.

Good roads do not necessarily mean that road crashes are averted and, therefore, SANRAL is committed to promoting road safety not only through engineering safer roads, but also by educating road users. With a third of all schools in the country located within 5km of the national road network, SANRAL aims to empower the 6.3 million learners in these areas with appropriate and relevant road safety information. SANRAL's educational materials are developed on the basis of sound social science to influence attitudes in a manner that will contribute to safer road user behaviour. SANRAL's initiative has already reached 1 940 schools and more than 14 000 teachers have received training and learning materials.



A glimpse into the future

Nearly two decades after SANRAL's establishment, we have decided to check our delivery against our mandate, vision and mission. This strategic process started in December 2016 and is taking place within a rapidly changing global and regional economic environment, and at a time of national reassessment of South Africa's socio-economic priorities. As a state-owned entity, we must deliver within this reality.

This strategy that is in development will replace the previous strategy – Horizon 2010 – which was developed with due consideration of the constraints within which government had to achieve its objectives, including the challenges of meeting basic socio-economic needs. The initial strategy was aimed at the containment and elimination of the funding backlog – which had resulted in roads in poor and very poor condition – on the non-toll national road network.

The new strategy, aptly titled Horizon 2030, aims to reposition the roads agency for the challenges of the future. It is a proactive response to deliver on SANRAL's vision of a national transport system that delivers a better South Africa for all.

It sets new goals and priorities for SANRAL with the aim of better serving the needs of all South African citizens, our customers and all road users by moving towards a business model that adopts an integrated funding approach comprising public, private and own funds. It intends to intensify the community development focus and will vigorously pursue a safely engineered road network.

SANRAL will focus on improving consultation with citizens, road users and other stakeholders. We want to engage with South Africans and develop solutions that will address their challenges and improve their lives. Communication and stakeholder engagement will be intensified at strategic and project level, both to impart and seek ideas on addressing the challenges of developing and expanding road network infrastructure in a context where public and private funding is limited.

We intend to consult and finalise this strategy during the 2017/18 financial year.

Acknowledgements

I am committed to continuing the proud tradition of SANRAL as a purpose-led organisation, calling on the great range and diversity of our talent and capabilities. We will dedicate ourselves every day to the responsibilities defined in our mission, vision and values. We will also sustain our commitment to our employees and to the communities in which we operate and the country we proudly call home. And to you, our valued shareholder, who have placed your confidence and trust in us.

I would like to thank the Chairman and members of the Board for their support. The fruitful discussions and advice given have been valuable. The trust of the Board and excellent relationship with management have also contributed to a conducive atmosphere for efficient work.

Our achievements would not have been possible without the support and commitment of the former Minister of Transport, Ms Dipuo Peters, and Deputy Minister Sindisiwe Chikunga. We look forward to working with the newly appointed Minister, Mr Joe Maswanganyi, and supporting him in creating a sustainable entity that continues to add value for all South Africans.



Skhumbuzo Macozoma
CHIEF EXECUTIVE OFFICER



SECTION

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Our Vision, Mission and Core Values



Mission

As the custodian of the national road network, we are committed to the creation of economic value for the nation through the provision of road infrastructure with:

- A motivated and professional team
- Consideration for community needs
- State-of-the-art technology
- Proficient service providers
- The user-pays principle.

COMPANY OVERVIEW



Vision

To be a world leader in the provision of a superior national road network.



Core Values

EP²IC

Excellence
Proactiveness
Participativeness
Integrity
Care

Our Mandate

The South African National Roads Agency SOC Limited

The South African National Roads Agency SOC Limited (SANRAL) was established in 1998 as an independent, statutory company registered in terms of the Companies Act. The South African government, represented by the Minister of Transport, is the sole shareholder and owner of SANRAL.

SANRAL has a distinct mandate – to finance, improve, manage, maintain and upgrade the national road network – and we are committed to carrying out our mandate in a manner that protects and preserves the environment through context-sensitive solutions.

The South African national road network consists of 22 197km of roads. This network seamlessly connects major cities, towns and rural areas, supporting economic growth and social development, and contributing to job creation in the country.

SANRAL has two primary sources of income. Non-toll roads, comprising 87% of the national road network, are funded from allocations made by the National Treasury. Toll roads, constituting 13% of the national road network, are funded either through public-private partnerships or from capital market borrowings.

SANRAL adds value to developmental initiatives in the fields of transport, education, health and development of communities. We revel in our role as a development partner and see this as closely related to our core function.

SANRAL makes a significant contribution towards road safety by maintaining and improving the road environment and by identifying and addressing road safety concerns. We also align with local and international road safety authorities to learn more and improve the safety of the national road network for road users.

The organisation actively supports development of the country's human capital through its support for education at both high school and tertiary levels.



Our Board of Directors & Executive Team

Non-executive directors



Roshan Morar
CHAIRPERSON
CA (SA) CFE



Allyson Lawless
Pr Eng C Eng BSc Eng (Natal)
MSc (Lond) DIC (Imp Lond)
DEng hc (Stellenbosch)
FEng FSAICE FStructE



Christopher Hlabisa
BTech (Civil) MDP
Pr Tech Eng MSAICE



Daphne Mashile-Nkosi
Small Business Management
Diploma



Avril Halstead
BCom (Hons) (Mathematics)
MBA MA (Advanced
Organisational Consulting)
MSc (Economic Policy)



Matete Matete
BSc (Hons) Transportation
Planning MBA



Zibusiso Kganyago
BCom Diploma in Advanced
Property Practice

Executive director



Skhumbuzo Macozoma
CHIEF EXECUTIVE OFFICER
BSc (Civ Eng) MSc (Civ Eng)



Alice Mathew
COMPANY SECRETARY
BSc MBA FCIS

Executive Management



Inge Mulder
CHIEF FINANCIAL
OFFICER
BCompt (Hons) CTA CA (SA)



Heidi A Harper
CORPORATE SERVICES
EXECUTIVE
BSoc Sci MBA Pr CHRP
(SABPP) IPMSP (IPM)



Koos Smit
ENGINEERING
EXECUTIVE:
BSc Eng (Civ) Pr Eng

Regional Management



Logashri Sewnarain
EASTERN REGION
BSc (Civ Eng) Pr Eng Pr CPM
MSAICE FAArb



Ismail Essa
NORTHERN REGION
NHD (Civ Eng) ND (Civ Eng)
BTech (Civ Eng) MBA
Pr CPM AMSAICE



Mbulelo Simon Peterson
SOUTHERN REGION
BSc (Maths and Applied
Maths) BSc (Civ Eng)
MSc (Strategic Planning)
MBA Pr Eng MSAICE



Kobus van der Walt
WESTERN REGION
BEng (Civ) Pr Eng

Our Vision, Mission and Core Values

Our principal tasks

- Plan, design, construct, operate, rehabilitate and maintain South Africa's national roads to support socio-economic development
- Generate revenue from the development and management of assets
- Undertake research and development to advance knowledge in the design and construction of roads and related fields, including the use of smart technologies to promote safer roads
- Advise the Minister of Transport on matters relating to South Africa's roads.

Our objectives

- Manage the national road network effectively and efficiently
- Provide safe roads
- Carry out government's targeted programmes
- Sustain co-operative working relationships with all spheres of government and the SADC member countries
- Maintain good governance practice
- Maintain financial sustainability
- Pursue research, innovation and best practice
- Safeguard SANRAL's reputation
- Pursue environmental sustainability and maintain sound environmental practices.

Funding the road network

SANRAL is responsible for two funding portfolios related to non-toll roads and toll roads respectively. These are managed separately and there is no cross-subsidisation between them. Non-toll roads are funded from an annual allocation from the national fiscus, while toll roads are either funded by SANRAL through borrowings from capital markets and operated on its behalf, or they are financed through public-private partnerships for a fixed period in terms of concessions that are granted to private parties.





SANRAL

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BUILDING SOUTH AFRICA
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SECTION

2

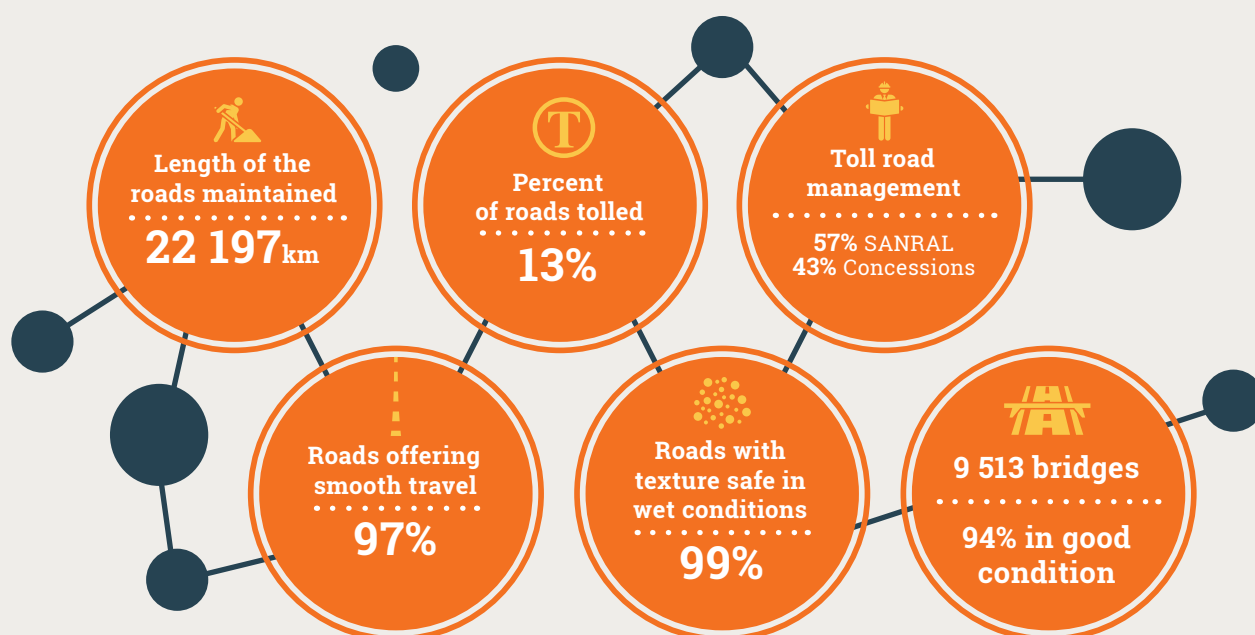
CAPITALS & PERFORMANCE



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Manufacturing Capital



SANRAL continued to fulfil its critically important mandate of managing and maintaining 22 197km of the national road network while supporting small, medium and micro enterprises (SMMEs) and black-owned businesses, and developing construction and other skills among workers drawn from communities adjacent to construction works.

The national road network, which is expected to grow to 35 000km in the medium to long term, plays a vital role in enabling economic development. As the population and the economy grow, there are increasing demands on road infrastructure. Roads deteriorate over time due to the wear and tear of constant use and environmental influences such as weather. These factors create a constant need to maintain the national road network and increase its carrying capacity.

SANRAL has a dedicated asset management system which generates data on the state of all roads within the network and enables the agency to decide which roads to prioritise for major upgrades and rehabilitation. Routine maintenance is undertaken across the network on a continual basis.

SANRAL takes pride in helping set and achieve international benchmarks for road infrastructure and related technology. The agency's work involves multi-year projects and as a result reporting on the planning, financing and construction of a number

of major projects is spread over consecutive annual reports. Many of the projects in this report are due for completion after March 2017.

Given its unique mandate, the creation of value in the form of manufacturing capital is in the very DNA of SANRAL and by far its greatest contribution to the national economy. However, significant investment in terms of human capital and intellectual capital flows naturally from the fulfilment of the agency's core infrastructural mandate.

1. Projects on non-toll roads

Northern Region

In 2016/17 SANRAL's Northern Region managed four major construction and rehabilitation projects on non-toll roads within its area of operation, as well as 30 smaller resealing projects. One large new project got underway, two continued as planned, and one reached completion.

A short summary on each project appears in Table 1. The total value of the listed projects, from start to finish, is about R2.18bn. Variations to the contracted amount can arise during the course of the project and adjustments are made accordingly.

Musina Ring Road

An important new project is the construction of the Musina Ring Road in Limpopo. Currently, the N1 route that links South Africa to the rest of Africa passes right

through Musina, which lies 15km south of the border with Zimbabwe. A ring road to divert long-distance traffic around the town was proposed by SANRAL as far back at 2006 and approved by the municipal council in 2007. The processes of land acquisition, environmental impact assessment and planning commenced soon after and construction got underway in April 2016.

The new road will be a single carriageway to the west of the Musina CBD. It will function as a highway with controlled access to the N1 via two interchanges. The

northern interchange bridge will be a feature bridge, with a central supporting column shaped like a hand rising out of the ground.

Special circumstances arising in this project were the need to ensure replacement housing for occupants of 30 houses affected by the construction of an interchange and the relocation of several ancient baobab trees. The latter process is described in more detail the environmental report in the section on natural capital.

Table 1: Northern Region: major construction and rehabilitation projects on non-toll roads 2016/17

Project	Major elements	Start date	Completion	Total cost
R570 from N4 to Jeppes Reef border post, MP	Rehabilitation of existing pavement. New climbing lanes. Widening of five river bridges. Establishment of quarry for supply of crushed stone	February 2015	December 2017	R640m
R23 from Platrand to Standerton, MP	Rehabilitation and strengthening to withstand coal haulage loads. Widening of several bridges	July 2013	May 2016	R450m
R23 from Standerton to Greylingstad, MP	Rehabilitation and strengthening to withstand coal haulage loads. Widening of several bridges	March 2013	May 2017	R689m
29 projects (10 in NW and 19 in LP)	Resealing	October 2016	June 2017	R1.4bn

All the above projects provided sub-contracting opportunities for SMMEs, created job opportunities for local residents and contributed to the building of skills. A summary of these aspects of SANRAL roads projects appears on pages 49 – 50.

Eastern Region

The Eastern Region had ten major engineering projects in progress on non-toll roads during the 2016/17 reporting period. The total value of the projects amounted to approximately R2.63bn.

Three projects reached completion during the year, three new projects commenced and three were ongoing, at various stages of completion. A summary of all projects is provided in Table 2 and additional details on selected projects appear below.

Hammarsdale Interchange

The upgrade of this interchange, which falls within the eThekweni metropolitan area along the N3 route between Durban and Pietermaritzburg, was accelerated due to co-funding provided by eThekweni Municipality.

It forms part of government's Strategic Integrated Project (SIP2) and responds not only to the recent increase in traffic volumes but to the council's earmarking of Hammarsdale as a node for freight logistics companies. A major homeware retail chain has recently developed a distribution warehouse in the area

and similar developments are likely.

The new interchange, to be completed before the end of 2018, will not only have the capacity for increased volumes of traffic but will also meet the clearance requirements for the N3 which is to be widened in the future.

Eteza Traffic Control Centre

The completion of this centre during 2016/17 was an important contribution to management of loads passing through Richards Bay harbour. These loads are typically destined for SASOL plants in Secunda and Sasolburg and various ESKOM power stations. A number are headed as far afield as Botswana, Zimbabwe and Zambia.

KZN Road Traffic Inspectorate issues between 260 and 350 abnormal load permits a year. About 35% of these require mass exemptions while the remainder must comply with axle-load limits. It has been found that about one-third of all heavy vehicles are overloaded, which not only causes serious damage to roads but also constitutes a road hazard, especially in terms of braking on the steep downhill slopes and sharp curves that are common in KwaZulu-Natal.



The new traffic control centre was completed at the very end of the financial year. It will operate around the clock and a contract for its management was awarded ahead of completion. About 30 permanent jobs will be created for local residents.

A large training programme for traffic officers of the KZN Road Traffic Inspectorate and uMfolozi Municipality was undertaken in preparation for opening.

KwaBhoboza Interchange

Construction of this interchange on the N2 near Mtubatuba was undertaken in advance of the projected date for the upgrade due to rapid development in the area which placed great pressure on the old intersection and led to frequent collisions. Its completion early in 2017 will be of great benefit to regular users of the route.

Table 2: Eastern Region: major construction and rehabilitation projects on non-toll roads 2016/17

Project	Major elements	Start date	Completion	Total cost
N1 from Trompsburg to Fonteintjie, FS	Construction of new single carriageway with drainage designed to reduce flood risk	September 2014	June 2017	R324m
N5 from Harrismith to Industriqwa, FS	Reconstruction of N5/Murray Street Interchange, widening of road to four lanes and widening of bridges. Construction of a new bridge over the Wilge River	October 2015	October 2017	R292m
N8 from Bloemfontein to Sannaspos, FS	Widening and realignment of existing road. Construction of new dual carriageway, seven bridges and three major culverts	October 2014	March 2017	R418m
N2 Mt Edgecombe Interchange, KZN	Upgrading to a four-level free-flow interchange. Includes building of longest incrementally launched bridge in South Africa	April 2013	December 2017	R816m
N2 Eteza Traffic Control Centre, KZN	New 24-hour traffic control centre. Widening of N2 to four lanes, new interchanges and new road-over bridge	October 2014	March 2017	R283m
N2 KwaBhoboza Interchange, KZN	Construction of new diamond interchange. Upgrading of N2 to accommodate future six-lane carriageway. Realignment of provincial road	June 2014	January 2017	R156m
N3 Hammarsdale Interchange, KZN	Upgrade of interchange including six new on- and off-ramps, a new five-lane overpass bridge and demolition of old bridge	May 2016	November 2018	R234m
N6 from Reddersburg to Rustfontein, FS	Resurfacing by means of double seal and within Reddersburg by means of asphalt overlay	September 2016	August 2017	R66m
N11 from Kwaggasnek to Volksrust, KZN	Resurfacing with double seal treatment	September 2016	April 2017	R33m
R22 Manguzi Town to Mozambican border, KZN	Construction of concrete pedestrian walkway and access road to local school	November 2015	November 2016	R15m

All the above projects provided sub-contracting opportunities for SMMEs, created job opportunities for local residents and contributed to the building of skills. A summary of these aspects of SANRAL roads projects appears on pages 49 – 50.

Western Region

The Western Region saw the completion of two projects in 2016/17: the realignment of the road at the Clanwilliam Dam in the Western Cape and widening of bridges and major culverts along the N10 between Groblershoop and Upington in the Northern Cape.

The major new project initiated during the year was the widening of the N7 from Leliefontein to Hopefield in the Western Cape, which is projected to take two

years to complete. This is the latest in a series of projects to upgrade the N7 to accommodate increased traffic and safely allow travel at 120km/h. The section between Abbotsdale and Malmesbury was still under construction during the year. This is a large project, valued at R505m and scheduled to take more than three years. It involves 17 new bridge structures as well as development of a double carriageway.

Information on all major projects in the region, collectively worth R1.36bn, is presented briefly in Table 3.

Table 3: Western Region: major construction and rehabilitation projects on non-toll roads 2016/17

Project	Major elements	Start date	Completion	Total cost
N7 from Abbotsdale to Malmesbury, WC	Upgrading road to four-lane dual carriageway. Realignment of a section of road and 17 new bridge structures	March 2015	July 2018	R505m
N7 from Kransvleikloof to Clanwilliam, WC	Realigning road to avoid flood risk resulting from raising of Clanwilliam Dam wall. Involves major rock cutting and a new 380m-long bridge	October 2013	April 2016	R339m
N7 from Leliefontein to Hopefield, WC	Upgrading road to dual carriageway designed for 120km/h travel. Construction of grade-separated interchange. Rerouting existing access roads	January 2017	July 2019	R335m
N12 near Hope Town, NC	Widening of bridge over the Orange River and another over a tributary	July 2016	February 2018	R87m
N10 from Groblershoop to Upington, NC	Widening of five concrete bridges and five major concrete culverts and surfacing of affected road	February 2016	March 2017	R57m
N14 from Upington to Kuruman, NC	Rehabilitation of three bridges using reinforced concrete overlays to strengthen bridge decks. Reconstruction of parapets. Stabilisation of dolomite soil below bridges	October 2015	June 2017	R39.1m

All the above projects provided sub-contracting opportunities for SMMEs, created job opportunities for local residents and contributed to the building of skills. A summary of these aspects of SANRAL roads projects appears on pages 49 – 50.

Southern Region

In the Southern Region in 2016/17 one major construction project was completed and three others were approaching completion at the end of the year. The total value of the four projects under management was about R1.4bn.

The completed project was the upgrade of the R61 between the Libode Interchange and the Ngqeleni Interchange.

Phase 1 of the upgrading of the N2 between

Grahamstown and the Fish River Pass was on course for completion in May 2017. This section of road links the Eastern Cape's largest city, Nelson Mandela Bay, with the provincial capital, Bhisho. Much of the traffic is local but there is also some tourism-related traffic as well as through-traffic from the Western Cape and KwaZulu-Natal. The road section is generally of lower standard than adjacent sections and improvement will reduce travel time and improve road user safety. Phase 1 focused on a portion of the road in the Makana Local Municipality and two more phases are planned.

Table 4: Southern Region: major construction and rehabilitation projects on non-toll roads 2016/17

Project	Major elements	Start date	Completion	Total cost
N2 from Grahamstown to Fish River Pass, EC Phase 1	Widening of road involving reconstruction of sub-base and base courses plus sealing. Provision of climbing lanes. Construction of bypass to support Phase 3 of project. Addition of separate roadway for non-motorised traffic	April 2015	May 2017	R345m (revised)
N2 from Komgha River to Grahamstown and from Keiskamma Pass to Keiskamma River, EC	Resurfacing of road	March 2016	May 2017 (revised)	R96m (revised)
R61 from Mthatha to Ngqeleni River, EC	Widening of road to create dual carriageway. Construction of new eastbound carriageway. Construction of three river bridges, an overpass and an interchange bridge	September 2013	June 2017 (revised)	R618m (revised)
R61 between Libode and Ngqeleni interchanges	Construction of bridges and widening of intersections. Includes an interchange bridge and overpass at Libode, pedestrian bridge and underpass at Ngxangxa	March 2014	September 2016 (revised)	R358m (revised)

All the above projects provided sub-contracting opportunities for SMMEs, created job opportunities for local residents and contributed to the building of skills. A summary of these aspects of SANRAL roads projects appears on pages 49 – 50.

2. Projects on the toll route network

Toll roads are an essential element of the national response to the challenges of expanding and maintaining road infrastructure. SANRAL will continue to develop toll roads selectively to enable the road network to grow sustainably. The current toll road network accounts for 13% of the national road network and comprises 2 952km of roads. SANRAL manages 1 681km of toll roads and three concessionaires manage and fund the remaining 1 271km.

Major toll road construction projects

Major upgrading, rehabilitation and maintenance of toll roads is shared by SANRAL and the three companies that have been awarded 30-year concessions on major national toll routes.

All projects provide sub-contracting opportunities for SMMEs, create job opportunities for local residents and contribute to the building of skills. More detail on these aspects of SANRAL roads projects appears on pages 49 – 50.

SANRAL was engaged in nine major toll road construction projects during 2016/17.

- The upgrade of the Polokwane Ring Road to facilitate the flow of through-traffic around the Limpopo capital. The capacity of the road is being doubled from two to four lanes, the alignment

adjusted to allow for higher speeds, and two bridges will be reconstructed for improved, safer access.

- The upgrade of the N2 from Mtunzini Toll Plaza to Empangeni junction in KwaZulu-Natal is the largest project (by value) in SANRAL's Eastern Region. Growth in traffic has led to long delays on this route and the upgrade will relieve this pressure. Construction began just weeks before the start of the current reporting period and will result in the single carriageway being expanded to form a dual carriageway. It involves several new bridges, including two major structures over the uMlalazi and uMhlatuze rivers.



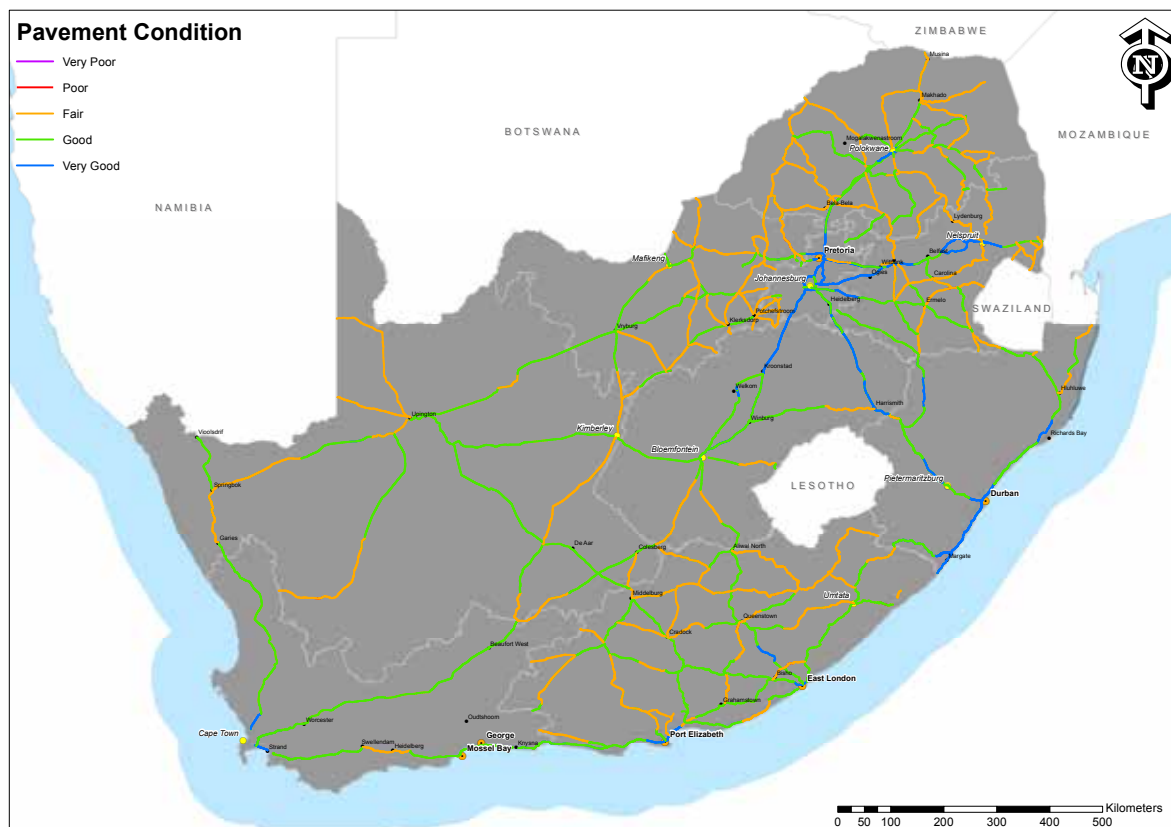
Table 5: SANRAL toll route projects undertaken in 2016/17

Project	Description	Start date	Completion	Total cost
Polokwane Ring Road Phase 2, LP	Upgrade of bypass to provide a four-lane divided dual carriageway. Includes upgrade of existing road, new dual carriageway and construction of two bridges	December 2015	November 2018	R645m
N2 from Mtunzini Toll Plaza to Empangeni T-junction, KZN	Upgrading to create a four-lane dual carriageway. Construction of new carriageway, two major bridges across rivers and several additional bridges	March 2016	April 2019	R946m
N1 from Sydenham to Glen Lyon, FS	Rehabilitation and strengthening of carriageway with realignment of several interchange bridges and ramps	February 2015	May 2017	R538m
N1 from Winburg Interchange to Winburg Station, FS	Widening to form four-lane dual carriageway. Rehabilitation of existing road. Construction of new two-lane carriageway and new bridge over railway tracks	January 2016	March 2018	R407m
N1 from Ventersburg to Holfontein, FS	Widening to form four-lane dual carriageway. Rehabilitation of existing road. Construction of new two-lane carriageway	August 2015	October 2018	R652m
N1 from Holfontein to Kroonstad, FS	Widening to form four-lane dual carriageway. Rehabilitation of existing road. Construction of new two-lane carriageway	February 2015	February 2018	R559m
N1 from Koppies to Vaal toll Plaza, FS	Asphalt resurfacing of road, ramps and cross roads at two interchanges	May 2016	May 2017	R102m
N2 from Oribi Toll Plaza to Albertsville Bridge, KZN	Construction of pedestrian facilities including reinforced concrete stairways and taxi/bus bays	August 2016	April 2017	R9m
Musina Ring Road, LP	Construction of new single carriageway bypassing town with two controlled access interchanges at the N1 north and south of Musina	April 2016	September 2018	R506m

3. Road network management

SANRAL utilises a dedicated asset management system to monitor and predict future road performance and plan for road maintenance and rehabilitation. The system uses data on pavement and bridge conditions as well as traffic flows and future road usage.

Figure 1: Pavement condition on national roads 2016/17



3.1 Bridge management

The bridge management system aims to ensure public safety on bridges with a span that exceeds 2.1m and culverts with openings greater than 5m². SANRAL-accredited inspectors inspect all bridges and major culverts every five to six years and prioritise repair work based on the condition of the structure. All bridges and major culverts are also inspected to ensure they meet national standards on capacity to cope with flood conditions. This aspect of SANRAL's work is particularly important given the potential effects of climate change.

There are currently 9 513 bridges and major culverts on the national road network, including 903 on routes operated by the three concessionaires. This figure will increase as the national network expands and SANRAL incorporates routes from provinces.

Most bridges and culverts were inspected in 2016/17

to establish which needed repair. All bridges and major culverts have been inspected in the last five years, including those on newly incorporated routes in the Eastern Cape. In 2015, inspections were carried out on bridges and culverts on the routes operated by the three concessionaires.

Exposure measurements have not changed significantly from those contained in the 2015/16 Annual Report. Inspections in the Eastern Cape, which included the latest traffic flow figures, impacted on the calculation of the overall condition index (OCI).

The method of calculating the OCI was changed and now follows the Committee of Transport Officials (COTO) deduct method for calculating the condition of bridges and culverts. This generally results in a lower OCI value for defective structures. Those structures scoring above 70% are deemed to be in a good condition.



Table 6: Percentage of bridges in good condition

Description	2014/15 Actual	2015/16 Actual	2016/17 Target	2016/17 Actual
Percentage of travel over or under bridges on national roads with OCI higher than 70%*	92	93	90	94

*The OCI threshold for structures in good condition used to be 80%

3.2 Slope management

SANRAL has undertaken proactive management of unstable slopes since 2003 and in 2016 introduced new approaches to address material and geotechnical hazards and risks. The Western Region has initiated slope monitoring contracts so that geo-hazards are managed and mitigated.

SANRAL's concessionaires continued their proactive management of the geohazards along the routes for which they are responsible.

Slope stability is primarily monitored by routine road maintenance personnel with the assistance of specialist service providers. Several unstable slopes were identified and addressed in all regions during the course of the year. Some were monitored and cleared as incidents occurred but where life-threatening conditions existed risk mitigation works were immediately carried out.

In the Southern Region, where SANRAL has recently assumed responsibility for several roads, efforts were concentrated on reducing slope-related risks. Several sites were identified for risk mitigation and appropriate action was taken. In the other regions, slope-related risks were mostly minor in nature.

An example of the kinds of risk situations dealt with was the erosion of the road fill by tidal waters along the R72 between Port Elizabeth and East London. A labour-intensive solution, involving the construction of gabions and the use of local materials and local labour, proved effective in providing the desired protection to the road fill.

In future SANRAL aims to award long-term tenders for slope management in all regions. The responsibility of specialised geotechnical service providers will be:

- Monitoring of unstable slopes
- Designing mitigation measures for seriously unstable slopes
- Providing specialist emergency personnel.

The first such tender has been awarded in the Western Region to Aurecon South Africa (Pty) Ltd.



3.3 Sinkhole management

SANRAL has introduced a system to manage the risks associated with dolomitic areas. This management system complies with the SANS 1936-2012 – Code 4 (Dolomite Risk Management) and is still in its infancy. Areas of dolomitic geology have been identified and are being rated in accordance with the risk of sink hole development. This data will enable SANRAL to manage the risk proactively and have emergency specialists on standby in case an event occurs.

Two notable sinkholes occurred in 2016: on the N14 between Kathu and Olifantsfontein in the Northern Cape and on the N12 near Orkney in the North West. Both were repaired and the risk of recurrence mitigated. Monitoring of these sites continues.

3.4 Pavement management and outcomes

The pavement management system uses life-cycle cost analysis to drive its maintenance and funding strategy. The goal is to preserve the national road network – including those roads under concession – at an adequate level given available funding. SANRAL's automated road-survey vehicles, equipped with laser, video and computer-based technologies, gather detailed road condition data. Visual inspections verify the automated assessments and enable SANRAL to review suggested solutions.

SANRAL allocates the funding available to maintain the national road network according to the following hierarchy of priorities:

- Routine maintenance: preventive asset-preservation actions, such as cleaning drains, cutting grass, sealing cracks, patching potholes
- Periodic maintenance: preventive asset-preservation actions such as resealing and overlays



- Strengthening/improvement: extensive reconstruction and improvement actions that extend pavement life and/or add additional lanes to relieve congestion
- New construction: construction of new roads and ancillary services.

The state of the road network in 2016/17, as established by the road survey system, is described below.

Smooth travel exposure

Smooth travel exposure is a measurement of the roughness of the road. In 2016/17, the condition of the roads was similar to that measured in previous years. This indicates that the maintenance programme has been effective, especially on the roads incorporated from the Eastern Cape, North West and Limpopo between 2012 and 2016.

Table 7: Smooth travel exposure 2016/17

Description	2014/15 Actual	2015/16 Actual	2016/17 Target	2016/17 Actual
Percentage of travel undertaken each year on national roads with roughness less than 4.2m/km according to international roughness index	96	96	95	97

Note: Roughness refers to longitudinal road surface undulations affecting the wear and operating costs of vehicles, road safety and the impact of the vehicle on the road through excitation of vehicle mass.

Low rut exposure

Low rut exposure is a measurement of surface depressions that are capable of holding water and

causing vehicles to aquaplane. Measurements for 2016/17 showed an improvement on the previous year, reflecting the positive impact of SANRAL's maintenance strategies.

Table 8: Low rut exposure 2016/17

Description	2014/15 Actual	2015/16 Actual	2016/17 Target	2016/17 Actual
Percentage of travel undertaken each year on national roads with rut depth less than 20mm	99	99	95	100

Note: Rut depth refers to surface depressions that can hold water and cause a vehicle to aquaplane.

High texture exposure

High texture exposure is a measurement of the surface macro-texture, which affects surface friction at speeds higher 60km/h under wet conditions. Measurements for 2016/17 were similar to those for the previous year and this reflects the positive impact of SANRAL's maintenance strategies, especially on the roads incorporated from the Eastern Cape, North West and Limpopo where surface seals with high macro-texture were typically used.

Table 9: High texture exposure 2016/17

Description	2014/15 Actual	2015/16 Actual	2016/17 Target	2016/17 Actual
Percentage of travel undertaken each year on national roads with macro-texture higher than 0.4mm	99	99	95	99

Note: Macro-texture refers to visual coarseness of the road surface that affects surface friction at high speeds (>60 km/h) in wet conditions.



3.5 Routine road maintenance

SANRAL has contracts in place to cover routine maintenance on every bit of the national road network. These provide for: pothole-patching, sealing of open cracks, repairing and cleaning drainage systems, repairing and renewing fences, road signs, road studs and guardrails, burning firebreaks, maintaining trees and shrubs to protect the environment, controlling weeds and litter, and assistance during emergencies.

The necessity of a sustainable routine road maintenance programme becomes more evident as roads approach and exceed their initial design life. Having a maintenance team on site at all times is imperative, especially when dealing with emergency works.

Important objectives of SANRAL road maintenance contracts are to provide empowerment opportunities for SMMEs, to improve their capability, and ensure sustainable business opportunities for emerging contractors. The routine road maintenance model requires the main contractor to provide mentorship, training and financial support to SMMEs.

These contracts prioritise black-owned SMMEs, in particular. In 2016/17 a total of 317 such entities performed road maintenance work to the value of R788m.

Northern Region

The Northern Region manages about 30 routine road management contracts that service about 8 508km of road, amounting to 42% of the SANRAL road network. In 2016/17 expenditure on these contracts amounts to about R1bn.

A total of 103 black-owned SMMEs were contracted to provide road maintenance and training provided in relation to these contracts amounted to R853 000.

Eastern Region

The Eastern Region manages nine routine road maintenance contracts covering 2 542km of roads, or 16% of the SANRAL road network. Spending on this work amounted to approximately R448m in the 2016/17 year.

Maintenance contracts were awarded to 28 black SMMEs and the investment in training related to these contracts was about R184 457.

Southern Region

This region managed 18 routine road maintenance contracts covering 49 634km of road, including 342km which were added during 2016/17. This represents 20% of the SANRAL road network.

During 2016/17 approximately R470m was spent on routine road maintenance, providing work to 154 SMMEs and 578 people. The total amount earned by SMMEs was R195m and R290 000 was invested in training.

Western Region

The Western Region manages 19 routine road maintenance contracts covering 4 513km of roads, or 22% of the SANRAL road network. Spending on this work amounted to approximately R310m in the 2016/17 year. Maintenance contracts were awarded to 32 black SMMEs and the investment in training related to these contracts was about R592 000.

3.6 Overload control

Overloading of heavy vehicles is a major problem on South African roads and takes a toll in terms of damage to roads and risks to road safety. SANRAL has a vested interest in the control of vehicle overloading and operates 19 traffic control centres around the country.

During 2016/17 nearly 23% of the vehicles weighed at these centres were overloaded. The majority were within the “grace” margin but 7% were so far over the legal limit that prosecutions were instituted. Fines exceeding R21m were imposed during the year and fines to the value of R4.1m were paid.

Table 10: Summary of activities at SANRAL traffic control centres 2016/17

	Total
Vehicles weighed	1 731 664
Overloaded vehicles	390 310
Drivers charged	28 399
Drivers arrested	1 836
Value of fines issued	R21 705 965
Value of fines paid	R4 096 670

SANRAL has eight vehicle inspection facilities situated at strategic positions on national routes. These facilities tested 9 460 vehicles in 2016/17 and more than one-third (34.5%) failed to meet road safety standards.

Table 11: Activity report on for 2016 Bakwena traffic control centres

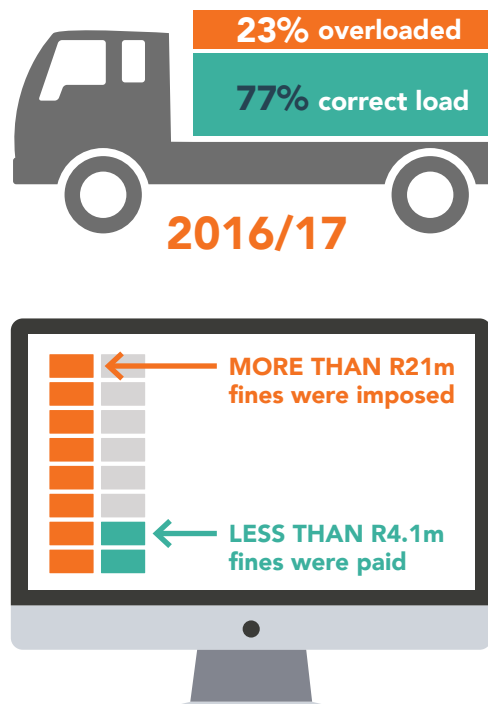
	Mantsole TCC	Bapong TCC	Total
Vehicles weighed	303 647	88 996	392 643
Vehicles overloaded	71 336	21 187	92 523
Drivers charged	5 362	2 261	7 623
Overloading fines issued	R4.96m	R2.64m	R7.6m
RTQS Fines issued	R0.96m	R9.64m	R10.6m

N3TC continued to monitor overloading on the N3 toll route where heavy vehicles constitute about 32% of traffic and an average of 60m tons of freight is carried each year. Seven weigh-in-motion (WIM) stations provide traffic loading information and determine damage caused by overloaded vehicles. Data quality checks are incorporated to ensure that WIM data quality is of a high standard.

TRAC has seven load control centres (LCCs) and 11

Overload control by concessionaires

Bakwena currently manages two weigh bridges: the Bapong Traffic Control Centre on the N4 west of Tshwane and the Mantsole Traffic Control Centre on the N1 north of Tshwane. Enforcement duties are carried out by North West and Limpopo traffic authorities respectively. Table 11 reflects the results of weighbridge operations in 2016.



lay-byes along the N4 toll route which weighed more than 796 000 heavy vehicles in 2016/17. The rate of overloading ranged from 9% to 13% at the various centres. Just over 1% of vehicles (9 244) were extremely overloaded and liable for prosecution.

TRAC’s N4 Overload Control Project has created 92 permanent jobs and has indirectly generated another 64 job opportunities through the use of SMMEs for security and maintenance of facilities and equipment.

3.7 Traffic monitoring

Traffic and weigh-in-motion (WIM) monitoring is undertaken with the purpose of measuring and analysing traffic and vehicle characteristics – such as numbers of vehicles, operating speeds and axle loads – in order to manage, plan and design road networks and infrastructure.

A distinction is made between automatic traffic and WIM monitoring services, which depend mainly on the use of mechanical and electronic equipment, and manual traffic monitoring

services which rely on human observation.

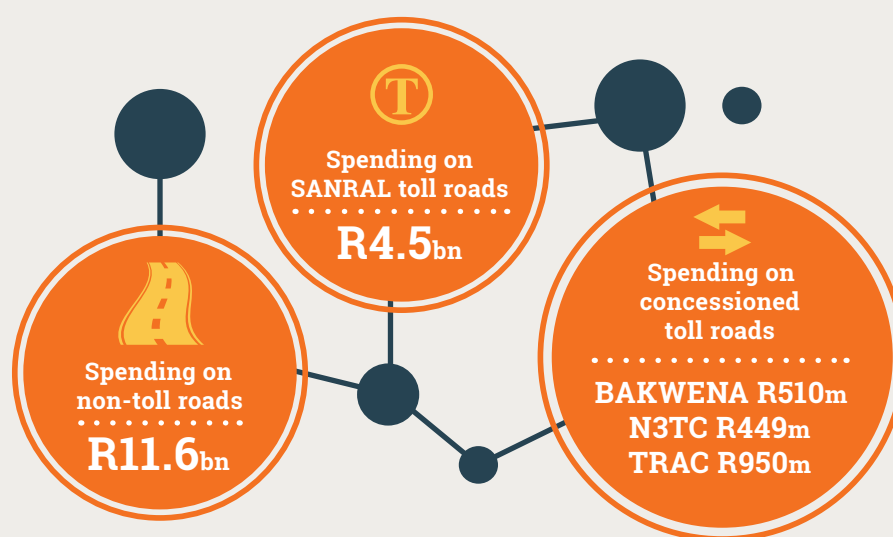
In terms of new specifications, automatic monitoring services may only be provided by service providers and system suppliers in possession of valid certificates.

Three traffic monitoring contracts were active during the 2016/17 financial year. There were 916 long-term traffic-monitoring stations in operation and 755 short-term traffic-monitoring counts were conducted during the 2016/17 financial year.





Funding Capital



Government has indicated that the 22 197km of roads under SANRAL's jurisdiction may increase by a further 12 803km over time. During the reporting period, 707km of provincial roads were declared national roads. This expansion has financial implications which SANRAL proposes to meet by:

- Using funding from the national fiscus as efficiently as possible
- Collecting tolls in accordance with a move towards the user-pays principle
- Engaging with the private sector to finance sections of toll roads.

In the period under review, 13% of the national road network was funded through tolls and toll roads were either managed directly by SANRAL or by the private sector through public-private partnerships. These partnerships or concessions require that the private sector collects tolls and uses these funds to design, construct, finance, operate and maintain the roads in accordance with standards stipulated by SANRAL. The concessions are for a period of 30 years, after which the road is to be returned to SANRAL in the specified condition, free of charge.

The 87% of the national road network that is not tolled is maintained, upgraded and expanded through tax-based revenue allocated from the national fiscus.

1. Public-private partnerships

SANRAL has long recognised that the importance of transport infrastructure to economic growth creates opportunities for private investment in road development and management. PPPs are an alternative means of financing and operating the national road network, with the costs being recovered through user charges or tolls. PPP enables SANRAL to secure financing for the improvement and preservation of the country's road infrastructure assets for periods well beyond government's three-year expenditure horizon.

PPPs have been a cornerstone of SANRAL's business model and the agency currently has three significant partners: the N3 Toll Concession (RF) Proprietary Limited (N3TC), the N1-N4 Bakwena Platinum Corridor Concessionaire (Bakwena), and the N4 Trans African Concessions (TRAC). These partnerships, or road concessions, have proven their worth through operational efficiency, a reduction in the cost of transport, and safer and more reliable road infrastructure.

On non-concessioned toll roads, comprehensive toll road operation and maintenance contracts consolidate responsibility for performance of operational activities and the financial risk associated with managing toll

routes. A main contractor operates a particular route, pays the actual gross income (tariff x number of vehicles) to SANRAL and then claims discounts, concessions and violations as costs, based on an agreed cost matrix.

Toll road projects undertaken by concessionaires

During the year under review, N3TC invested R449m, TRAC R950m and Bakwena R510m in the maintenance, rehabilitation and upgrading of their respective sections of the national road network. TRAC's expenditure included works in Mozambique.

The rehabilitation work undertaken in 2016/17 by the three toll route concession-holders is outlined below.

1.1 Bakwena

Bakwena is responsible for the design, financing and construction of road improvements as well as the ongoing operation and maintenance of 385km of toll road between Pretoria and Bela-Bela on the N1 (95km) and between Pretoria and the Botswana border on the N4 (290km). The Bakwena Corridor forms part of the

important Trans-Kalahari Highway between Walvis Bay and Maputo and is entering its fourteenth year of operation.

During 2016/17 various road improvement projects were undertaken along these routes and they are detailed in Table 12.

Several projects were concluded during the the year, and several more were due to be completed within months of the end of the financial year.

During the course of the year the benefits of toll plaza upgrades in Gauteng became apparent. The demand on these plazas in the peak commuter periods is extreme and their expansion and reconfiguration has improved the flow of traffic considerably. At the time of reporting, the Zambesi Plaza southbound on-ramp was processing on average 3 400 vehicles an hour between 6am and 7am and the Zambesi Plaza northbound off-ramp processed 3 050 vehicles an hour in the afternoon peak hour. The Doornpoort Plaza processed on average 3 400 eastbound vehicles an hour in the morning peak hour and 2 600 westbound vehicles an hour in the afternoon peak hour.

Table 12: Road rehabilitation projects undertaken in 2016/17 on routes managed by Bakwena

Project	Description	Start date	Completion	Total cost
N4 Zeerust to Swartruggens, NW Phase 1	Rehabilitation	March 2015	April 2017	R260m
N4 Zeerust to Swartruggens, NW Phase 2	Rehabilitation	June 2017	March 2019	R240m
N4 Zeerust to Swartruggens, NW Phase 3	Rehabilitation	July 2016	September 2017	R164m
N4 Ga-Rankua Interchange to Brits Interchange, NW	Resealing	March 2016	December 2016	R32m
N4 Marikana to Waterfall Mall in Rustenburg, NW	Resealing	March 2016	December 2016	R34m
N4 from R24 to Bietjieberg, NW	Resealing	March 2016	December 2016	R23m
N4 Lehurutshe to Botswana border, NW	Resealing	October 2016	April 2017	R33m
N4 at Waterfall Mall, Rustenburg, NW	Construction of new bridge portal	February 2016	March 2017	R25m
Zambesi Toll Plaza, Tshwane, GP	Addition of two lanes in each direction	January 2016	February 2017	R48m
Stormvoël Toll Plaza, Tshwane, GP	Addition of one lane in each direction	January 2016	February 2017	R29.4m
Doornpoort Toll Plaza, Tshwane, GP	Addition of two lanes in each direction	January 2016	February 2017	R26.4m
Pumulani Toll Plaza, Tshwane, GP	Addition of two lanes in each direction	January 2016	February 2017	R36.5m

1.2 N3TC

The mandate of N3TC is to design, finance, construct, operate and maintain the section of the N3 extending from Cedara in KwaZulu-Natal to Heidelberg in Gauteng. During the reporting period, rehabilitation contracts with a combined value of R581 million were completed, contracts to the value of R642 million were ongoing, and new contracts worth R136 million were awarded. These projects are summarised in Table 13.

Two major rehabilitation projects between Warden and Van Reenen on the N3, which commenced in 2015, were nearing completion at the end of the financial year.

Table 13: Road rehabilitation projects undertaken in 2016/17 on routes managed by N3TC

Project	Major elements	Start date	Completion	Total cost
N3 Sand River to Frere Interchange, KZN	Rehabilitation involving resurfacing of some sections and resealing of others	November 2016	March 2018	R136m
N3 Harrismith to Warden, FS	Reconstruction of truck lane and asphalt resurfacing of entire road	January 2015	September 2017	R376m
N3 Van Reenen to Harrismith, FS	Reconstruction of truck lane and asphalt resurfacing of entire road	August 2015	May 2017	R182m
N3 De Hoek Plaza to Heidelberg, GP	Repair and resurfacing of entire road	February 2016	November 2016	R72m

1.3 TRAC

TRAC's mandate is to design, finance, construct, operate and maintain the N4 from Solomon Mahlangu in Pretoria, Gauteng, to Maputo in Mozambique, making the N4 toll route the only cross-border concession.

During 2016/17 various road upgrade and rehabilitation projects were undertaken along this route. In addition to the projects concluded during or after the course of this financial year, another five projects are planned for the next financial year.

Table 14: Road rehabilitation project undertaken in 2016/17 on routes managed by N3TC

Project	Major elements	Start date	Completion	Total cost
N4 Wilge River Interchange to Highveld Interchange, MP	Rehabilitation	August 2015	January 2017	R205m
N4 Highveld Interchange to OR Tambo Drive Interchange, MP	Rehabilitation and upgrading to six lanes	March 2017	August 2018	R253m
N4 Crossroads to Sycamore Siding, MP (Phase 1)	Rehabilitation	September 2015	February 2017	R221m
N4 Crossroads to Sycamore Siding, MP (Phase 2)	Rehabilitation and additional climbing lanes	March 2017	August 2018	R275m
N4 Hectorspruit to Komatipoort, MP	Rehabilitation and additional climbing lanes	January 2016	July 2017	R276m

2. Non-toll road revenue and expenditure

The national fiscus provides SANRAL with the financial resources to maintain and improve the non-toll road network. The allocation from National Treasury has invariably increased year-on-year since the establishment of SANRAL. Spending is prioritised according to needs identified through SANRAL's road asset management system.

In 2016/17, the total grant received from government was R13.49bn, part of which was capitalised for major rehabilitation and new construction projects. Revenue from the operation of non-toll roads amounted to R8.67bn.

SANRAL spent R5.7bn during 2016/17 (see Table 15) on maintaining non-toll roads and nearly R5.9bn on strengthening, improving and providing new facilities on these roads (Table 16).

Table 15: Non-toll roads: operational expenditure 2016/17

Description	Number of projects	Length (km)	Cost (R'000)
Routine maintenance	84	19 245	1 693 212
Periodic maintenance	80	1288	2 892 310
Special maintenance	18	447	1 115 836
Total	219	20 980	5 701 358

Note: Operational expenditure excludes any accruals made at year-end. Expenditure related to contracts awarded in previous financial years, but incurred during 2016/17, is included. Length indicates the actual length of road maintained or constructed during the financial year. Periodic and special maintenance is in addition to routine maintenance of the road network.

Table 16: Non-toll roads: capital expenditure 2016/17

Description	Number of projects	Length (km)	Cost (R'000)
Strengthening	19	127	1 749 306
Improvements	36	163	1 948 664
New facilities	49	186	2 182 999
Total	104	476	5 880 969

Note: Capital expenditure excludes any accruals made at year-end. Expenditure related to contracts awarded in previous financial years, but incurred during 2016/17, is included. Length indicates the actual length of road maintained or constructed during the financial year.



3. Toll road revenue and expenditure

Revenue from SANRAL's non-concessed toll operations increased by 7.7% from the previous year to approximately R4.9bn.

The Gauteng Open Road Tolling Project (GFIP) contributed 4.2% to this increase. An amount of R372.9m was received from the fiscus as a grant to offset the loss in e-toll revenue as a result of implementing the new dispensation for GFIP that was announced by the Deputy President in May 2015.

May 2016 marked the end of the period during which

a 60% discount was available to road users with toll accounts in arrears in terms of this dispensation.

The debt collection process for accounts in arrears continued and civil litigation for outstanding toll fees and associated costs commenced. Summonses were issued for prosecutions in magistrates' courts and the high court. The first default judgment in the high court was obtained in January 2017.

SANRAL spent over R2.5bn during 2016/17 (see Table 17) on maintaining toll roads and nearly R1.9bn on strengthening, improving and providing new facilities on these roads (Table 18).

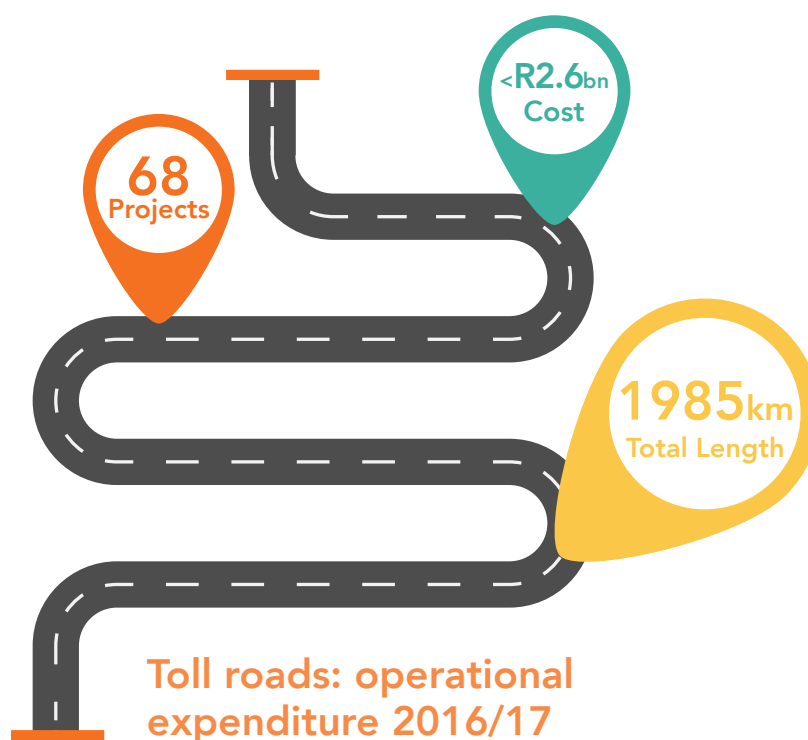


Table 17: Toll roads: operational expenditure 2016/17

Description	Number of projects	Length km	Cost (R'000)
Toll operations and routine maintenance	56	1 681	1 842 661
Periodic maintenance	8	238	637 696
Special maintenance	4	66	113 897
Total	68	1 985	2 594 254

Note: Operational expenditure excludes any accruals made at year-end. Expenditure related to contracts awarded in previous financial years, but incurred during 2016/17, is included. Periodic and special maintenance is in addition to routine maintenance of the road network. Length indicates the actual length of road maintained or constructed during 2016/17.

Table 18: Toll roads: capital expenditure 2016/17

Description	Number of projects	Length km	Cost (R'000)
Strengthening roads	3	22	309 370
Improving roads	14	6	287 264
New facilities	18	72	1 402 720
Totals	35	100	1 999 354

Note: Capital expenditure excludes any accruals made at year-end. Expenditure related to contracts awarded in previous financial years, but incurred during 2016/17, is included. Length indicates the actual length of road maintained or constructed during 2016/17.

4. Land portfolio management

Over the years, SANRAL has acquired a property portfolio in order to meet its mandate of building and improving roads. In the process of acquiring land for road development it is inevitable that portions of some properties are left without access or rendered useless to their owners. In such cases, SANRAL also buys these portions and therefore has both road reserves and surplus land in its portfolio.

While road reserves are maintained by means of routine road maintenance contracts, the surplus land is managed by a specialised service provider who provides surveying, valuing and general property management services and maintains all SANRAL's offices. This contract was concluded in 2015 for an initial period of five years and has a value of R943.4m.

The contract requires the service provider to sub-

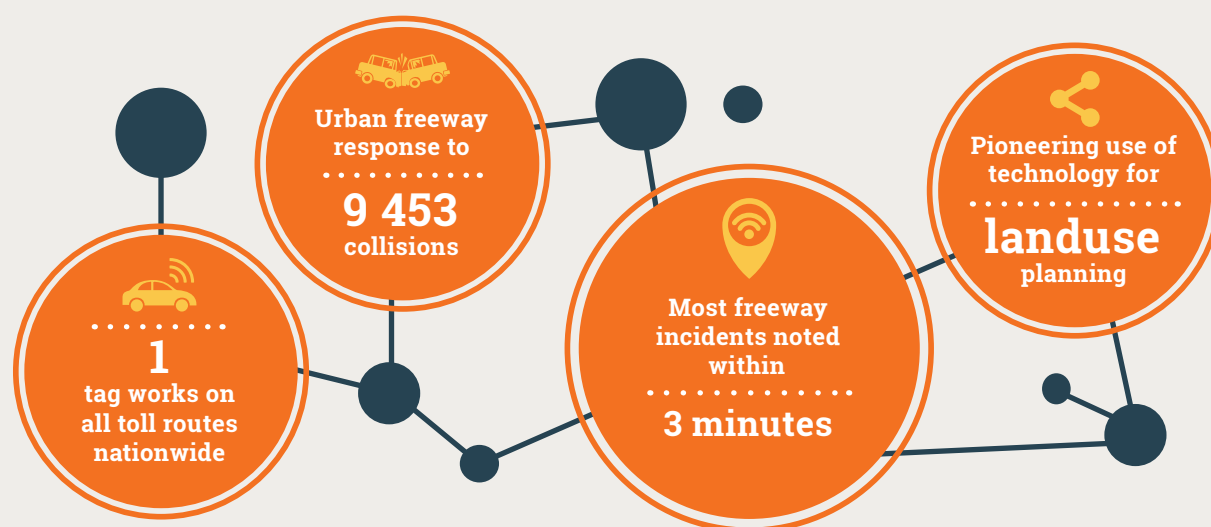
contract at least 50% of its work in order to provide opportunities to black-owned SMMEs and smaller companies in the property sector. Despite keen competition for the services of black land surveyors and valuers, this target has been exceeded.

The SANRAL Act requires the agency to acquire property by agreement, where possible, but in exceptional cases the agency may request the Minister to expropriate property in terms of the Expropriation Act No 63 of 1975, which determines compensation.

SANRAL's predecessors were not bound to take transfer of property that they acquired for purposes of road development and the agency has made a considerable effort to identify this land and transfer it to SANRAL. This entails tracing the land owners and requesting them to sign documents to create a legal foundation for the transfer. Where property owners have refused to cooperate, the Minister has been asked to expropriate.



Intellectual Capital



SANRAL's strength in relation to the building of intellectual capital lies not so much in the origination of new technology but in the novel application of existing technologies to provide solutions in road planning and construction and the creation of safer and more user-friendly road systems.

1. Automated electronic toll payment

South Africa's first multi-lane free-flow electronic toll collection system, with a newly developed central clearing house, was introduced in 2013. This application of automated electronic payments built on the established boom-down system was first introduced on the Bakwena Platinum Corridor in 2003. During 2016/17, SANRAL increased the electronic payment footprint to most toll plazas nationally, as an additional payment collection system. Planned roll out of the system, comprising all toll plazas in South Africa, is to be concluded in the next financial year.

Interoperability of electronic tolling across most existing toll plazas is an incentive for increased e-tag uptake. Road users with a registered e-tag account are able to use this account and the same e-tag at toll plazas across the country, passing almost instantly through the gates. A central transaction clearing house administers this system. During the reporting period, toll roads with the automated electronic payment option were:

- The N3 between Johannesburg and Durban.
- The N1 from Pretoria to Musina, and from Bloemfontein to Johannesburg and the Huguenot Plaza.
- The N4 from Pretoria to Pelindaba and the Botswana

border in the west and to Komatipoort in the east.

- The R30/R730/R34 between Kroonstad and Bloemfontein.
- The N17 between Johannesburg and Ermelo.
- N2 South Coast route.

Marketing campaigns were conducted periodically at major petrol stations and malls to increase usage of e-tags. Electronic tolling has been found to increase plaza throughput considerably from about 270 – 350 vehicles an hour to more than 1 000, in certain dedicated e-tag payment lanes.

TRAC went live with the automatic electronic tag system in March 2017. To date tag uptake has been positive, especially at the Diamond Hill and Middelburg Toll Plazas.

2. Road management systems and technological innovation

The freeway management systems (FMSs) in Cape Town, Gauteng and the busiest routes in KwaZulu-Natal comprise integrated networks of cameras, radar equipment and communication technology that facilitate rapid responses to incidents and efficient route planning by making real-time information on traffic patterns widely available.

In 2017 the Intelligent Transport Society of South Africa (ITSSA) recognised this smart roads initiative by selecting the SANRAL FMS deployment as the recipient of its inaugural award for outstanding achievement in the intelligent transport field.

The FMS infrastructure, coordinated through a central control centre in each of the three urban areas, is described in the table below. The reliability of this technology, in terms of virtually uninterrupted availability, is essential to the FMS playing its intended role.

Table 19: Freeway management system components 2016/17

FMS	CCTV cameras	Vehicle detector stations	Electronic message boards	Twitter followers
Cape Town	236	81	50	42 000
Gauteng	238	108	60	46 000
KwaZulu-Natal	146	59	26	124 445

Information on prevailing traffic conditions is relayed via social media platforms, as indicated in the table, and also accessed via the i-traffic website by hundreds of thousands of users and broadcast widely by radio stations.

Electronic message boards along the freeways are “live” at all hours and regularly updated.

Incident response services

The ability of the FMS to initiate rapid and appropriate responses to road incidents is of enormous value to the public. This helps save lives after serious collisions, prevents collisions and reduces economically damaging traffic snarl-ups by clearing breakdowns as quickly as possible. It also contributes to the security of motorists who experience breakdowns.

Table 20: Summary of critical activity by freeway management systems 2016/17

FMS	Incidents responded to	Collisions responded to	Detection time for incidents
Cape Town FMS	22 000	3 100	Average: 2:15 mins
Gauteng FMS	20 200	4 787	Average: (60-70%) < 3mins
KwaZulu-Natal FMS	>10 000	1 656	Average: 2:33 mins

Cape Town Freeway Management System

The Cape Town FMS has seen a reduction in clearance times for fatal crash scenes, primarily due to improved coordination between emergency services and the support of the South African Police Service.

CCTV footage of incidents is used by managers and supervisors of all the responding services for training and debriefing of on-scene personnel. On-scene personnel are aware that their actions are being

monitored and evaluated. This not only leads to safer practices at the incident scene, but also to more efficient management of resources. Senior personnel are also able to assist on-scene personnel with decisions on how to clear the incident as efficiently as possible.

The analysis of accurate and comprehensive incident data helps to understand crash trends and identify high-risk locations which in turn informs the allocation of resources for engineering and traffic law enforcement. The identification of areas with high pedestrian activity has guided law enforcement and educational activities. The erection of a pedestrian fence on the median of the R300 freeway, near the Delft community, eliminated pedestrian crossings and crashes in this area.

The Cape Town FMS has played a key role in improving safety and security on portions of the N2 and R300 freeways. A priority task team, which includes law enforcement agencies, was formed to improve safety and security through proactive intelligence gathering and a rapid law enforcement response to any stationary vehicle. This is supported by a dedicated 24/7 operation centre coordinated by the Cape Town FMS and backed by its technology. There is also an emergency call centre for members of the public. SANRAL has provided a live feed from the Cape Town FMS video to the call centre to facilitate an efficient response. This project has led to a significant decrease in incidents of crime and to multiple arrests.

PEDESTRIAN DETECTION AND SOFTWARE



A Stellenbosch University Master’s student and SANRAL intern, Hardy van der Merwe, has developed software capable of analysing pedestrian movements by the use of video footage from surveillance cameras along South Africa’s highways. He developed the programme to extract pedestrian mobility data from videos of foot traffic on pedestrian bridges. This analytical tool will enable transport authorities to evaluate the impact of pedestrian safety campaigns, study pedestrian flows in specific areas and – when used together with gesture recognition – alert authorities to suspicious behaviour.

KwaZulu-Natal Freeway Management System

The KwaZulu-Natal Freeway Management System covers the busiest 120km of the N2 and N3 freeways. Stationary vehicles accounted for about 50% of the 10 000 incidents responded to in 2016/17, while incidents related to traffic congestion and crashes each accounted for 16% of incidents. About nine out of 10 crashes involved light vehicles and the highest number of crashes was recorded between the Queen Nandi Drive Interchange on the N2 and the EB Cloete Interchange. Provincial road traffic officers are located at the traffic management centre and this has enhanced coordination of the response to incidents. During high traffic volume periods, SAPS officers also have a presence at the centre to further enhance the management of traffic incidents.

The KwaZulu-Natal FMS has noted a tremendous increase in the use of social media by road users, with growth of 50 000 Twitter followers alone in 2016/17. The public has responded positively to the dissemination of travel times for key road sections.

In recognition of its significant use of technologically advanced systems to manage the freeway network, the KwaZulu-Natal FMS received an award for technical excellence in 2016 from the Pietermaritzburg branch of the South African Institute of Civil Engineering.

Gauteng Freeway Management System

Crashes constituted nearly 24% of incidents recorded by the Gauteng FMS, and medical response units responded to over 3 512 incidents, with an average response time of 10.7 minutes. They provided first-line medical assistance within the critical "golden hour" to an average of 199 people a month.

Efforts to improve the clearance times of fatal crashes have intensified. By building relationships with the SAPS Accident Investigation Unit and Forensic Pathology Services clearance times have been reduced to under an hour, compared to two or three hours in the past. These services are notified of any fatality as soon as it is declared by the SANRAL medical response unit.

Increased awareness of the right of traffic police to instruct the immediate removal of a vehicle causing undue obstruction has reduced delays resulting from stranded heavy vehicles.

A critical success factor in Gauteng was the dedicated on-road service unit, comprising 10 incident response units, 10 light towing units, six heavy recovery units and 12 medical response units. The incident response units

responded to an average of 783 incidents a month in 2016/17.

3. Innovations in geology, geophysics and applied geotechnical engineering

The innovative combination of satellite imagery and airborne geophysical testing was used for the first time by SANRAL in 2016/17 to overcome the difficulties experienced by designers in understanding the geological and geotechnical risks involved in road development. Land use patterns tend to mask underlying geological features and risks and this can cause costly unforeseen work during construction and reduce the life of road assets.

This ground-breaking methodology was applied very successfully in planning both the N2 Wild Coast and the Moloto Road projects. SANRAL utilised Landsat 7 imagery in combination with airborne geophysical testing, which is usually used in deep mineral exploration. This shallow earth assessment allows investigation of material types, karst features and geotechnical risks – that is, fault zones and dykes.

The result was much better and more efficient land-use planning and design. The technique probably saved nine to 12 months of on-the-ground investigation in the Wild Coast where no significant geological exploration had been previously undertaken by the Council for Geoscience.

In addition, Landsat data was combined with a magnetic dataset to identify probable sources of road-building materials for the project. Several existing quarries and sites for the possible development of new quarries were identified close to the planned Msikaba and Mtentu bridges.

4. Sharing innovation

Staff from SANRAL presented papers on new geotechnical methods at important international and local conferences.

- Engineering Geologist Pierre Roux presented a paper on investigations for the Ermelo Ring Road at the International Society on Rock Mechanics, which took place in Turkey, and at the 30th Symposium on the Application of Geophysics to Engineering and Environmental Problems, held in the United States.
- Quality Manager and Materials and Pavements Specialist Rob Damhuis made a poster presentation at the 35th International Geological Conference (IGC) in Cape Town.

5. The SANRAL Technical Innovation Hub

In rising to the challenge of rapidly evolving Smart Road Technologies and Innovations, SANRAL during 2016/17 established the Technical Innovation Hub (TIH) located in Cape Town at the Western Region Office.

Some five years ago already, SANRAL began investing in bursaries for candidates showing interest in engineering disciplines other than Civil Engineering, which is traditionally most commonly associated with roads and transportation. These other engineering disciplines include Electrical and Electronic, Mechatronic (combined Mechanical and Electronic), and Computer Engineering, and are now more than ever impacting on roads, transportation and mobility specifically.

This strategic investment in human capital was based on the foresight that technology and innovation will shift our focus in reimagining and adapting existing roads and their immediate environments, to ensure that we deliver on smart and safe mobility to all. The good thing is that the technology is already here, and SANRAL is now well positioned to embrace this technological innovation explosion through its TIH. The TIH employees currently comprise four recently graduated engineers in training, namely; two Electronic and Electrical Engineers and two Mechatronic Engineers. Additional engineers from varying disciplines will be joining the TIH over

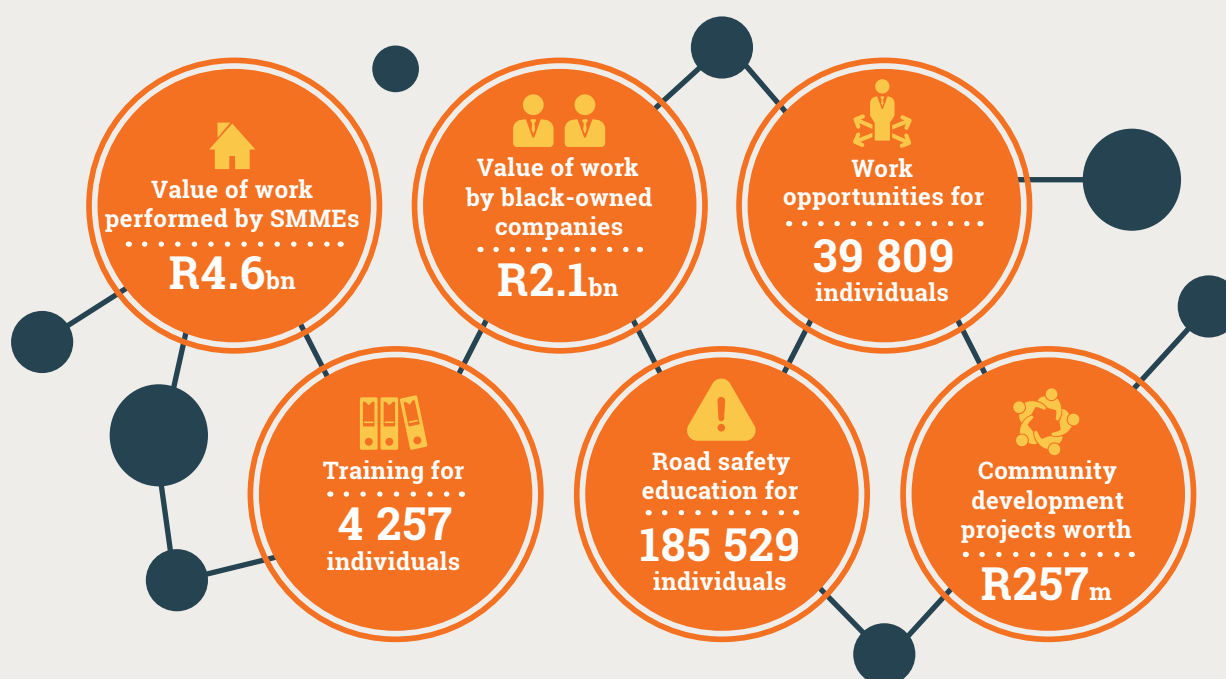
the next few years. Two of the current TIH engineers in training have recently completed post-graduate studies in research topics relevant to transportation technology advancements, such as automated pedestrian detection and drone applications.

The TIH has commenced with various innovative and technology driven projects that will reshape how we think about transport and our environment. One important project is a collaboration between the Stellenbosch University's Smart Mobility Laboratory and the TIH. The objective of this project is to test the use of Floating Car Data, such as bluetooth and other vehicle tracking devices in decision making. The development of knowledge and capacity in this field will lead to improvements in traffic analyses, monitoring of traffic trends, and the identification of congestion and speed violation hotspots.

A very important objective of human capital development is to ensure that we create an environment that not only stimulates innovative thinking and ideas to improve the experience of our road users, but one that also lends itself to the professional development to allow all our engineers in training to be registered as professionals. All TIH engineers in training have therefore been registered as candidate engineers with ECSA, and in collaboration with the SANRAL Technical Excellence Academy, are on the path to Professional Registration.



Social and Relationship Capital



As a state-owned company, SANRAL is committed to the social goals of government, including economic transformation and the building of a more equal, cohesive society. The agency utilises every procurement opportunity to advance these objectives. SANRAL also invests in community development and road safety programmes, as well as educational initiatives designed to improve the teaching of maths and science at school level, particularly in rural and disadvantaged communities.

1. Empowerment, job creation and skills development

SANRAL makes a significant contribution to the development of human capital in the construction industry through its mainstream road construction, rehabilitation and maintenance projects.

All contracts awarded by SANRAL require principal contractors to sub-contract to SMMEs – particularly entities with black and female owners, to prioritise the hiring of local workers, and to provide training to these workers. As a result of this approach:

- Work worth R4bn was contracted to and performed by SMMEs on road construction, rehabilitation and maintenance projects during 2016/17
- Road construction, rehabilitation and maintenance projects generated the equivalent of 19 047 full-time jobs.

A total of 4 257 individuals received training on these projects.

1.1 Value and number of contracts

SANRAL awarded 172 contracts worth over R15.9bn for new works, rehabilitation and improvement, periodic and special maintenance, routine maintenance, community development and other related services during 2016/17.

SMMEs earned a total of R4bn through contracts with SANRAL, more than R2.1 billion of which went to 1 045 black-owned enterprises. SANRAL's skills development programmes benefited 4 257 people, including 1 690 women. SANRAL projects created the equivalent of 19 047 full-time jobs, 11 242 of which were taken up by young people.

Table 21: Value of SANRAL contracts awarded

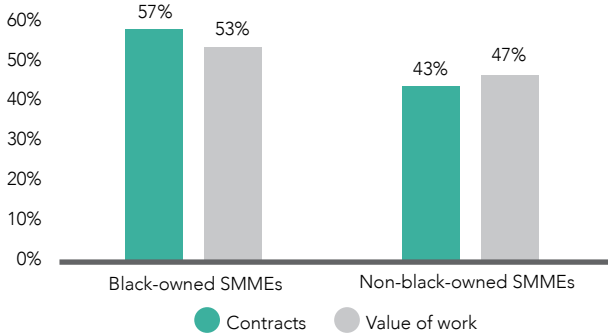
	Number of contracts	Amount
Non-toll roads	142	R12.9bn
Toll roads	30	R3.0bn
Total	172	R15.9bn

Note: All amounts exclude contract price adjustment, contingencies and VAT

1.2 SMMEs and black-owned entities

As indicated in Figure 2, nearly six out of 10 SMMEs performing work on SANRAL projects were black-owned and the value of work contracted to these enterprises was somewhat higher than that awarded to other SMMEs.

Figure 2: Share of road contracts and work by black-owned and other SMMEs 2016/17



1.3 Job opportunities

Job creation is possibly the greatest challenge facing South Africa and each year SANRAL plays a role in creating job opportunities. In 2016/17 the agency’s road construction, rehabilitation and maintenance projects provided job opportunities to more than 39 800 individuals. Given the nature of construction work, it is unsurprising that young men, aged up to 35 years, constituted the largest group of workers.

However, one in five individuals hired was a woman and this ratio represents progress in terms of gender representation.

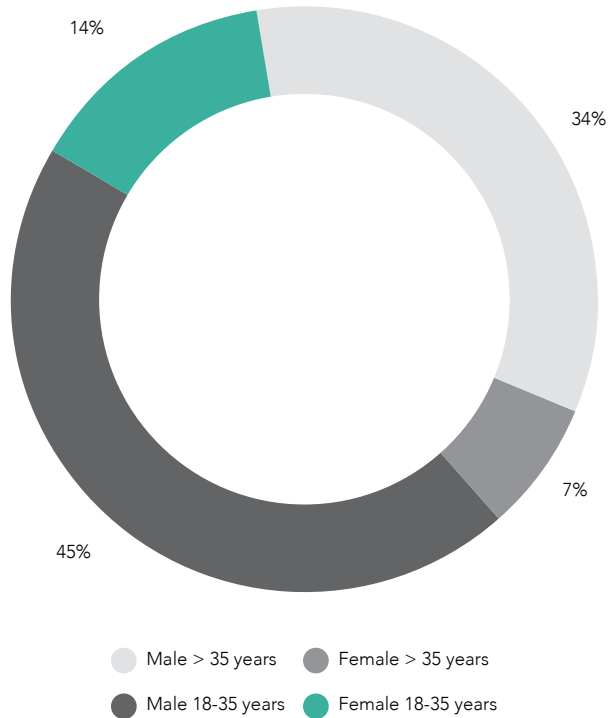
Almost all the job opportunities created are short-term and equated to about 19 000 full-time jobs. SANRAL strives to ensure that workers gain a range of skills during the time they are employed on projects so that their future job prospects are improved. A total of 4 257 workers received training during 2016/17 and, on average, each worker attended two courses.

Table 22: Job creation through road projects undertaken in 2016/17

Category of road	FTEs*	Job opportunities
Non-toll roads	13 690	30 820
Toll roads	5 357	8 989
Total	19 047	39 809

*Total hours worked expressed as the equivalent of full-time jobs

Figure 3: Distribution of job opportunities realised through road projects in 2016/17

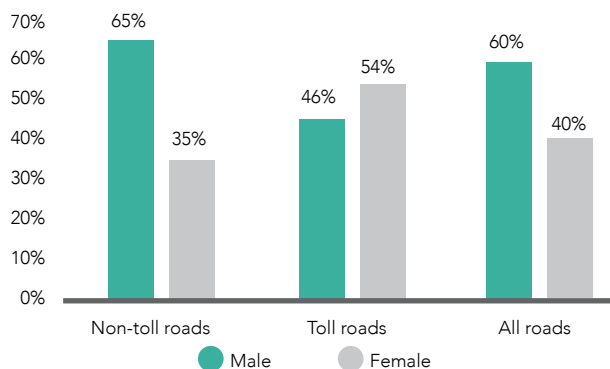


1.4 Training provided on projects

Table 23: Training provided on road construction, rehabilitation and maintenance contracts in 2016/17

Category of road	Trainees	Courses	Value of training
Non-toll roads	3 154	5 080	R15.6m
Toll roads	1 103	3 524	R1.3m
Total	4 257	8 604	R16.9m

Figure 4: Gender ratio of workers receiving training on road projects in 2016/17



CONCESSIONAIRES BUILDING SOCIAL CAPITAL

BAKWENA created a total of 1 058 jobs for managers, supervisors and construction workers during this reporting period.

N3TC spent R2.9m on training and development of contractors, staff, community members and the provision of bursaries. Its toll operations, routine road maintenance, route services and the route control centre contributed 821 permanent employment positions, while about 500 individuals were employed in road design and rehabilitation projects.

TRAC invested over R29.5m in SMMEs in South Africa and R16m in Mozambique. Total expenditure for internal training exceeded R1.2m and a similar amount was spent on external training for enterprise development.

2. Road safety

SANRAL has become much more than an engineering entity responsible for the design, management and maintenance of our national road network. It has also pioneered many interventions that contribute to safer roads.

2.1 Approach

The agency was part of the technical team that helped develop the National Road Safety Strategy 2016 - 2030, which was approved by Cabinet during the reporting period. SANRAL's own road safety strategy, which is well aligned with the new national strategy, focuses on safer roads, safer road users and the post-crash response.

The agency is committed to the "safe systems" approach advocated in the United Nations' Decade for Action on Road Safety. This takes human fallibilities and vulnerabilities into account and seeks to minimise the damage of road incidents through the development of safe systems. This attention to infrastructural standards is coupled with public information campaigns and road safety training designed to achieve better road-use behaviour.

Safer roads

As a roads authority, SANRAL automatically has a focus on enhancing road safety by providing safer roads. Although the national road network is recognised as world-class, the periodic expansion of the national road

footprint, changing land use patterns, and the need to provide a more forgiving roadway, mean there will always be room for innovative engineering solutions which provide a safer environment for road users.

SANRAL's approach to safe roads is both proactive and reactive.

- Proactively, the agency continuously evaluates the national road network against a set of norms and standards and applies this analysis during project design, construction and routine maintenance.
- Reactively, SANRAL identifies and addresses high-incident areas. In many cases, solutions require close partnerships with education and traffic law enforcement entities.

As part of its community development programme, SANRAL promotes pedestrian accessibility and mobility by providing appropriate infrastructure. The agency's work over the next five years will focus on:

- Constructing pedestrian and bicycle paths to accommodate non-motorised modes of transport safely
- Displaying traffic-calming messages at locations with pedestrian activity
- Building strategically located pedestrian bridges.
- Creating safe access for communities neighbouring the SANRAL road network.

Safer road users

Road-user behaviour plays a major role in the high crash rates experienced in South Africa. Our ability to change risky road-user behaviour for the better is critical to the achievement of road safety. SANRAL has made a strong commitment to road safety education and awareness programmes with the intention of influencing road-user behaviour.

In South Africa, pedestrians account for more than 40% of road deaths. SANRAL takes a holistic approach to improving pedestrian safety. This places considerable emphasis on social and educational approaches but also includes engineering and enforcement elements. Interventions include improving pedestrian routes, speed-control enforcement and community mobilisation, for example to provide assistance for children who walk to school. The programme also provides training for officials, youth and community groups.

Post-crash response

The entire national road network has incident management systems in place to ensure an optimal,

coordinated response to every incident. Initiatives are underway to legislate on the availability of road incident management systems on all major routes in South Africa.

SANRAL’s use of intelligent transport systems to manage freeway operations gives it the potential to help increase the efficiency of post-crash responses. CCTV video surveillance is already used on urban freeways to detect and notify the relevant emergency services of the occurrence of an incident and this ensures a speedier response. The deployment of such systems will be expanded beyond their current footprint in Gauteng, KwaZulu-Natal and the Western Cape.

2.2 Road safety education

About a third of all schools in the country are located within 5km of the national road network managed by SANRAL. The agency’s aim is to empower the 6.3 million learners in these locations with appropriate and relevant road safety information. This evidence-

informed material will create awareness of road safety, influence attitudes to road use, and hopefully result in safer behaviour.

SANRAL works closely with education authorities with the objective of informing, training and motivating teachers to impart the correct messages to their learners.

Children require different skills and education depending on their age. SANRAL has equipped teachers with appropriate teaching aids to provide a practical teaching environment to learners from grades R to 6. SANRAL is currently developing new education material addressing different age groups and circumstances they encounter.

The number of schools, educators and learners reached by the programme in 2016/17 are indicated in Table 24 while Table 25 reflects the cumulative numbers over a five-year period.

Table 24: Participation in road safety education programme 2016/17

	Grades 1 – 9			Grades 10-12	Total
Number of schools	272			62	334
Teachers at workshops	524			90	614
Teachers receiving manuals	Grades 0-3	Grades 4-6	Grades 7-9	219	2 473
	983	797	474		
Number of learners	67 107	54 385	34 707	29 330	185 529

Table 25: Participation in road safety education programme over five years

	Grades 1 – 9			Grades 10-12	Total
Number of schools	1 305			635	1 940
Teachers at workshops	2 419			1 014	13 931
Teachers receiving manuals	Grades 0-3	Grades 4-6	Grades 7-9	2 912	10 498
	3 085	2 600	1 901		
Number of learners	24 148	207 744	173 342	327 212	949 446

ChekiCoast Save a Life

Road safety awareness is a year-round focus for SANRAL. One of the ways this is done is through its signature social media campaign - ChekiCoast Save a Life. The focus for 2016/17 was on using social media influencers to emphasise the identified road safety messages and promote responsible behaviour amongst all road users.



Safe WSchool project

The Safe Routes to School project is designed to combine a teacher training package, road safety education for learners and the introduction of safe road infrastructure, focusing on the routes children take to and from school.

The project is run in partnership with Global Road Safety Partnership (GRSP), following a framework that was developed by GRSP and used in China, Japan and Zambia. The methodology was piloted in South Africa and tools were developed before moving forward with implementation.

Each local project consists of five components:

- A road safety assessment which evaluates the pre-project safety of the local road network, focusing on child pedestrians walking to school, and provides a menu of costed countermeasures
- Road infrastructure safety improvements, such as cost-effective road design and traffic calming improvements, which the project team seeks to implement in collaboration with local authorities
- Teacher/community training and child education which is resourced and conducted in partnership with Sesame Workshop and education authorities
- Provision of high-visibility reflective schoolbags, which are locally sourced, to children at the participating schools
- Monitoring and evaluation of all components of the project, which is coordinated by the GRSP.

During 2016/17 this project involved eight schools in the Ethekewini Metro and five in the Ekurhuleni Metro. Relevant municipal and provincial officials, community representatives and local stakeholders, education authorities, the edutainment programme, Takalani Sesame, and private sector funders are all playing a part in the initiative.

2.3 Behavioural research

As a foundation for its road safety awareness and education programmes, SANRAL appointed the University of Pretoria to conduct a three-year longitudinal study to understand the road safety behaviour of learners in the intermediate phase. The study combined qualitative and quantitative methods, and was conducted in five sites in various parts of the country.

The aims of the study, which concluded in 2016/17, included:

- Understanding the components of road safety behaviour and identifying indicators to measure such behaviour

- Establishing baseline data for road safety behaviour among these learners
- Developing interventions for safer road behaviour for the SANRAL education programme
- Sharing the research findings so that other organisations can use the evidence to guide their behaviour change campaigns.

The research showed that road behaviour of learners is the product of a variety of factors. It indicated that when learners feel confident about their knowledge – for example, that putting on a seatbelt has real safety benefits – then their personal attitudes will decide their actions. In addition, when they are confident that a behaviour, such as looking right and left before crossing, will be acceptable to society, this confidence will result in them adopting the behaviour. But when learners are not quite sure about what the correct behaviour should be, they will emulate their peers and elders – and this may not always result in safe road behaviour.

The research recommended that:

- Road safety education should be contextually specific with emphasis placed on the lived lives of learners. Association with reality assists children to understand and internalise information
- Road safety material should be authentic and engage the attention of learners
- Since academic literacy and language proficiency levels are relatively low in rural schools, learners should be provided with books and games which they can take home and explore.

The study noted that road safety is still only incorporated into the life orientation curriculum and that, overall, the school curriculum is extremely full. This means that educators are able to convey road safety information to learners but there is insufficient time to ensure that knowledge translates into practical application. Further recommendations were:

- Schools should rotate the educators responsible for teaching road safety education every few years and treat road safety as a transversal subject that can be incorporated into various curricula
- Training of educators to deliver road safety education should focus on how learners learn, rather than sticking just to road safety messages
- Strong community partnerships should be built and civil society mobilised to take an interest in road safety. Road safety becomes merely theoretical for learners who do not have practical experience of it in their communities

- Parents should become more involved in children's road safety education.

SANRAL hosted a colloquium at the University of Pretoria on road safety behaviour in June 2016 and this provided a platform for the researchers to share and discuss the research findings with stakeholders and other experts in the field of road safety.

The findings have already been put to practical use in the development of new materials for road safety education.

2.4 Concessionaires' road safety activities

Bakwena undertakes various road safety initiatives along the N1-N4 corridor in partnership with provincial road safety and education departments. During the period under review:

- Bakwena, in partnership with Total SA and under the umbrella of the Global Road Safety Partnership (GRSP), implemented the Total Road Safety Cube project at eight primary schools in the Bapong area and reached more than 1 000 grade 4 learners and 21 teachers
- The Bakwena Community Disaster Team in Bapong, comprising nine young people, devoted approximately 5 000 volunteer hours to patrolling the N4 from the pedestrian bridge to the R556
- The animal visibility project in Dinokana fitted 70 more donkeys with reflective ear-tags and continued its efforts to keep animals away from road crossings and the N4
- The scholar patrol project at eight schools in the Dinokana and Swartruggens areas continued its work for the sixth successive year
- Bakwena donated scholar patrol equipment to St Camillus School in Hammanskraal on the N1.

Bakwena also supports initiatives to implement the Safer Routes to School project in the Bapong and Majakaneng areas. Initial meetings were held during 2016/17 with provincial road safety and education officials, school principals and other stakeholders.

Wheel Well, which is supported by Bakwena, won a Prince Michael International Road Safety Award for its 2016 Easter campaign. The organisation appeals to members of the public to deliver unused child-safety seats to major petrol stations on the N1 and N4. These seats are then provided to lower-income families for a small donation, resulting in improved protection of young passengers.

N3TC has prioritised improving the knowledge and experience of law enforcement and emergency

service personnel along the route. N3TC, together with strategic partners, continued with various training initiatives, including specialised training in monitoring roadworthiness of vehicles and checking the condition of tyres; impounding vehicles; policing dangerous goods on the road; hosting specialised operations and road blocks; and performing alcohol and drug screening tests at road blocks.

N3TC has also assisted law enforcement agencies in the implementation of average speed enforcement. Statistics show that this has played a significant role in reducing speeding and reducing crashes and fatalities.

Road signs and markings have enhanced the transfer of important information to motorists in an attempt to improve reaction times to dangerous situations.

N3TC continues to provide post-crash support to victims of vehicle crashes through its Duduza "We Care" initiative. Comfort and practical support are given to victims with the help of community members and businesses along the route. Apart from assistance provided to family members, blankets and nearly 3 000 teddy bears were distributed to give comfort and care.

TRAC conducts various road safety projects such as its annual Easter and December road safety campaigns. These campaigns entail TRACAssist and TRAC's 24-hour Helpdesk together with ER services and law enforcement authorities stationed at strategic points along the highway on peak-traffic days. The idea is to provide the shortest reaction time to road-related incidents during busy periods. Such campaigns create the opportunity for TRAC to boost road safety awareness.

2.5 Safe systems for road users

SANRAL is an advocate and implementer of the "safe systems" approach to road safety. A safe system takes account of human fallibility and accepts that even the most safety-conscious person will make a mistake at some point. Systems can be engineered to minimise the impact of human error, leading to less severe traffic incidents.

Among other considerations, SANRAL recognises the need to balance freeway movement with the safety of all road users – pedestrians, drivers and passengers – and is developing guidelines to accommodate a good balance. The agency caters to pedestrians and drivers by using on-road facilities, such as intersections, roundabouts and interchanges, appropriate to specific road use patterns.

SANRAL has taken over high-mobility corridors from several provinces and has prioritised safety improvements on many of these roads.

2.6 Road safety incident management systems

Implementation of the Road Incident Management System (RIMS) has been ongoing on the national road network. SANRAL monitors progress and reports to Department of Transport and COTO.

The proposed amendment to the National Road Traffic Act No 93 of 1996 was published for public comment during the reporting year.

Workshops on the RIMS National Framework and Policy were held in all provinces during the year and the comments of participants will inform of review of the document in 2017/18.

The RIMS training qualification came up for review in this reporting period and the Transport Education and Training Authority (TETA) granted an extension to allow for the mapping of this qualification in terms of the National Qualifications Framework. As at March 2017, five assessors and one internal moderator for the RIMS course had been registered with the TETA. They include SANRAL officials. The first training course on the accredited material was conducted in December 2016 and those who completed it successfully will accumulate points towards the RIMS qualification.

Outreach to schools and the use of sign boards in public spaces have begun to create public awareness of RIMS.

In the main metropolitan areas of Gauteng, KwaZulu-Natal and the Western Cape, freeway management systems successfully integrate a range of technologies to respond swiftly and effectively to road incidents. These systems are described on pages 45 – 47, while systems in operation on major toll routes are set out below.

Concessionaires' incident response facilities

Bakwena's customer care centre operates 24 hours a day and plays an important role in mobilising emergency services along the Platinum Corridor. The call centre works closely with route patrollers and the Road Incident Management System.

Table 24: Utilisation of Bakwena call centre in 2016/17

Calls received and assistance provided	Number
Calls received by call centre	26 500
Accidents attended	530
Motorists assisted	725



N3TC manages all incidents along its route in terms of a comprehensive Road Incident Management System in line with national guidelines. Central to this system are a dedicated around-the-clock route patrol service and route control centre. The former also offers assistance to stranded road users between Heidelberg and Cedara, while the centre provides traffic and route updates through N3TC's Twitter feed @N3Route.

Most importantly, the control centre manages a highly advanced incident database, currently the only one of its kind in South Africa. This database is a powerful tool for identifying hotspots along the N3 Toll Route and understanding how to manage and mitigate these.

Deaths have decreased by 43% over five years, from 196 in 2011 to 111 in 2016. Nevertheless, the death toll remains a serious concern which can only be effectively addressed through the commitment of all stakeholders.

In 2016, 70% of crashes on the N3 were due to human behaviour and errors of judgment. Drivers are often not skilled enough for the speeds and conditions they encounter on the road. The three most common types of crashes were: vehicles that rolled (24%), vehicles that left the road (21%), and head-tail collisions (17%). Pedestrian crashes accounted for 3.8% of all crashes, and were almost always fatal.

TRACAssist continued to mount road safety awareness campaigns during peak travel days. In addition, TRACAssist was stationed alongside emergency services and law enforcement authorities at strategic points along highways to ensure the shortest reaction time to incidents or accidents.

The campaigns were led by TRAC's 24-hour helpdesk, established in 2009 and now a fully functional call centre. Utilisation of the helpdesk has grown steadily, from 5 904 calls in 2010 to 13 239 in 2016. The number of accidents called in has increased even more steeply, from 294 in 2010 to 2 196 in 2016.



A breakdown of calls received in 2016 appears in Table 25.

Table 25: Utilisation of TRAC helpdesk in 2016

Type of call	Number
Accident	2 196
General	7 531
Incident	3 114
Roadside assistance	398
Total	13 239

The number of crashes fluctuates annually. In 2016, 23% of crashes occurred due to negligent driving; 21% to loss of control over the vehicle; and 7% each due to speed differentials and tyre bursts.

2.7 Major conferences and meetings

During the year SANRAL participated in several important international, regional and national gatherings on road safety. These included:

- The World Road Association (PIARC) annual meeting held in September 2016 in Cape Town, during which a special road safety debate focused on the use of technology and research in advancing road safety
- The 5th African Road Safety Conference, held in October in Durban. The conference was opened by the then Minister of Transport, Ms Dipuo Peters, and it addressed the challenge of halving road deaths and injuries on the continent by 2020
- The meeting of the Road Safety Committee of the Association of Southern African National Road Agencies (ASANRA). South Africa currently chairs this committee and hosted the meeting in October. Twelve delegates from seven SADC member states attended (South Africa, Zambia, Zimbabwe, Malawi, Namibia, Mozambique and Botswana) and committed to implementing road safety audits
- The National Road Safety Summit, held in Durban in November and attended by a wide range of stakeholders, including national and provincial departments, municipalities, law enforcement agencies and non-governmental organisations that focus on community safety. SANRAL chaired the commission on safer roads and mobility, which produced resolutions that have been incorporated into the new National Road Safety Strategy.

3. Infrastructure projects for road safety

During 2016/17, SANRAL implemented a number of infrastructural changes and improvements to create a safer environment for road users and pedestrians. These projects are summarised in Table 26.

Table 26: Summary of selected road safety infrastructure projects undertaken in 2016/17

Location of project	Focus of work	Value
N2 York Street Interchange to Garden Route Mall, George, WC	Pedestrian walkways with cameras and lighting to increase safety. Mesh fence to prevent pedestrians crossing the highway	R73m
N1 at Botlokwa, LP	Construction of narrow diamond interchange with pedestrian overpasses, good lighting and fencing to prevent illegal crossing	R156.2m
N2 Pacaltsdorp Interchange, George, WC	Road widened to dual carriageway with turning lanes. Interchange bridge widened. New sidewalks and pedestrian bridge constructed	R82.5m

4. Community development

SANRAL's approach to community development embraces local-level perspectives and enables communities to participate in empowerment initiatives offered along the national road network.

Its community development programme focuses on improving access and mobility in rural communities in a participative and locally sensitive manner. These strengthen the social capital of these communities in a number of ways:

- It builds local businesses and expands the skills pool in communities
- It connects communities more strongly to the social and economic mainstream
- It often improves road safety.

SANRAL's community development programme focuses on:

- Providing pedestrian facilities and safe access points for communities living next to the national road network
- Creating jobs and providing access to skills and training
- Developing SMMEs
- Promoting community participation
- Developing individuals through a variety of general education initiatives.

4.1 Community development infrastructure projects

During 2016/17 a total of 24 community development projects were underway in various provinces. The combined expenditure during the reporting period was R257m and nine projects were completed.

Community development projects typically involve the construction of cement pedestrian walkways and/or surfaced access roads to villages which have previously been accessible only by gravel road.

These kinds of construction projects are suited to labour-intensive building methods which create relatively large numbers of work opportunities and it is possible to train inexperienced workers to do the work competently.

Important features of the programme are:

- The employment of local residents and the prioritisation of women and young people as sections of the population most severely affected by unemployment
- Training of individuals employed on projects, both formally and through on-the-job skilling
- Contracting of SMMEs and building the supervisory and technical skills of managers of these companies.
- Local sourcing of materials and services, wherever possible, in order to inject additional cash into the local economy.

A summary of selected projects undertaken in 2016/17 is provided below.

Table 27: Community development projects initiated, in progress or completed in 2016/17

Location of project	Focus of work	Start date	Completion	Value
N12 at Jouberton and Alabama, City of Matlosana, NW	Construction of concrete walkways plus safety improvements at four intersections	June 2016	December 2017	R57.6m
N2 Blue Sky to Emambabala in Mquma Local Municipality, EC	Construction of 6km of surfaced access roads and concrete pedestrian walkways to Emambabala	June 2015	July 2016	R35.9m (revised)

Location of project	Focus of work	Start date	Completion	Value
N2 between Mount Frere and Ngcweleni River, EC	Construction of surfaced community access roads and 5km of concrete pedestrian walkways	October 2016	October 2018	R46.3m
N2 between Mzeke and Mount Frere, EC	Construction of surfaced community access road and pedestrian walkways	October 2016	October 2018	R31.1m
R75 between Graaff-Reinet and PE, EC	Construction of community access road using reclaimed asphalt from N2 Port Elizabeth bypass project	November 2016	June 2017	R8.1m
R58 in Walter Sisulu Local Municipality, EC	Construction of pedestrian walkways and a bus lay-by	September 2016	September 2017	R13m
R61 in St Barnabas and Ntlaza areas, EC	Construction of community access roads	July 2013	November 2016	R34.8m (revised)
N2 from Colosa village to Nyhwarha village in Mbashe Local Municipality, EC	Construction of surfaced access roads and concrete pedestrian walkways plus bridge upgrade	October 2012	March 2017	R45.9m (revised)
R22 Manguzi Town to Mozambican border, KZN	Construction of concrete pedestrian walkway and access road to local school	November 2015	November 2016	R15m
N2 from Oribi Toll Plaza to Albertsville Bridge, KZN	Construction of pedestrian facilities including reinforced concrete stairways and taxi/bus bays	August 2016	April 2017	R9m

4.2 Community development geological projects

In 2016/17 SANRAL and its service providers conducted a number of community-based geotechnical projects, including a community water project, as part of its efforts to improve the quality of life of communities living along its road network.

Swartruggens borehole project

Water supplies in the Swartruggens area of the Kgetlengrivier Local Municipality in the North West dried up during the severe drought of 2015/16 and Bakwena sponsored two water tankers a day for residents for a 13-month period.

Bakwena's longer term intervention of reinstating some disused boreholes in the area continued to bear fruit

through the current reporting period. The company investigated the viability of several disused boreholes and three were brought into full service by re-equipping gate valves and installing new pumps and piping. In one case, a new borehole had to be drilled next to the old one in which an old pump had become jammed.

The water quality was tested and found fit for human consumption and the local hospital now has a reliable source of water.

Community quarries

At the request of the leader of Ntlavukazi village in the Eastern Cape, SANRAL explored the viability of developing a quarry in the area and concluded that two new quarries, supplying different types of materials, may be a proposition.

The village leader brought the existence of a potential quarry to the attention of SANRAL and requested assistance in establishing whether it would be viable as a commercial quarry for construction materials. The quarry site is just 5km away from the proposed Msikaba River Bridge, part of the major N2 Wild Coast construction project.

A geotechnical investigation of this sandstone borrow pit was carried out and, in the process, the potential for a second dolerite quarry was identified at an unworked site. Testing indicated that the sandstone borrow pit would yield material suitable for subgrade improvement and fill layers, while the dolerite quarry would yield very hard rock probably suitable for concrete aggregate and road sub-base.

SANRAL is considering opening the quarries in conjunction with the community, leaving a legacy for the people of the area.

4.3 Empowerment, job creation and training

SANRAL's prioritisation of SMMEs – particularly those with black and female owners – and the hiring and training of local workers is intensified on community development projects, where labour-intensive construction methods are utilised.

In addition to improving road infrastructure and mobility in selected communities, during 2016/17 community development projects:

- Generated work worth nearly R90m for SMMEs
- Created temporary work opportunities for 1 063 individuals
- Provided training to 517 individuals, many of them women and young people.

Approximately three-quarters of the SMMEs contracted to work on community development projects were black-owned.

Table 28: Empowerment of SMMEs through community development projects 2016/17

Category of road	Number of SMMEs contracted	Value of work performed
Non-toll roads	57	R78.8m
Toll roads	2	R11.1m
Total	59	R89.9m

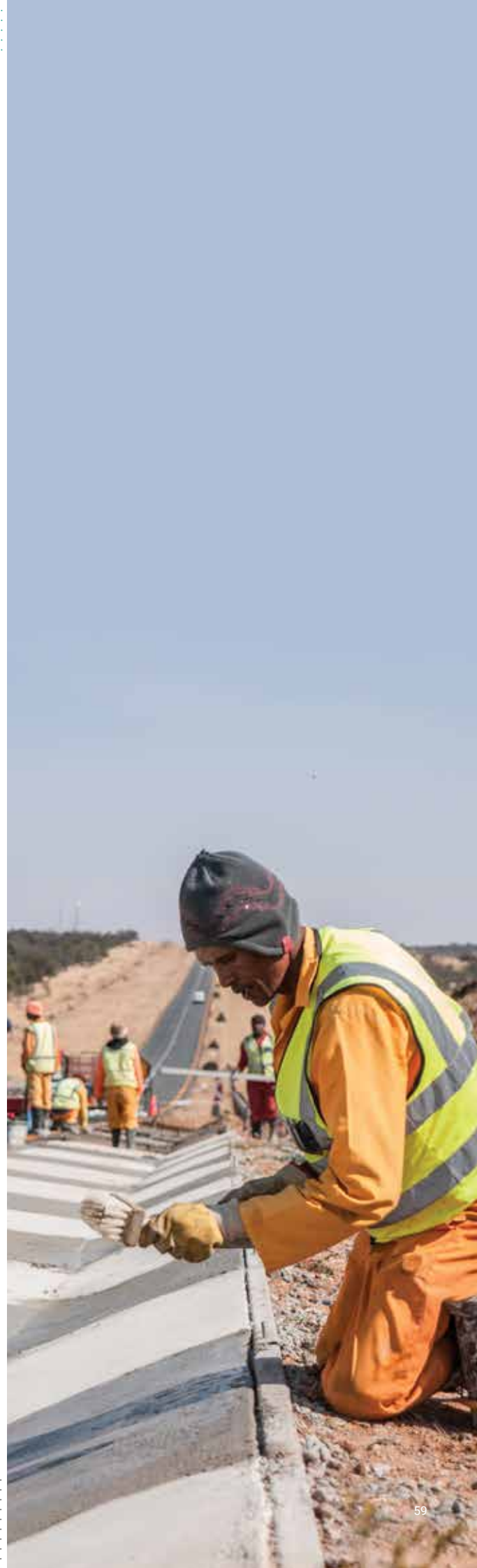
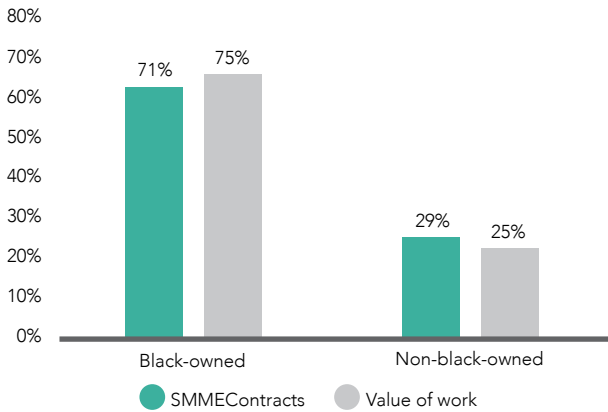


Figure 5: Share of SMME contracts and value of contracts by type of ownership 2016/17



A total of 1 063 individuals found work on these projects during 2016/17 and earned R41.3m in salaries. The short duration of some of the work is suggested by the fact that the job opportunities were equivalent to 373 full-time jobs. Young people (aged 35 years or younger) constituted 56% of those who were employed on community development projects.

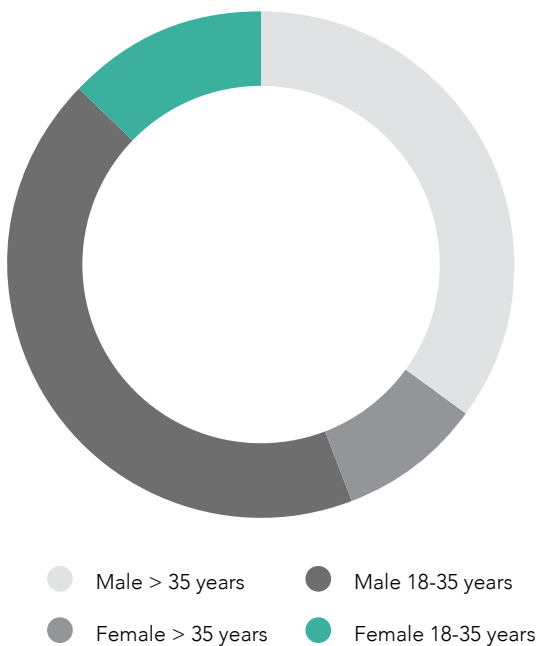


Table 29: Job creation through community development projects in 2016/17

Category of road	Hours work	FTEs*	Job opportunities	Value of work
Non-toll roads	504 252	252	865	R29.0m
Toll roads	242 838	121	198	R12.3m
Total	747 090	373	1 063	R41.3m

*Total hours worked expressed as the equivalent of full-time jobs

Figure 6: Distribution of work opportunities in 2016/17 by age and gender



More than R6m was invested in the training of workers engaged through the community development projects and more than 500 individuals received training, which included:

- Formal supervisory, financial and construction training for managers of SMMEs which gained them credits in terms of the national qualification framework
- Training of workers in basic construction skills such as brick-laying, carpentry, plumbing and plastering
- General skills such as traffic control at sites and first aid.

Table 30: Training provided through community development projects in 2016/17

Category of road	Trainees	Courses	Value of training
Non-toll roads	516	1 069	R6 045 875
Toll roads	1	2	R1 795
Total	517	1 071	R6 047 670

TRAINING THROUGH COMMUNITY DEVELOPMENT



517
TRAINEES



1071
COURSES

VALUE OF TRAINING

R6 049 465

4.4 Concessionaires' social projects

SANRAL's concessionaires also support social and development initiatives that serve to strengthen links with communities located close to the national toll-routes for which they are responsible.

Bakwena conducts a range of healthcare projects in communities close to the routes which it operates, namely, the N1 toll road between Pretoria and Bela-Bela and the N4 between Pretoria and the Botswana border. In 2016 these interventions included:

- A drama development project at 17 secondary schools from Dinokana, Lehurutshe, Groot Marico, Swartruggens and Bapong. The focus of this project is to provide a platform where talented learners can apply drama skills to initiate community outreach programmes. In the past year, 272 learners and 34 teachers were involved, as well as out-of-school youth who were appointed as drama pioneers. The outreach programme reached more than 2 100 people
- Collaboration with Pink Drive to provide education on breast and prostate cancer to some 8 000 residents of Hammanskraal and Bapong and facilitate the screening of 1 094 individuals for breast cancer and 160 for prostate cancer
- Testing of the hearing of 3 500 learners and the sight of 4 199 learners in the Bapong and Moretele areas, with follow-up care where needed. Spectacles were provided to 263 learners, making a vital difference to their ability to learn
- Sponsoring sporting activities: long-distance athletes at Zeerust High School and the annual family fun run, the Bosveld Myl
- Building capacity for first aid and disaster management at schools and in communities. The project has 312 first aiders at 13 schools in Dinokana and Kgetlena and 110 active community volunteers in Groot Marico, Swartruggens, Bapong, Majakaneng and Hammanskraal
- Supporting an NGO that provides HIV education in Hammanskraal. This organisation reached out to 6 010 learners and 2 378 members of the public through activities at schools, clinics and churches during 2016.



Bakwena has also contributed to communities by:

- Supporting the Chaneng Business Centre near Rustenburg
- Raising funds for several social care organisations including Mohau House for children affected by HIV in Kilner Park, Thusanang Early Learning Centre in Groot Marico, CANSA and its Pink Drive campaign, and Laudium Cancer Care.

N3TC's Touching Lives corporate social investment programme funds a variety of community and enterprise development initiatives along the N3 transport corridor and builds solid foundations for sustainable projects. During 2016, N3TC's total investment in Touching Lives was R13.1m. The programme benefited 79 000 people directly and generated 2 277 jobs, at a cost-effective spend of less than R5 000 per job. It supported the following enterprise development initiatives:

- N3 Gateway Tourism Association
- Beads of Hope
- Tsa Lapeng Designs
- Project Gateway
- Midlands Meander Emerging Artists
- Babanentse Co-Operative
- Senzakahle Primary Co-Operative
- Van Reenen Community Based Tourism
- Central Drakensberg Information Centre
- Mpophomeni Conservation Group
- Sunfield Fortuna
- Mamello Support Group.

Touching Lives also has a number of legacy projects, namely:

- EWT Sungazer and Grasslands Conservation Project
- Bearded Vulture Project
- Singakwenza Early Childhood Development Project
- KZN Crane Foundation: Wattled Crane Chick Isolation Rearing Centre
- Old Mutual joBerg2C Route Development Project.

TRAC has improved communities by upgrading a number of public facilities:

- The 32 hawker stalls at the Matsulu hawker facility in the Lowveld were upgraded and bathroom facilities, water and sewerage systems, and an information centre were added. Total investment in the project was R2m
- A disused clinic in Machadodorp was renovated, staffed and re-opened in July 2016 under the name KuPhila Clinic. It focuses on primary healthcare and TRAC pays the salaries of staff, including a doctor, psychologist, professional nurse and receptionist. Although the clinic is a private facility it offers pro-bono services to qualifying members of local communities and assists an average of 220 people a month. Investment in the project totalled R1.7m
- The Emakhazeni Fire Brigade was facing serious challenges and, in light of the economic and social pressures faced by the Emakhazeni Municipality, TRAC committed R2m to upgrade the building and provide essential firefighting equipment and uniforms.

5. University partnerships

SANRAL's partnerships with universities centre on a shared interest in promoting the learning and teaching of science and mathematics with the aim of ensuring a strong flow of talented young people into the engineering professions.

The value for SANRAL lies chiefly in the reputational value built by visible involvement in programmes that benefit young people and offer them economic mobility. However, the agency is also committed to these partnerships in terms of helping meet its own demand for engineering professionals and contributing to a dynamic engineering sector that offers world class expertise when major road construction and rehabilitation projects are put out to tender.

The University of Pretoria partnership with SANRAL and CSIR

A Memorandum of Agreement (MOA) was signed by Prof Cheryl de la Rey, Vice-Chancellor of the University of Pretoria, with the then CEO of SANRAL,

Mr Nazir Alli, and Dr Rachel Chikwamba, Executive Director of CSIR, on Tuesday 28 June 2016. The MOA supports a collaborative effort to establish an Integrated Education, National Certification, National Reference and Research Laboratories Facility, an effort which involves SANRAL, the Department of Civil Engineering in the Faculty of Engineering, Built Environment and Information Technology (EBIT), and the CSIR Built Environment research area.

The vision associated with the integrated facility is to provide an internationally renowned platform for academic and vocational training support in (i) transportation infrastructure materials testing; (ii) a national transportation material reference testing platform and (iii) high quality research facilities staffed by skilled personnel. This partnership will strive to create an environment where a stable research funding stream can be invested optimally, and it will focus on the alignment of bursary and studentship programmes at CSIR, UP and SANRAL to ensure the required throughput from which the research capability can be re-built.

Due to the current dearth of civil engineers and other transportation engineering related skills in South Africa, it is vital to ensure that critical mass in these areas is developed and maintained. The three parties will not only strive to find innovative ways to solve these challenges, but also enhance the quality and quantity of the outputs and avoid costly duplication of laboratory facilities.

This agreement will add to efforts to positively impact on the day-to-day life of South Africans through improvements in design, construction, maintenance and the management of transportation infrastructure.

SANRAL Chair in Mathematics, Natural Sciences and Technology Education

The SANRAL Chair in Mathematics, Science and Technology Education was created by the University of the Free State (UFS) in 2014 in order to strengthen research and enhance the training of teachers of science, technology, engineering and mathematics (STEM). By 2016, the chair was well-established and had begun to win recognition for its work.

In 2016, the chair attracted 50 high-quality Masters' and PhD candidates from South Africa and other countries on the continent. This was the largest number of post-graduates recruited by a research chair in South Africa. The graduation of six PhD candidates in 2016 was another major achievement for this young entity.

In 2016, at the request of Free State MEC for Education Tate Makgoe, the UFS developed its School Change Project (SCP) designed to introduce sustainable change in the teaching of mathematics in primary schools. Implementation of a pilot project in a single district will begin in 2017. A preparatory workshop in 2016 was attended by 84 maths teachers from 12 schools. Should the pilot succeed, the approach could be scaled-up across the Free State.

Science-for-the-Future at the University of the Free State

In 2015 SANRAL entered into a three-year agreement to support the UFS Science-for-the-Future (S4F) unit which aims to build positive attitudes to maths and science and increase the number of achievers in these subjects in the Free State, Northern Cape and Eastern Cape. It comprises two main components:

- The Family Math and Family Science programme which strives to demystify maths and science for learners in the early school years
- An ICT Laboratory programme which focuses on improving the conceptual grasp of maths and science as well as practical skills among promising learners in grades 9 -12.

ICT Laboratory for Science

The ICT Laboratory for Science caters to learners in grades 9 – 12 who have achieved a minimum of 60% in both maths and science. Over the course of several years it exposes them to approximately 30 sessions in special ICT facilities at the Bloemfontein and QwaQwa campuses of UFS. While all activities are based on the science curriculum, the non-traditional learning environment – which centres on the use of ICT – facilitates novel approaches to explaining scientific principles.

In 2016, a total of 310 learners from 31 schools participated in regular sessions at the laboratories. A total of 2 724 sessions were logged, meaning that each learner attended an average of nine sessions.

Table 31: Participation in ICT Laboratory for Science 2016/17

	Participants	Sessions attended
Grade 9	69	567
Grade 10	99	870
Grade 11	83	756
Grade 12	58	531
Total	310	2 724
Student teachers	26	54

New funding partners enabled learners and teachers from Thaba Nchu, Botshabelo, Jagersfontein and Jacobsdal – all areas in commuting distance of the Bloemfontein campus – to participate in the programme.

The ICT Laboratory for Science has become widely known and attracts visitors from beyond the Free State. In 2016, a group of 10 grade 7 maths and science achievers from Transkei Primary School (TPS) in Mthatha spent two days at the facility.

An innovation in 2016 was the introduction of a training component for educators, Key concepts in Science. This focused on improving content knowledge and teaching skills and broadening educators' experience. Educators and a subject adviser from the John Tao Gaetsewe District of the Northern Cape did the course and implemented the approach in seven schools with 639 learners.

The laboratories on both campuses have also afforded student educators specialising in science teaching the opportunity to experience how ICT can be used to enhance the teaching of this subject. Both UFS's own student educators and some enrolled at technical and vocational education and training (TVET) colleges utilised this opportunity in 2016.

In the period from 2009 to 2016 a total of 66 learners attending the ICT Laboratory for Science have received SANRAL scholarships. In 2016 alone, nine scholarships were awarded. The quality of the project's learners is reflected in the fact that about two out of three of its SANRAL scholarship applications are successful.

A high proportion of ICT Lab participants proceeds to study science and related subjects at university. In 2016 Ruan van Breda, an ICT Lab "graduate" and SANRAL scholarship recipient, completed an MEng in Mechatronics and subsequently took up employment at SANRAL, becoming the first ICT Lab participant to do so.

Family Math and Family Science Programme

Science for the Future (S4F) launched its Family Math and Family Science initiative in the Free State and Northern Cape in 2009, and extended it to the Eastern Cape in 2012 and to Gauteng in 2016.

The initiative seeks to build confidence about the study of maths and science among learners and the general public by training teachers to use innovative teaching techniques. The "triangular" strategy entails

trained teachers integrating project activities into the curriculum they deliver to learners and also conducting sessions for parents. This enables parents to become involved in their children's maths and science learning.

In 2016, a total of 327 teachers from 176 primary schools in the Free State, Northern Cape, Eastern Cape and Gauteng provinces regularly utilised Family Math and Family Science activities. These activities benefited 13 787 learners and 8 161 parents, mainly from rural communities. In addition, 32 subject advisors were trained as coordinators and assumed the responsibility of supporting the educators who were implementing the programme.

A key success factor for the Family Math and Family Science initiative is S4F's production and supply of adequate quantities of learning and activity materials to support classroom teaching and parent training sessions.

To facilitate planning and implementation of the programme, S4F consults regularly with education officials in the Free State, Northern Cape, Eastern Cape and Gauteng. Requests for training sessions are often received from education departments.

The Family Math and Family Science initiative is also a resource to enrich the training of student teachers attending the UFS:

- In 2016, a total of 187 UFS student teachers underwent Family Math training as part of their intermediate phase maths course and 47 of them volunteered to conduct activities for learners attending local schools
- In addition, 154 foundation phase student teachers attended Family Science training sessions to assist them to integrate life skills into their teaching of science.

The 8th Annual Family Math and Family Science Summit took place at the university in September 2016 and attracted about 250 participating educators, as well as programme sponsors, education officials, and staff of the UFS.

STEM PP at NMMU

The Science, Technology, Engineering and Mathematics Pipeline Project (STEM PP) at Nelson Mandela Metropolitan University aims to improve the science performance of grade 10 -12 learners in the Port Elizabeth and Uitenhage school districts in the Eastern Cape. The goal is to increase the number of learners who qualify to study for a degree in a science-related field.

A total of 2 543 learners from 38 schools benefited from this project during 2016. This represented an overall growth of about 16%, due mainly to an increased intake of grade 10 learners.

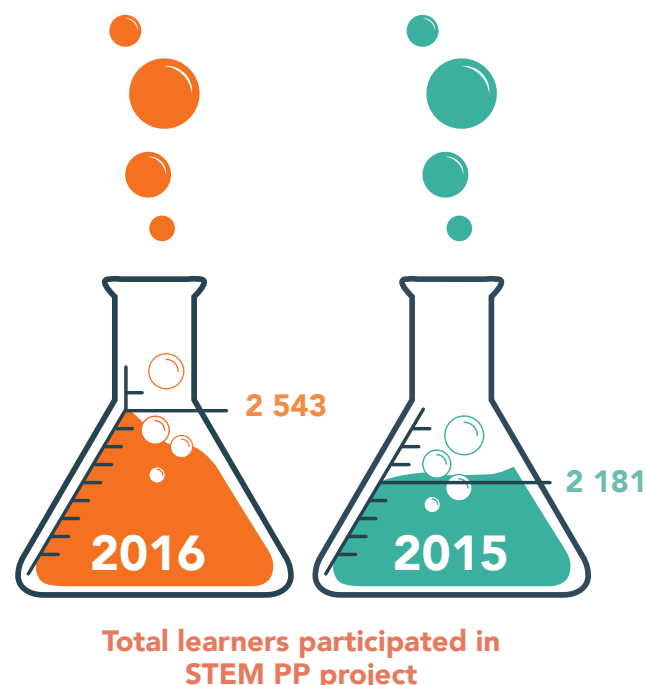
Table 32: Participation in the STEM PP in 2015 and 2016

Grade	2016	2015
Grade 10 learners	1 243	927
Grade 11 learners	621	647
Grade 12 learners	512	529
Educators/students	167	78
Total	2 543	2 181

STEM PP conducts physical science experiments in university laboratories to complement the classroom learning offered by schools. In many cases this hands-on approach to science helps learners to grasp essential principles. The laboratory sessions are offered to entire classes from selected schools and learners' regular teachers are encouraged to participate.

University student protests at NMMU impacted on the STEM PP in 2016 and led to some laboratory sessions

being postponed or cancelled. The programme also noted a drop in the number of participating grade 12 learners and is examining whether it adequately meets the needs of learners at this level.



CONCESSIONAIRES' SUPPORT FOR EDUCATION

Bakwena provided a R65 000-bursary for a Tshwane University of Technology Honours student to conduct research on conservation education in the Magaliesberg Biosphere and sponsored the school fees of 11 children of low-income staff members living in the Bakwena corridor.

TRAC has established a thriving e-learning project which provides lessons to 32 356 learners at 31 schools along the N4 Toll Route. Within this project, the Ligbron online system provides maths and science lessons to 890 grade 12 learners gathered in 10 classrooms at five schools in Mpumalanga.

Other TRAC education projects in 2016/17 included:

The conversion of two shipping containers to create a sustainable kitchen for the delivery of the National School Nutrition Programme to 850 learners at Phumelela Secondary School in Middelburg. TRAC also built a covered dining area which can be used for extra lessons.

Construction of an eco-friendly off-grid Grade R section at Kaapmuiden Primary School. This comprises two classrooms, bathrooms, a kitchen and a play area. The school is also a centre point for the Asifunze Literacy Programme, which TRAC runs in partnership with Penreach. This programme improves literacy skills among 1 350 foundation phase learners.

N3TC awards bursaries to tertiary students in fields linked to its business. In 2016/17, it was assisting 14 university students, including a doctoral and four Masters' students. Eleven bursary recipients are from communities alongside the N3 Corridor and three are linked to N3TC. Where possible, N3TC offers bursary students work experience and employment opportunities.

During 2016, STEM PP presented interactive development sessions to educators in the Nelson Mandela Bay Municipality, focusing on class room management and teaching strategies that use practical activities to introduce and explain concepts. This initiative was also somewhat curtailed by student protests on campus.

The GATE (Getting Ahead in Technology and Engineering) programme for especially promising science students in grade 12 delivered good results. A total of 26 learners completed the GATE intervention in 2016. The STEM PP team was able to contact some learners after they received their final results and established that:

- At least 13 began their studies at tertiary institutions in 2017 and one took up a learnership in marine technology
- Many opted for science-related course in fields such as pharmacy, mechanical engineering and polymer technology

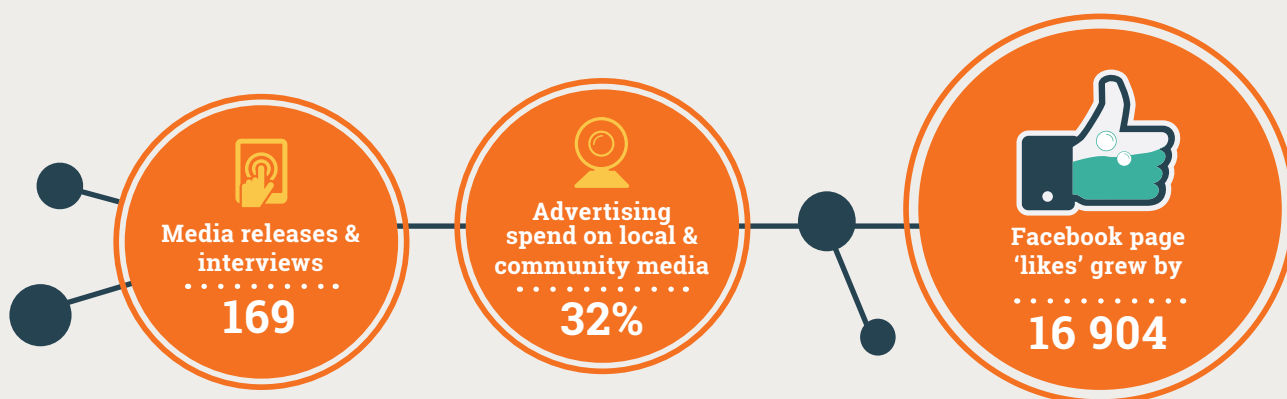
- Fewer than half these students would have gained entry to a science course on the basis of their grade 11 marks, but their performance improved significantly during the course the year they spent in the GATE programme.

A number of grade 11 and 12 learners in the STEM PP received SANRAL scholarships for 2016. The goal is for learners receiving SANRAL scholarships to qualify for SANRAL bursaries for tertiary studies and this has occurred in some cases.

For example, Ronald Baxter, who joined STEM PP in 2011 as a Grade 11 learner, was awarded a SANRAL scholarship for grade 12 and a SANRAL bursary to study for a BSc Engineering degree at Stellenbosch University. He graduated in 2016 and became a graduate-in-training at the SANRAL Southern Region in February 2017.



Promoting Social And Relationship Capital



Marketing and communications

SANRAL strives continually to improve its communication to members of the public in order to inform them about the agency's work and increase understanding of what the SANRAL brand represents. A good reputation is invaluable to the agency's ability to play a role in promoting national investment, growing the economy and creating jobs.

SANRAL presents a comprehensive picture of how it fulfils its mandate by featuring the full range of its operations and catering to the interests of all customers it serves.

An approved strategy guided SANRAL's marketing and communications activities during the year. This strategy was informed by and is consistent with the National Communication Strategy Framework 2014 - 2019.

SANRAL runs extensive communication campaigns throughout the year using a range of methods and channels to reach the general public and specific stakeholders. These include public relations, advertising, SANRAL's own print, online and social media channels, community activations and promotions. Advertising channels in 2016/17 included TV, radio, outdoor billboards, wall murals, stadium boards, social media, digital platforms, newspapers, magazines, and specialist and professional trade titles.

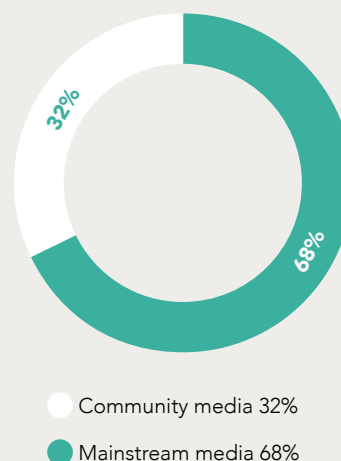
Leadership reputation

As a state-owned company SANRAL's communication objectives are aligned with the broader aims of government and there is close liaison with the Government Communication and Information System (GCIS) and the Communication Unit of the DoT.

The agency's supplements, advertorials, radio spots, out of home advertising and television commercials were shared with the public through various advertising channels. Because of the agency's need to communicate specifically with communities affected by major road construction projects, more than 32% of our advertising spending was devoted to local and community media.

The agency also made use of less conventional channels, such as wall murals and stadium advertising.

Figure 7: Share of advertising spend allocated to mainstream and community media.



Digital communication is becoming increasingly important and SANRAL utilised digital adverts as well as its social media.

By monitoring the media and responding promptly to issues as they arise as well as pro-actively publishing thought-leadership pieces in the print media, SANRAL has secured a substantial share of voice in both the print and broadcast media. The availability of the agency's spokespeople to participate in interviews and talk shows makes it possible to respond to concerns raised by the public and explain the agency's approach.

Stakeholder engagement

Stakeholder relations continued to be a priority for SANRAL throughout 2016/17. The agency interacted with academics, professional organisations, the engineering and construction industry, organised labour and business chambers. During engagements with political role-players, SANRAL management was accompanied and supported by representatives of the Ministry of Transport, as the agency's shareholder.

A regular electronic publication, **N-Route**, served to keep stakeholders informed about developments at SANRAL. The agency also continued the practice of sharing analyses of the State of the Nation Address, the provincial State of the Province Addresses and the

National Budget with our staff and stakeholders.

SANRAL used a wide range of platforms throughout the year to interact with a variety of stakeholders. These included:

- Participation in conferences and exhibitions.
- The delivery of lectures and conduct of workshops at universities
- Addresses to local and international business chambers
- Briefing of public sector communicators.
- Participation in events organised by our stakeholders
- Special events, such as the opening of completed projects or observation of themed days and weeks.

Marketing and advertising campaigns

SANRAL strives to position itself as a leader in road infrastructure, a force for development and the creation of a more equitable society, and a key player in the area of road safety. Marketing and advertising campaigns during 2016/17 reflected all these aspects of the agency. Advertising is an integral part of SANRAL's marketing and communication efforts, and extends beyond education to reputation. To achieve this, advertising campaigns are conceptualised, many different executions produced and repeated in bursts to inculcate the message (Table 33).

Stating the SANRAL case

During the period under review, 25 opinion pieces were placed in influential news publications – a 20% increase on the number published in the previous reporting period. A few examples are presented below.

OPINION PIECE BY ROSHAN MORAR

Accountability, transparency are of utmost importance

One of the hallmarks of our relatively young democracy has been its contribution to the discourse on corporate governance now enshrined in what is commonly referred to as the King Report. In July 1993, the Institute of Directors in South Africa asked retired judge Mervyn King to chair a committee on corporate governance whose report (King I) led to the first corporate governance code for South Africa. Since then three more reports have been issued, King II (2002), King III (2009) and King IV (2016).

Business Report http://www.ornico.co.za/editorialstream/OwnMediaAttachments/2017_01_31_3218801.pdf

OPINION PIECE BY VUSI MONA

Freeloading on infrastructure is a form of corporate capture

"Corporate capture" has become a buzz-phrase in SA. Opposition politicians fret, commentators froth, unionists march and the clergy lament about what they perceive to be undue influence of business over political decision-making. And well they should. It is hard to imagine any well-meaning South African would not be concerned if proof is found that decisions on public money are made to enrich certain individuals or companies. But we should be equally concerned about the widespread — often more covert — forms of corporate capture in our country. Let us put the spotlight on instances where public infrastructure and shared national resources are literally stolen, abused or swindled by private sector companies. This is not the opportunity to address tax evasion. That is a debate for another day.

BD LIVE <http://www.bdlive.co.za/opinion/2016/04/08/freeloading-on-infrastructure-is-a-form-of-corporate-capture>

Table 33: Executions of major SANRAL campaigns 2016/17

	Print ads	Wall murals	Outdoor	Television Commercials	Radio commercials	Digital
Road Safety	7 different executions	3 wall murals	6 different executions	3 different commercials	3 different executions	-
Woman's Month	24 different executions in the various regions	-	-	-	9 different executions in English, Afrikaans, Zulu, Sepedi, Tswana	8 different banners
Transport Month	1 print ad 2 advertorials	-	-	-	-	-
Brand	2 print executions	-	1 OOH (Out of Home) execution at 5 different locations	1 Commercial	-	-
Traffic Report	-	-	-	2 opening billboards 2 closing billboards	-	-

Corporate campaign

A new SANRAL brand campaign was conceptualised and brought to life in early 2017. Its aim was to interpret SANRAL's work in terms of the impact it makes on people's lives and show the benefits of a quality road network in terms of personal stories.

This campaign, referred to as the Beyond Roads Campaign, was aimed at a diverse audience across South Africa. It was TV-led and utilised SABC, eTV and DSTV channels as well as four community channels. The campaign also featured radio, out of home, print, cinema and digital platforms. About 73% of media spend was allocated to mainstream media and the balance to community media.

State of the Roads campaign

In 2016/17, the central idea behind the bi-annual State of the Roads campaign was that roads are a shared space and road users have a responsibility to each other. These campaigns take place during the periods when holiday traffic along the major routes reaches its peak: the Easter weekend and the end of year festive season.

Public interest in road safety and travel convenience is high during these times and SANRAL attempted to take full advantage of the receptive climate. The campaigns were run mainly through media relations and on social media.

Campaign on the new dispensation in Gauteng

As the end of the period for securing a 60% discount on Gauteng e-toll arrears approached, SANRAL ran a

campaign to remind the public. This comprised radio and television adverts on national and regional Gauteng stations, as well as print adverts in major weekend and daily newspapers and the use of banners on key news, business and entertainment websites. The adverts ran in April and May. SANRAL also ran a "Was it better to have paid?" advert to acknowledge and encourage road users who had been paying since the start of e-tolling.

Promoting interoperability

As the e-toll system was extended as an optional form of payment at toll plazas around the country, SANRAL organised a series of activations to educate road users on this and promote expanded use of e-tags. The pilot activation took place at the N1 North Panorama petroport in September 2016 and several others followed.

Road safety initiatives

Road safety is a key focus at SANRAL which uses the mass media and stakeholder engagements to encourage good road-use behaviour by drivers and pedestrians. This complements its schools-based behaviour change programme.

The overall brand for all SANRAL road safety campaigns is ChekiCoast – Save a Life. Specific mass media and stakeholder initiatives are created under this encompassing brand.

The WHOA! campaign, launched in December, was the agency's major mass media intervention in 2016/17. It tried to update road safety tips and package them

in a fresh appealing way for a diverse audience. The underlying messaging, however, remained consistent:

- Don't drink and drive
- Don't drive while fatigued
- Party responsibly
- Don't drink and walk
- Don't text and walk.

In mid-December, as the campaign launched in the mass media – on TV, radio, outdoor sites, digital platforms and in newspapers – four regional activations focused on popular chisa nyamas and entertainment venues. The mass media campaign was sustained throughout the festive season. Follow-up activations in January formed part of the WHOA Drive Back campaign and these took place at petrol stations on key holiday routes. SANRAL also hosted a large activation at FNB Stadium in Soweto as an extension of the WHOA! campaign and this focused particularly on texting and walking.

Other road safety activities included:

- An art competition for learners which was designed to raise awareness of the risks of texting while walking
- Exhibitions at conferences, colloquiums and community events.

Own media platforms

SANRAL delivers more than 30 publications a year for our own staff, external stakeholders and the general public.

One of the features of the period was the revamping of road agency's flagship publication, **By the Way**, which is produced for the broad public. It is now lifestyle-driven, less text-heavy and written less formally. It features all SANRAL's pillars of operation, using eye-catching photography and elements like book reviews, columns and crossword puzzles to keep readers interested. It is distributed nationally through post offices, police stations, provincial legislatures, transport sister-agencies and the South African Revenue Service. It is also distributed at events and activations, petroports and filling stations, and toll plazas on the N1, N2 and N3.

SANRAL continued to showcase its pillars of operation through the **Investing** supplements. In 2016/17 three 12-page supplements – focusing on investing in road safety, the environment and the community – were distributed as inserts in mainstream and community newspapers.

SANRAL also published its **People's Guide**, an accessible summary of the annual report and two eight-

page newspaper supplements following community outreach activities in the Southern Region and at the launch of the Moloto Road upgrade. The supplements were reformatted as pocket guides.

A digital publication, **Hit the Road**, was created to appeal to young people.

The agency prioritises communication to toll road users to keep them informed about changes in tariffs and developments on these routes. The annual **toll tariff adjustments booklet** was published and appropriately distributed and a newsletter on international toll road practice was produced.

Community outreach activities

SANRAL hosted 36 activations and outreach activities in 2016/17, organised or exhibited at 10 career expos, hosted five ministerial events and participated in activities initiated by the DoT, other government departments and various road entities. Major activities during 2016/17 were:

- An activation at FNB Stadium in Soweto mainly to drive public awareness of SANRAL's on-road services which enable it to respond effectively to accidents, breakdowns and other incidents
- The sod-turning and tree-planting ceremony to mark the start of the project to upgrade the deadly Moloto Road. This provided an opportunity for the Minister of Transport to visit the Nkangala District and create awareness of the role played by the DoT in relation to road safety
- Three information sessions for SMMEs in Limpopo and Mpumalanga to enable them to register on a database of potential sub-contractors on the Moloto Road project. About 400 companies participated in the briefing and 13 000 application forms were received
- The opening of the Swartkopfontein Bridge which links South Africa and Botswana. This ceremony was conducted jointly by the South African and Botswana ministers of transport
- The handover of a scale model of the new Moria interchange on the R71 to Bishop Barnabas Lekganyane of the Zion Christian Church during the formal opening of the interchange in November
- A pilot career expo in Hammanskraal, which was initiated by SANRAL and involved several other exhibitors. The event was successful and the agency plans to undertake similar events in other regions in 2017/18. In addition, SANRAL participated as an exhibitor at several other career expos
- Community events including a mobile library

handover at the Crossmore Primary School in KwaZulu-Natal and a taxi rank activation in Kimberley, which focused on pedestrian safety and SANRAL projects in the Northern Cape

- The annual Women in Roads Seminar which was held in Port St Johns and focused on informing women in SMMEs about business opportunities with SANRAL
- Various Transport Month events including an event held in Mthatha with the Minister of Transport which profiled SANRAL projects in the province.

Our social media platforms, which include Facebook, Twitter, Instagram, and our blog, Stop-over, showed tremendous growth in both followers and engagement over the reporting period. It was pleasing to see a large number of people engaging on many topics, not only on e-tolls. These platforms were invaluable in assisting the agency to attend to grievances promptly and directly.

Table 34 indicates the number of posts made on various social media sites and how frequently various pillars were featured.

Social media

Table 34: Number of social media items written and posted 2016/17

Pillars of operation	Facebook & Twitter	Stop-over blog	YouTube	Total per pillar
Community development	19	15	1	35
Engineering	27	20	1	48
Environment	22	5	0	27
Employees	5	6	0	11
Governance and finance	3	6	1	10
Road safety*	29	17	2	48
Sustainability	6	9	0	15
Technology (financial management and IT)	13	5	0	18
Blog posts		33		33
Campaigns	33		1	34
Tolls	4	3		7
General	36	13		49
Total per social media platform	197	132	6	335

* Includes iTraffic and traffic advisories on Facebook and Twitter

Social media engagements

The SANRAL Facebook page grew by 16 904 page “likes” in the last year.

Table 35: SANRAL Facebook page activity 2016/17

Activity	Total number
Unique users	402 403
Posted likes	241 533
Posted comments	7 109
Shared items	7 499
Clicked links	498 247
Liked pages	50 682

SANRAL had two Twitter accounts in 2016/17: SANRAL_za which had 5 872 followers as of March 2017, and SANRAL_etoll which had few followers and was closed at the end of the year. Activities on these are reflected in Table 36 and Table 37 respectively.

Table 36: Activities on Twitter account SANRAL_za 2016/17

Activity	Number
SANRAL corporate information likes	566
SANRAL corporate information retweets	669
Clicks on links shared	982

Table 37: Activities on Twitter account SANRAL_etoll 2016/17

Activity	Number
E-toll information likes	45
E-toll Information retweets	63

The reporting year also saw SANRAL's first forays into promoted tweets and Facebook posts. This resulted in 3.6m clicks, views and engagements across selected channels.



@sanral_za



sanralza



@sanral_za



SANRAL



SANRAL Corporate

Employee communication

Regular communication with staff on developments in SANRAL was maintained through the internal electronic publication, *InRoads*. A fresh look-and-feel introduced near the end of the reporting period has revitalised this important communication tool.

Events were held in all regions towards the end of 2016 to inform staff about the WHOA! road safety campaign which took place in December. Staff mailers were also used to keep staff abreast of marketing initiatives.

Women’s Month and Heritage Day celebrations were held for staff at all offices and a farewell dinner for the agency’s founding CEO, Nazir Alli, was hosted by Ms Dipuo Peters, then Minister of Transport.

Media engagement

SANRAL maintained a high level of media engagement throughout the year, issuing a total of 90 media releases (excluding hundreds of traffic advisories). In addition to media releases – which are generally widely distributed – SANRAL responded to 356 queries from individual journalists and participated in 79 media interviews.

To cater to the specific needs of online media

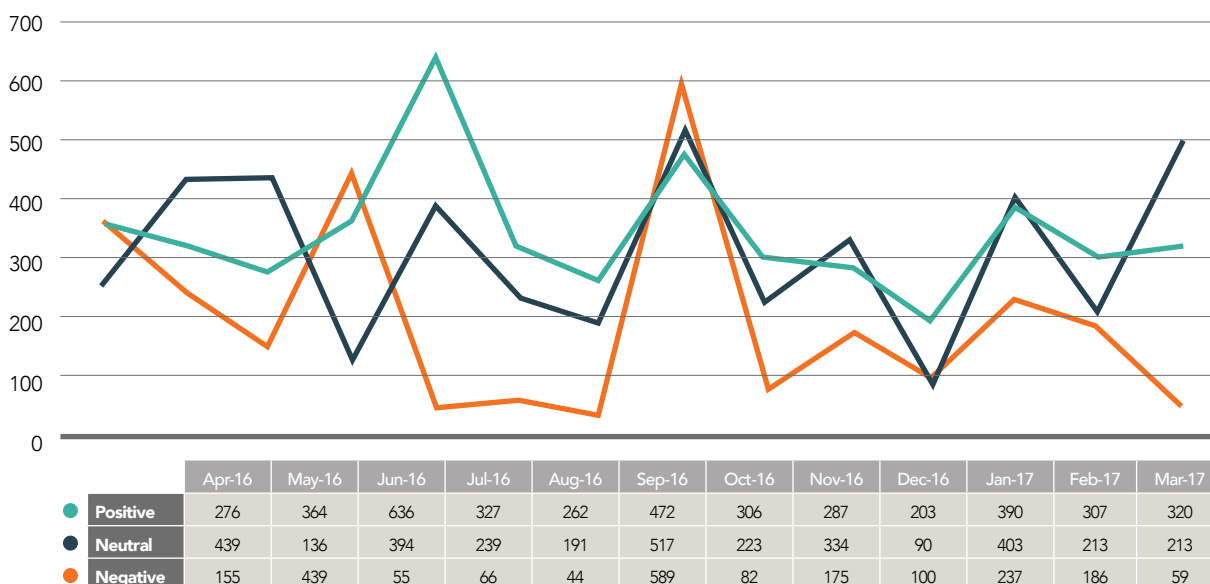
platforms, 15 multi-media releases – in audio, video and written format – were created and distributed. This was used to excellent effect to announce an important fossil find at a road construction site in the Eastern Cape in July 2016, a story that was carried internationally by CNN and publications as diverse as the Business Times of India and National Geographic in Spain.

Management of media relations also entails identifying potential controversies and being prepared to make a public statement should these issues develop. SANRAL prepared 21 holding statements during the year under review.

Tone of media reporting

An independent media monitoring company analysed hundreds of media items on SANRAL over the course of the year and classified them as positive, negative or neutral in tone. As can be seen in Figure 8, positive reports outnumbered negative reports for most of the year, with the exception of two negative spikes in April and August/September. These related to reports that the GFIP was overpriced (April) and the decision by FutureGrowth to suspend investment in SANRAL bonds. There was a strong flow of neutral reporting virtually throughout the year.

Figure 8: Trends in tone of media reports on SANRAL 2016/2017





PUBLICATIONS

IN ROADS

Human Rights Day

Be part of something

Happiness is mandatory

04 SEP 2017 MARCH 2017

www.sanral.co.za

INVESTING IN ROAD SAFETY

IN THIS ISSUE

100% Road Safety - The road safety strategy for South Africa

A SAFER WALK TO SCHOOL

100% Road Safety - The road safety strategy for South Africa

www.sanral.co.za

WESTERN REGION

- SUPPLEMENT -

SANRAL's 458km of well-maintained economic arteries carry and safeguard the lifeblood of Western Region commuters, commuters and communities along the national routes. The continual improvement and maintenance of this road network means vital goods and support for the surrounding economy. We are proud of our work to uplift, develop and contribute to the lives of the people in our cities, towns and villages. You make up the Western and Northern Cape.

www.sanral.co.za

SOUTHERN REGION

- SUPPLEMENT -

SANRAL MOVES FORWARD ON N2 WILD COAST TOLL ROAD

Sanral has secured a 100% road safety strategy for South Africa, which will be implemented by the end of 2017. The strategy is a key component of the National Road Safety Strategy, which was developed in partnership with the Department of Transport and the South African Police Service (SAPS).

www.sanral.co.za

INVESTING IN THE COMMUNITY

RIDE THEIR RIDGE

SANRAL IS ABOUT PEOPLE

A FUTURE OF TALENT

Sanral is committed to the development of the community through its various initiatives. This includes the 'Ride Their Ridge' program, which aims to improve the lives of people in rural areas by providing them with access to essential services and infrastructure.

www.sanral.co.za

INVESTING IN THE ENVIRONMENT

BRIDGE OF BIRDS

Sanral is committed to the protection and enhancement of the environment through its various initiatives. This includes the 'Bridge of Birds' project, which aims to create a safe and healthy habitat for birds in the Western Cape region.

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NATIONAL ROADS

PEOPLE'S GUIDE

CREATING WEALTH THROUGH INFRASTRUCTURE

OCTOBER 2016

MANAGING SA'S VITAL INFRASTRUCTURE

Every day, millions of South Africans take to the country's national roads to travel to their destinations.

INSIDE

- How bridge strengthens SANRAL's reputation
- Changing behaviour to save
- All roads lead to development
- Improving SANRAL's operations
- Targeting talent to Sanral's strategy

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BY THE WAY

Balance is exciting

Your daily business, multiplied

First aid for your car

How to fix a flat

Between a baobab and a hard place

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MOLOTO ROAD

SUPPLEMENT

AUGUST 2016

TOP STORIES

PAGE 2 Changing Lives Through Development

PAGE 3 Molofo Road: Shaping Your Reality

PAGE 6 'You Will' Road Safety is the Molofo Road Project's New Drive

PAGE 8 Community And Skills Development

A Word From The Minister Of Transport Dipuo Peters

"I am glad that we have finally embarked on a journey that will see the Molofo Road being converted into a world-class road. For many years, this road has caused misery to so many people. The long drive, the state of the road has been a nightmare for the region. The Molofo Road has been a commitment with credits, but no credits, impacts and costs. It has taken a combination of investments and technical assistance. There are those that stand at the open graves of their children, a Minister of Transport. I often attend the funerals of crash victims and have to respond to their unrequited prayers as we reconstruct a new reality."

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BEYOND ROADS IS LOVE.

There are times when a telephone call, an SMS or WhatsApp message just won't do.

That's why when you get onto our national road network, we connect you with your favourite family members. There you'll get a really tight hug, a kiss, a good laugh, time to tell those really funny stories - and reminisce over shared memories, well into the night.

So, why wait, let us connect you with what matters to you most, family.


Because Beyond roads is love.

SANRAL. Beyond roads.
The South African Road Agency

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BE SAFE ON THE ROAD AHEAD.























BEYOND ROADS IS A GROWING ECONOMY.

South Africa is one of the continent's largest economies. At SANRAL, we are committed to making a contribution to our economy through professional management of the national road network - the country's most widely-used physical infrastructure.

Without it, none of our growth objectives can be achieved. From mining to manufacturing, fast moving consumer goods or logistics, if it moves, it moves on our roads.

SANRAL. Beyond roads.
An Agency of the Department of Transport

www.sanral.co.za
                   



PRINT ADS



WHOA! TEXTING AND WALKING IS A DANGEROUS OPTION.



SANRAL. Beyond roads.
The South African Road Agency

www.sanral.co.za
            



WHOA! DRINK AND WALK AND IT'S GAME OVER.



SANRAL. Beyond roads.
The South African Road Agency

www.sanral.co.za
            



WHOA! AFTER TALKING, BE CAREFUL WALKING.



SANRAL. Beyond roads.
The South African Road Agency

www.sanral.co.za
            



WHOA! TAKE A BREAK AND STAY AWAKE.



SANRAL. Beyond roads.
The South African Road Agency

www.sanral.co.za
            

THE ROAD AHEAD LOOKS PROMISING FOR NWABISA.



Planning an infrastructure project often starts with identifying the location. Infrastructure projects are often located in rural areas, where the terrain is often hilly and the roads are often unpaved. This makes the construction process more challenging and costly. However, with the right planning and execution, these projects can be successful and provide long-term benefits to the community.

The Department of Transport and Infrastructure (DOI) is committed to providing high-quality infrastructure services to all South Africans. This includes the construction and maintenance of roads, bridges, and other infrastructure. The DOI is working to improve the quality of infrastructure services and ensure that all South Africans have access to safe and reliable infrastructure.

For more information, visit www.sanral.co.za or contact us at 0800 11 11 11.

SANRAL. Beyond roads.
The South African Road Agency

www.sanral.co.za
      

DANICA IS GOING ONE WAY, AND THAT'S UP!



Danica is a young woman who is passionate about infrastructure. She is currently working on a bridge project in her hometown. She is responsible for the design and construction of the bridge, which will provide a safe and reliable crossing for the community. Danica is proud of her work and is committed to providing high-quality infrastructure services to all South Africans.

The Department of Transport and Infrastructure (DOI) is committed to providing high-quality infrastructure services to all South Africans. This includes the construction and maintenance of roads, bridges, and other infrastructure. The DOI is working to improve the quality of infrastructure services and ensure that all South Africans have access to safe and reliable infrastructure.

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THERESA IS MAKING GREAT STRIDES IN CIVIL WORKS.



Theresa is a young woman who is passionate about infrastructure. She is currently working on various civil works projects, including the construction and maintenance of roads, bridges, and other infrastructure. Theresa is proud of her work and is committed to providing high-quality infrastructure services to all South Africans.

The Department of Transport and Infrastructure (DOI) is committed to providing high-quality infrastructure services to all South Africans. This includes the construction and maintenance of roads, bridges, and other infrastructure. The DOI is working to improve the quality of infrastructure services and ensure that all South Africans have access to safe and reliable infrastructure.

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NOZIBUSISO IS TRAILBLAZING TO THE TOP.



Nozibusiso is a young woman who is passionate about infrastructure. She is currently working on various infrastructure projects, including the construction and maintenance of roads, bridges, and other infrastructure. Nozibusiso is proud of her work and is committed to providing high-quality infrastructure services to all South Africans.

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Natural Capital



SANRAL has always recognised that environmental management is an integral component of road infrastructure development and road management. A sustainable road network that meets the requirements of people and respects the environment requires careful planning and consultation with interested parties. It also demands a measure of innovation to find the necessary balance between the interests of the road users, roads authorities, business entities and conservationists.

This reality is recognised in the National Environmental Management Act of 2002 (NEMA), which defines the environment not only in terms biophysical elements but also takes account of social and economic elements.

1. Environmental management

The construction and upgrading of major road systems inevitably has significant environmental impacts, which may be beneficial or adverse. SANRAL's approach to this challenge is to go beyond negative impact mitigation and develop responses that yield positive benefits in securing natural capital. The agency is constantly challenged to introduce more environmentally sustainable practices as it undertakes its core work of maintaining and improving the national road system.

SANRAL's approach is based on its sustainable development framework and the ISO 14001¹

international environmental management standard. The basic tenet of SANRAL's environmental policy is continual improvement.

Stakeholders are increasingly aware of environmental issues and more active in conserving natural assets. It is therefore important for SANRAL to engage with them and be able to demonstrate improving performance. The agency's policy needs to evolve to reflect new thinking and 2017 will see a revision of its environmental policy.

2. Liaison with regulatory authorities

SANRAL has forged mutually beneficial relationships with relevant government departments, particularly the Department of Environmental Affairs (DEA), the Department of Mineral Resources (DMR) and the Department of Water and Sanitation (DWS).

The agency has created platforms for regular meetings with the DEA to discuss strategic and project-specific issues that affect both organisations. SANRAL's larger projects, including those that fall within government's Strategic Integrated Projects (SIPs), benefit most from this cooperation. SANRAL has gradually become a partner to the DEA, serving on reference groups for specific tasks, providing feedback on projects, and jointly developing human capital in the environmental field.

¹ The ISO 14001 standard is the most important standard within the ISO 14000 series. ISO 14001 specifies the requirements of an environmental management system (EMS) for small to large organisations. An EMS is a systemic approach to handling environmental issues within an organisation. The ISO 14001 standard is based on the Plan-Check-Do-Review-Improve cycle.

SANRAL also interacts regularly with the DWS and contributed significantly to the formulation of the new General Authorisation (GA) issued in August 2016. The GA provides greater certainty to SANRAL in its approach to water use as defined in the National Water Act of 1998.

Engagement with the DMR and DEA also serves to ensure a common understanding of legislative requirements, including those related to mining and other applicable activities listed in regulations under the NEMA.

3. Monitoring and evaluating environmental performance

Environmental performance on a project is monitored by means of regular site inspections by project teams, environmental authorities, and internal and external audit teams comprising environmental management inspectors. SANRAL has noted increasing interest in its projects on the part of environmental authorities and other interested parties.

In the last year, SANRAL conducted joint inspections with the DMR in order to clarify issues of mutual concern, understand norms and standards within the road construction industry, and ensure coherence and consistency in the issuing of water use authorisations for road construction.

4. Vegetation management on road verges

The management of vegetation within road reserves requires a balancing of road user safety, control of fire risks and support for biodiversity. While SANRAL has developed an approach that is managed primarily under its routine road maintenance programme, once in a while there are challenges and changes that require new approaches and new partnerships.

NEMBA regulations

Regulations under the National Environmental Management: Biodiversity Act of 2004 (NEMBA) require all statutory bodies to draw up and submit to the DEA management frameworks for certain categories of alien and invasive plant species in all areas of land under their jurisdiction.

To prepare for this task, a SANRAL environmental coordinator attended a course on alien and invasive species offered by the South African Green Industries Council (SAGIC) in April. SANRAL duly submitted its alien and invasive species management plan to the DEA

in September in compliance with the regulations.

The submission of this provided an excellent opportunity to review and possibly update the routine road maintenance guideline of 2009 to ensure existing practice was aligned with the plan submitted and applicable legislation.

SANRAL's Environmental Focus Group undertook the review, which comprised a desktop review, the compilation of a checklist and site inspections of two projects in each region. It concluded that SANRAL's existing practices met legislative requirements in that all road maintenance contracts require contractors to prevent the introduction of listed alien and invasive species, detect and remove emerging alien and invasive plants, and ensure existing plants do not spread.

Getting to grips with the prickly pear

The prickly pear, or *opuntia*, is of Mexican origin and a hybrid prickly pear, selected for its lack of spines and high fruit quality, was introduced into South Africa hundreds of years ago. Through cross-pollination, spiny forms of this hybrid, known as *opuntia ficus-indica*, emerged. While various animals graze on the spineless cultivars, they avoid the spiny or prickly plants. The latter have therefore gained a competitive advantage and are gradually displacing natural vegetation and pasture. So *opuntia ficus-indica* has been declared a category 1 weed, which necessitates its control, or removal and destruction if possible. While there are stem-injected herbicides registered for use against the prickly pear, physical and biological controls are cheaper and more environmentally friendly. The insects that are deployed to keep South African prickly pear populations down are the cochineal species, *dactylopius opuntiae*, the cactus moth, *cactoblastis cactorum*, and a stem-boring weevil, *metamasius spinolae*.

Source: Agricultural Research Council

5. Major projects

N2 Wild Coast road project

The environmental authorisation or record of decision for the N2 Wild Coast road specifies a number of

stringent conditions. These include the signing of a biodiversity offset agreement, obtaining of permits, and appointment of environmental personnel to ensure adherence to the conditions.

The biodiversity offset agreement has been signed, but its implementation had not commenced by the end of 2016/17. The offset is expected to contribute significantly to biodiversity conservation in the Eastern Cape.

In preparation for the construction of haul roads to the planned bridges over the Msikaba and Mtentu rivers, SANRAL has obtained:

- Water use authorisations
- Permits for threatened or protected species
- Permits for protected trees and natural forests.

The required personnel were mostly in place by the end of the reporting period. Each contractor is required to employ a site-based environmental control officer and in addition SANRAL has appointed two independent environmental control officers and an environmental project manager. The process of appointing an environmental auditor also commenced during the year.

General oversight will be provided by an Environmental Monitoring Committee, comprising representatives of SANRAL, regulatory authorities and non-governmental organisations, and the environmental monitoring personnel.

In preparation for the start of the formal offset process, a massive plant “search and rescue operation” commenced towards the end of 2016. This involved identifying and removing plant species that would be affected by the construction of the haul roads to the Msikaba and Mtentu bridges. The search and removal extended beyond threatened and protected species and involved obtaining a reasonably representative selection of species that thrive in the area. The rescued plants are being taken care of in temporary nurseries and the process will be repeated as the seasons change and there is regrowth of plants. After the first clearance was completed, traditional healers were invited to the site to collect medicinal plants.

The project is a very ambitious one, not only in terms of the sheer length of the N2 Wild Coast road but also due to the variety of habitats to be conserved, from wetlands and grasslands to rocky outcrops and forest areas. Some species are also extremely difficult to transplant and might have to be propagated from cuttings or seeds.

The search and rescue team developed an elaborate recording and labelling system, that includes GPS

coordinates for individual species, scientific information and photographs.



N4 at Pampoek Nek

In 2010 an environmental authorisation was granted for a new section of the N4 near Hartebeespoort Dam in the North West. However, construction did not commence at the time.

In 2016, with construction envisaged in the near future, a review was undertaken of the project’s environmental management programme, the conditions of the environmental authorisation, and other permit requirements. This confirmed the need to:

- Update the environmental management programme and submit it to the DEA for approval
- Appoint an environmental control officer to ensure adherence to specifications
- Survey the project area for protected plants and apply for relevant permits
- Apply to the South African Heritage Resources Agency (SAHRA) for permission to alter and demolish heritage sites.

SANRAL also decided to change the road design to mitigate some environmental impacts, decreasing the depth of the cutting through Pampoek Nek to create a flatter surface, reducing the design speed of the road (which will shrink the footprint of the cutting) and including tree-planting to soften the visual impact of the cutting.

Protected trees on the Musina Ring Road

Construction on the Musina Ring Road project commenced in 2016 following the completion of an environmental impact assessment and acquisition of permits for the removal of protected trees.

A major conservation challenge was the fact that a significant portion of the new road will pass through a declared forest reserve that contains a large number of protected trees. These include baobabs (*adansonia digitata*) weighing more than 100 tons and thought to be older than 3 000 years, as well as numerous marula (*sclerocarya birrea sub-species. caffra*) and shepherd trees (*boscia albitrunca*).

Although the permits allowed for the destruction of these trees, SANRAL's intention was to minimise the negative impact as much as possible. The road design was adjusted to avoid some trees and other affected trees were moved slightly to the edge of the road reserve. This retained the road's general sense of place without compromising road safety.

With the guidance of a specialist, 11 baobab trees, 197 shepherd trees and nine marula trees were relocated and carefully tended in the months after the move. Good rains between December and March stimulated the growth of the trees and an inspection in February indicated they were good condition.

The mighty baobab

The baobab grows in South Africa only in the low-lying, warm and dry bushveld area of Limpopo. Its enormous trunk and short splayed branches set it apart from all other trees. When the branches are bare of leaves, the baobab appears to have been turned upside-down and left with its roots exposed. The seeds of baobab trees are refreshing to suck and their whitish pulp contains tartaric acid, bitartrate of potash and vitamin C. Infusions of the seeds have been used traditionally to reduce fever and provide supplementary vitamin C.



Hammarsdale Interchange

Indigenous plants of conservation value were found at the Hammarsdale Interchange on the N3 which was due for a major upgrade. In partnership with the eThekweni Municipality, SANRAL relocated a range of plants from areas that would be affected to a temporary nursery.

They will be re-established at the site of the interchange after the completion of construction works.

6. Environmental impact assessments

N3 De Beers Pass

Following the public response to the environmental impact assessment report, and further engagement with key stakeholders, the Minister of Transport cancelled the project. SANRAL is to investigate other options for addressing safety and capacity concerns on the existing N3 Van Reenens Pass alignment.

Ermelo Ring Road

The DEA granted environmental authorisation for the Ermelo Ring Road and the decision was communicated to interested and affected parties. No appeals were made against the decision.

P166 at Mbombela

The DEA also issued an environmental authorisation for the P166 at Mbombela and this was communicated to interested and affected parties. A number of parties, including SANRAL, have lodged appeals against the decision on the grounds that the authorised road alignment does not adequately accommodate long distance and localised road traffic and partly defeats the objectives of the proposed road.

The Mpumalanga Department of Public Works, Roads and Transport, the Mbombela Local Municipality, SANRAL and the transportation specialist who contributed to the P166 Economic and Transport Study all take the view that original routing through White River offers a better solution. Furthermore, a number of spatial, development and road plans for the area have been based on the original alignment. The Minister of Environmental Affairs will rule on the appeals.

Grahamstown archaeological find

One of South Africa's richest fossil finds was made in 2016 during construction work on the N2 freeway between Grahamstown and Fish River in the Eastern Cape. This discovery of fossils revealed an ancient river-mouth ecosystem with many species, including invertebrates, that had never been documented by scientists. These fossils date back nearly 360 million years to a time when South Africa was part of the supercontinent of Gondwanaland. SANRAL's environmental management plan makes provision for excavation and specialist examination of rock debris should there be a find during construction.

7. Research and development

Fynbos in Eastern Cape road reserves

The research project on fynbos species growing along the N2 national road between Nature's Valley and Port Elizabeth was completed during 2016/17. It demonstrated that road reserves in this locality are a viable habitat for fynbos and could play a valuable conservation role as fynbos species are diminishing in the wild.

Eleven plant species of conservation concern were found in the road reserves. In addition, a rare orchid, *disperis woodii*, never previously found in the Fynbos Biome, was identified during the study, significantly extending the range in which it grows.

A key deliverable of the multi-year study was the development of a fire management plan, which will guide SANRAL's routine road maintenance approach to fynbos on this stretch of road. The fire management plan was completed but was not implemented because there had been a number of fires in the area and these forced the postponement of test burns to late 2017.

In addition to transplanting *oldenburgia grandis* plants affected by the upgrade of the N2 between Grahamstown and the Fish River, an attempt was made to improve understanding of how they survive and reproduce. For example, how well they survive fire, how readily seeds germinate under a range of conditions and what animals pollinate the species.

It was found *oldenburgia grandis* survives fire – even extreme fire damage – reasonably well. It was also established that seed germination was around 66% regardless of shade intensity or whether water was treated with smoke. This germination rate was fairly high for a plant that appears to put more effort into survival than reproduction. The next phase of the study will investigate birds and bees as agents of pollination.

Environmental specialist for the Southern Region

SANRAL's Southern Region now has an in-house environmental specialist. She hit the ground running in the new SANRAL Baywest office, and has already undertaken borrow pit inspections with environmental authorities and conducted monitoring of alien vegetation management as part of the review of SANRAL practice against the new legislative requirements. She is expected to play a significant role in relation to the N2 Wild Coast project.

The Southern Region's new office was the first commercial building in the Eastern Cape to be awarded a coveted five Green Stars by the Green Building Council of South Africa. The building is heated, cooled and ventilated by energy efficient methods, uses a lower volume of potable water than conventional buildings, and was built with low embodied-energy materials.



8. Concessionaires and the environment

Bakwena participated in a range of environmental projects in 2016:

- It partnered with the Endangered Wildlife Trust (EWT) and the Wildlife and Environment Society of South Africa (Wessa) to take the Eco-Schools Project to 10 schools in the Hammanskraal area and 10 schools in the Kgetleng area. This project involves providing conservation education to educators and learners and improving the schools' management of environmental matters
- It is a partner in the EWT Wildlife and Roads Project and records all roadkill along the N4 through its trained route patrollers. The EWT collates this data and the resulting database is a tool to identify hotspots which may require measures to protect wildlife

- Bakwena supports the Magaliesberg Biosphere, which was declared a UNESCO World Heritage Site in 2015, in a variety of ways. It is represented on the board and assists the secretariat. The company was involved in a research project on leopards in the area and this has been instrumental in sustaining a ban on leopard trophy hunting. Bakwena invested in a liquid nitrogen biotank which has enabled the establishment of a library of biospecimens specific to the area
- The company participates annually in Arbor Week and holds tree planting ceremonies in the various schools along the N4 route.

N3TC has implemented an environmental management system based on the ISO 14001 standard. Its environmental management programme was updated in 2016 and quarterly environmental inspections were conducted on site.

Training is an important requirement of the environmental management system and it applies to identified personnel in the company as well as contractors.

During 2016, N3TC attended to four newly registered rehabilitation sites resulting from spills of petroleum distillate, petrol and cooking oil. Rehabilitation of these sites and a fifth site registered in 2015 was ongoing during 2016.

N3TC contributes to the EWT Wildlife and Roads Project and its route patrol teams have been trained to identify and record all animals killed on the roads. 2016 saw an increase in both domestic and wild animals killed on the N3. The number of domestic animals involved in crashes went from 58 in 2014 to 45 in 2015 and 63 in 2016. The number of wild animals killed, went from 128 in 2014 to 104 in 2015 and then to 203 in 2016. The animals most at risk include servals, rabbits, jackals, porcupines and barn owls.

TRAC ensured regular monitoring and rehabilitation of environmentally sensitive areas under construction. Slope-stability surveys were conducted during 2016 to identify possible risks arising from steep cuts and fills along the N4 and institute mitigation measures.

TRAC conducted regular monitoring of the water quality of the Goedehoopspruit and Klein Olifants River to establish whether there was any adverse impact arising from the widening of the N4 between the N11 Interchange and Wonderfontein. This showed that the habitat integrity of the Klein Olifants River was unchanged after the construction work while that at Goedehoopspruit had actually improved. This was due to the removal of old pipe culverts that had restricted the flow of water and the placement of riprap downstream from new box culverts which facilitate the upstream migration of fish.

Basic assessments were undertaken in 2016 for the widening of the road at Elands Valley and a full environmental study was conducted for the widening of the Belfast to Machado Toll Plaza section. TRAC has received all required environmental and water license approvals for current, and intended, upgrading projects.

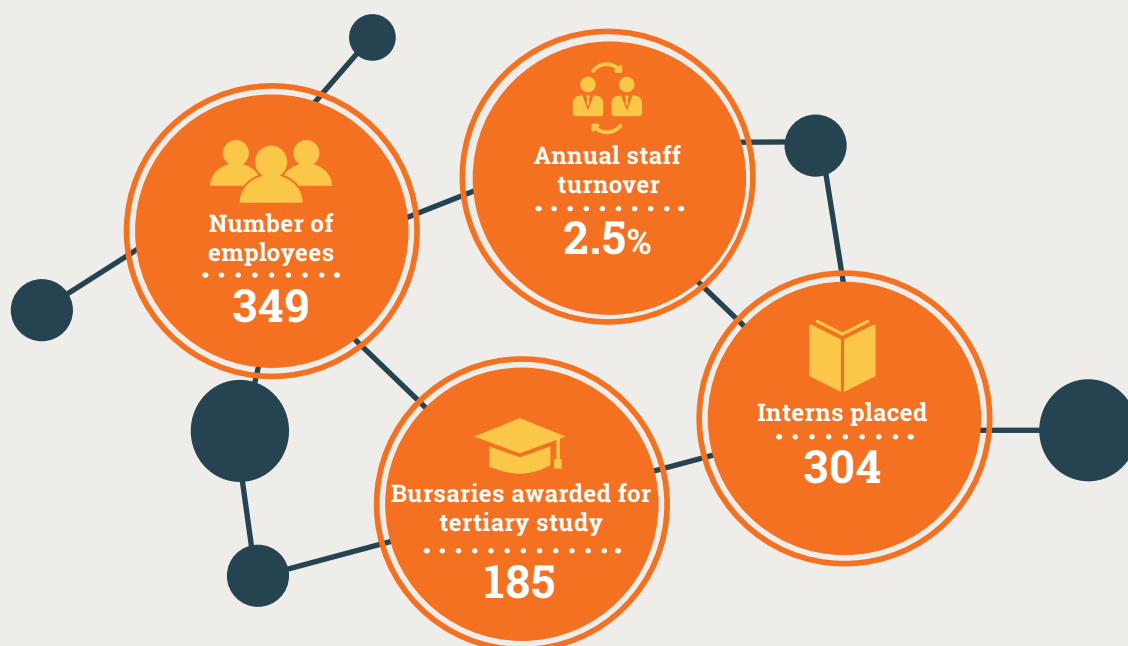
Like SANRAL's other concession-holders, TRAC continued to participate in the EWT's Wildlife and Roads Project by recording the wildlife killed along the section of the N4 under its management.

TRAC's corporate social investment programme includes some environmental projects, including:

- Sponsoring the feeding, accommodation and medical costs of three rhino orphans undergoing rehabilitation at the Care for Wild Rehabilitation Centre in Mbombela
- The greening of the N4, which has involved the planting of a vast number of trees and aloes along the road. Many of these were Marlothi aloes found on the Oorsprong Borrow Pit which was used for the upgrading and rehabilitation of the N4 from Hectorspruit to Komatipoort
- Providing financial support to environmental organisations such as the Houtboschloop Environmental Action Link (HEAL) which focuses on the removal of animal snares in the Elands Valley area.

2016 saw the continuation of the clean-up project in Ndogwana and Vosman. This involves TRAC employing several members of communities living adjacent to the N4 to keep their area clean.

Human Capital



SANRAL's strives to strengthen the pool of engineering and construction expertise in South Africa not only through the development of its own professional and managerial staff, but also through educational interventions that expand the broader talent pool in the sector.

During the year under review SANRAL strove to maintain high quality people management practices and participated in the survey of the Top Employers Institute and the audit of the South African Board of People Practices (SABPP) with the intention of benchmarking its performance.

SANRAL's continued growth and success can be ascribed largely to the fact that it places its employees at the core of its endeavours and invests in them to derive full benefit from the technical and specialist skills they possess.

The agency's core values of excellence, pro-activeness, participativeness, integrity and care are the foundation of its practices and employees at all levels are encouraged to apply these values in their daily operations and interactions with colleagues, stakeholders and customers.

1. Certification

1.1 Top Employer

In 2016 SANRAL achieved Top Employer certification by the Top Employers Institute for the third consecutive year and improved on its previous ratings in all categories.

This global evaluation process focuses on employee conditions. It assesses factors such as the company's talent strategy, workforce planning, on-boarding processes, approach to learning and development, performance management, and employee compensation and benefits. The information supplied by participating companies is independently audited to verify its accuracy and reliability.

1.2 Third place in National Standards Audit

The good governance of organisations depends only partly on appropriate systems. Finally, it is people who determine whether governance succeeds or fails, and human resource management has a significant role to play in enabling employees to contribute to the sound governance and long-term sustainability of organisations.

In order to provide high quality human resource management, SANRAL's HR team continues to assess its

practices against the best in the country. The National Standards Audit of the South African Board of People Practices (SABPP) provides the best yardstick and the agency completed its audit once more in 2016. The results were encouraging:

- SANRAL was ranked third in the country in terms of fulfilling the criteria for National Standards certification
- The agency’s wellness programme took top place on the applicable criteria.

2. Workforce

2.1 Employment equity and transformation

SANRAL’s transformation strategy centres on positioning itself for efficient, sustainable and profitable service delivery and long-term value creation for the South African economy through the development and maintenance of the strategic road network.

This plan sets out from the premise that transformation, as it pertains to national policies such as broad-based black economic empowerment (BBBEE) and employment equity (EE), is a logical component of the sustainability agenda. Support for these policies demonstrates SANRAL’s unwavering commitment to good corporate citizenship, robust governance and active transformation of our society.

SANRAL’s employees are its most important and most valued resource. They are the key to the agency delivering on its mandate and serving the people of South Africa. The management of employees is informed by this consciousness. The agency recognises the rights of employees and pursues the goal of fair labour practice, striving to apply all legislation and workplace procedures with consistency and fairness.

SANRAL actively pursues the attainment of employment equity at every level of business activity. The agency values diversity within the workforce and strives to create an environment that encourages employee development by mentorship and training.

Key policies that guide implementation of employment equity and transformation include:

- Employment Equity
- Employment of People with Disabilities
- Induction, Training and Development
- Financial Assistance for Part-time Study
- Performance Management
- Employee Assistance Programmes

- HIV/AIDS and Sexually Transmitted Diseases (STDs).

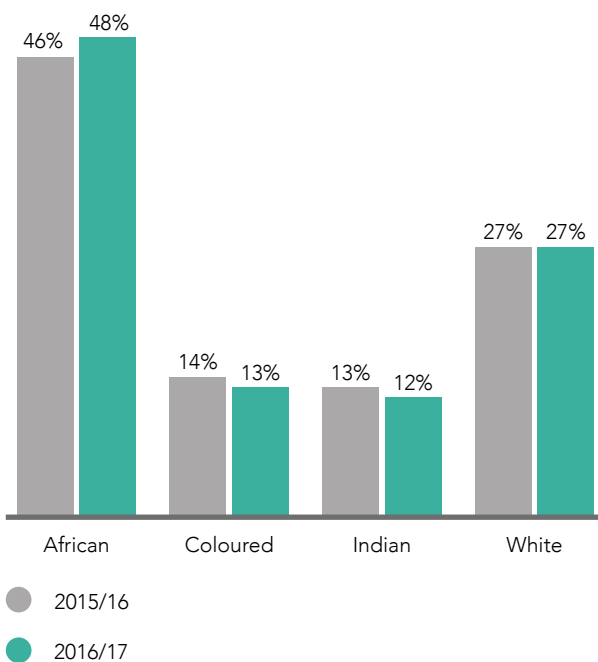
SANRAL’s statutory EE structures and reporting processes are fully functional and supportive of the broader transformation initiatives.

2.2 Workforce profile

The staff complement of SANRAL grew from 314 employees in 2015/16 to 349 in the current reporting period. This overall increase of approximately 11% was accompanied by a small increase in African employees as a proportion of the staff complement.

SANRAL has a low voluntary staff turnover of 2.5% a year, which attests to its superior ability to retain employees, including many extremely talented and highly qualified professionals.

Figure 9: SANRAL workforce profile 2015/16 and 2016/17



2.3 Talent management

In order to realise its strategic objectives SANRAL requires a talented workforce. The Human Resources Strategic Plan 2016 - 2018 is designed to harness the existing talent pool and develop the agency’s human capital. The agency’s HR objectives include:

- Embracing diversity in term of age, class, race, gender, occupational group and educational background
- Promoting the development of designated groups, as defined in the Employment Equity Act
- Establishing SANRAL as an employer of choice within the industry

- Creating a world-class working environment with a strong ethos of information sharing and knowledge management
- Facilitating employment relationships which create high motivation among all employees
- Developing a system capable of continually building and maintaining organisational capacity.

All HR strategies need to take account of challenges in the internal and external environment. Some of the factors SANRAL has considered are:

- The changing nature of the road network as a result of incorporation provincial roads and rapid urbanisation which increases traffic volumes
- The growth of the agency's workforce and its increasing diversity
- The ageing nature of its workforce which demands succession planning to ensure retention of skills and institutional knowledge
- The diversification of SANRAL's service offering and its increasing sophistication, with the advent of smart roads and other applications of advanced technology
- The increasing number of road construction, rehabilitation and maintenance projects and the impact of this on administrative capacity
- The need to maintain a healthy balance between the skills of in-house staff and contracted consultants, and between specialist technical skills and the skills of managers and administrators
- The terms of the annual performance plan agreed by SANRAL and the Minister of Transport
- The evolving legislative and policy environment
- The prevailing economic climate and associated employment market.

3. Organisational philosophy

Some important elements of SANRAL's organisational philosophy are summarised below.

Roles not jobs: SANRAL's occupational grading system, established in 1998, is based on the concept of individual "roles" rather than "jobs". It comprises broad bands and promotes a competitive market especially in relation to senior and technical roles. The aim is to attract, retain and motivate high performers.

Accountability: SANRAL seeks to inspire among all employees a deep sense of rights, obligations and ownership of the organisation's successes and failures. The company's performance management system links individual performance to overall company performance.

A flat matrix structure: SANRAL has a matrix structure with relatively few managerial levels. This reduces hierarchies, promotes flexibility and lateral cooperation and problem-solving, and increases motivation and performance.

Cluster system: Employees are encouraged to work in clusters in order to share knowledge across the organisation, involve regional staff in Head Office functions, and promote collective decision-making. Cluster activities often allow operational employees to become involved in research and policy development.

Developing talent: SANRAL promotes pioneering knowledge in the engineering and built environment disciplines. This is a challenging work environment, especially for professionals in these disciplines. Training and development are the ingredients that can convert commitment into peak performance.

Sharing knowledge and building confidence: SANRAL facilitates career-long learning in various professional disciplines that contribute to the core and support functions of the business. Professionals are encouraged to affiliate to accredited and recognised professional bodies to ensure continued professional development. The agency offers employees opportunities for formal mentoring and coaching. In 2016/17, 66 project-managers-in-training underwent mentoring and coaching to expedite their professional registration. A team of seven mentors was created to develop and manage the mentorship system.

Harnessing technology and innovation: SANRAL has developed an internationally recognised road asset management system to monitor the state of roads, predict future road conditions and prioritise maintenance and rehabilitation intervention.

SANRAL has also developed innovative procurement models which satisfy the requirements National Treasury's supply chain management system and can be used for all types of road projects, from routine maintenance to the award of toll road concessions.

Identifying critical workforce segments: SANRAL uses the identification of critical workforce segments to inform talent management, succession planning and leadership development. These segments consist of employees who possess essential and scarce skills, or who are vital to the agency's current performance or long-term sustainability in a rapidly changing environment.

SANRAL’s leadership and management development programme seeks to equip professional staff members with generic management skills that enable them to fulfil roles that extend beyond the construction-related functions they have fulfilled.

4. Employee learning and development

SANRAL’s Learning and Development Strategy is based on the premise that all employees should master the competencies required to fulfil their roles through self-directed learning. An individual development plan is developed for each employee in order to ensure the alignment of organisational needs and the employee’s career growth.

The Learning and Development Strategy focuses primarily on:

- Prioritising business needs and aligning HR and learning approaches with these priorities
- Analysing learning and development needs
- Developing solutions to address learning and development needs
- Evaluating learning and development programmes
- Strengthening ethical practices and governance
- Promoting strong financial management.
- Developing leadership competencies among African women employed by the agency.

SANRAL’s training and development is multi-faceted and utilises a combination of methodologies as indicated in Table 38.

Table 38: Summary of SANRAL learning and development interventions

Learning and development intervention	Approach	Component	Notes
Ethics, governance and prevention of fraudulent activities Including: Company-wide induction ASANRA technical committee training	Group learning	Cross functional teams	Key to success is the management of the group and the attributes of the individual members Can be resource intensive
Communication and media training Including Construction Engineering Management Programme at Stellenbosch	Tutor-led interventions	Training courses Seminars Development programmes	Must be relevant to current work situation Immediate opportunity to put learning into practice on the job is important
Leadership development	Self-managed learning	Reading e-Learning Further education	Effective where it supports on-the-job learning Must be relevant
Professional presence and business etiquette	On-the-job learning	Observation, demonstration and practice Delegation Coaching Mentoring	Most effective and efficient way to develop capability
	Self-managed learning	Reading e-Learning	Effective where it supports on-the-job learning Must be relevant

Adapted from SANRAL’s L&D Strategy 2016-2018

In addition to the above interventions, SANRAL employees have opportunities to undergo formal learning programmes offered by educational institutions. During the year under review total of 267 employees received training in various fields, including engineering, accounting and human resource management. The total investment by SANRAL in this training amounted to R3.2m.

Internal bursaries

SANRAL’s philosophy of self-directed learning has encouraged a culture of learning and knowledge-sharing. Many of the agency’s employees study for degrees, diplomas and certificates and SANRAL provides financial support where possible. During the year under review 52 employees received bursaries from SANRAL. The number included 20 new applicants who had not been funded in previous years.

Table 39: Courses of study funded by internal bursaries in 2016/17

Course of study	Number
Certificates	5
Under-graduate diplomas and degrees	15
Post-graduate diplomas and degrees	31
Other	1
Total	52

Table 40: Internal bursary recipients in 2016/17 by gender and race

African		Coloured		Indian		White		Total
Female	Male	Female	Male	Female	Male	Female	Male	
16	18	4	2	6	5	0	1	52
65.4%		11.5%		21.1%		1.9%		100.0%

Higher education

The need to attract and retain capacity in technical and civil engineering fields has prompted SANRAL to invest in skills development through scholarships, bursaries and internships, as well as through the sponsorship of specialised chairs at leading universities.

SANRAL has sponsored the Chair in Pavement Engineering at Stellenbosch University (SU) for several years and made an endowment of R30m in 2016 to secure the continuity of this significant educational resource. The aim of the partnership is to ensure high-quality education, training and research in the area of pavement engineering.

The chair has led the way at Stellenbosch University in terms of empowerment of black professionals. A substantial number of its post-graduate students are drawn from other African countries and it has become an asset for the entire continent.

In 2011, SANRAL invested R20m in the University of Cape Town to support the teaching of transport planning and engineering at under-graduate and post-graduate levels and to contribute to the creation of a SANRAL Chair in Transport Planning. In 2015 work commenced at the university on the development and teaching of a new fourth-year course in transport engineering.

SANRAL and the University of the Free State (UFS) jointly launched the SANRAL Chair in Science, Mathematics and Technology Education on the Bloemfontein campus, after a R30m endowment from the agency to establish the Chair in perpetuity. This venture aims to improve the quality of teaching of maths and science at schools in the Free State and adjacent provinces. It

The numbers of male and female employees awarded bursaries were equal in 2016/17, while allocation by racial group showed a strongly affirmative trend, as indicated in Table 40.

complements the UFS's School Partnership Project (SPP) – a flagship initiative which addresses concerns about underperformance in South Africa's school system.

5. External scholarships and bursaries

5.1 External bursary programme

In addition to assisting employees with tertiary studies, SANRAL awards a number of bursaries each year to young people studying in areas related to the agency's business – mainly civil engineering and related professions in the built environment and smart technologies. The goal is not only to nurture talent in order to cater to SANRAL's own recruitment needs but also to contribute to closing the national skills gap and promoting equity in the construction professions in terms of racial and gender representation.

A total of 133 students attending nine tertiary institutions received bursaries from SANRAL in the year under review. They include 13 post-graduates ranging from honour's students to a PhD candidate. SANRAL's total investment amounted to R8.5m.

The bursary programme not only pays recipients' tuition fees and allowances but offers recipients access to vacation work, mentorship and the services of the agency's wellness programme.

Although more than 70% of external bursaries were awarded to African, coloured and Indian students in 2016/17, African students were somewhat under-represented. The engineering and built environment fields are still dominated by male professionals and this bias filtered through into the gender profile of bursary recipients: more than three-quarters were men.

Table 41: External bursaries awarded 2016/17

African		Coloured		Indian		White		Total	
54 (41%)		11 (8%)		31 (23%)		37 (28%)		133 (100%)	
F	M	F	M	F	M	F	M	F	M
17	37	1	10	7	24	8	29	33	100

5.2 Scholarship programme

SANRAL also invests in the education of high school learners by providing scholarships to selected learners who show an aptitude for maths, physical science and English. The primary objective of the scholarship programme is to ensure a pipeline of fresh talent for the engineering and construction professions.

In 2016/17, SANRAL invested R4.3m in this programme and provided scholarships to a total of 194 learners at schools across South Africa. The grade 12 cohort comprised 55 learners, 80% of whom qualified at the end of 2016 for degree-level studies at tertiary institutions.

More than six out of 10 scholarship recipients were African and a similar proportion comprised girls and young women.

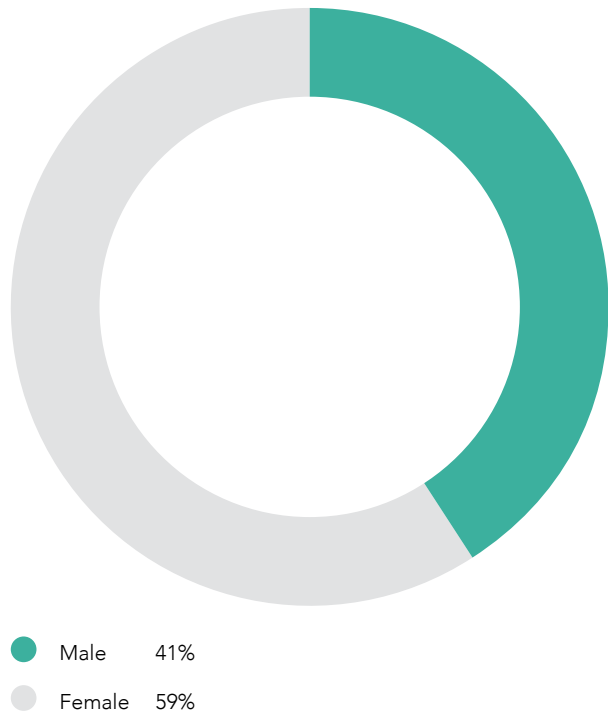
Since this programme started in 2009, with 49 learners, it has enriched the experienced of 720 learners. SANRAL’s investment over the years has amounted to about R14m.

Figure 10: 2016/17 scholarship recipients by racial group



● African 63% ● Indian 5%
● Coloured 5% ● White 27%

Figure 11: 2016/17 scholarship recipients by gender



5.3 Internships

SANRAL’s internship programme aligns with state initiatives to address the problem of youth unemployment by providing work-integrated learning to tertiary institution students and graduates. Access to the workplace as an active learning environment not only assists many students obtain the practical experience required to complete their qualifications but also improves the employability of young graduates.

SANRAL facilitates internship placement through contractors and consultants working on SANRAL projects. The majority of internships involve students who are studying towards a National Diploma in Civil Engineering.

In terms of the performance agreement between SANRAL and the Minister of Transport, the number of internships created should equate to 10% of SANRAL’s

staff complement. However, universities generate a high demand for practical experience and SANRAL's contractors and consultants have been able to accommodate a considerable number of interns. As a result, SANRAL facilitated the placement of 304 interns in 2016/17 – a number that translates to 87% of the agency's staff complement.

The overwhelming majority of interns placed in 2016/17 were African and four out of 10 were young women.

Table 42: Distribution of 2016/17 interns by race and gender

Region	African		Coloured		Indian		White		All groups	
	F	M	F	M	F	M	F	M	F	M
Eastern Region	40	83	1	0	0	2	0	2	41	87
Western Region	12	25	0	3	0	0	1	1	13	29
Northern Region	22	36	0	0	0	0	0	0	22	36
Southern Region	46	29	0	0	0	0	0	1	46	30
All regions	120	173	1	3	0	2	1	4	122	182
	293		4		2		5		304	

6. SANRAL Technical Excellence Academy

The SANRAL Technical Excellence Academy (PE Facility), situated in the agency's Southern Region offices, offers a structured training programme that aims to equip graduate engineers with the necessary knowledge and competencies to enable them to register in one of the professions governed by the Engineering Council of South Africa (ECSA) within the contracted timeframe.

It was established in 2014 with three graduate engineers and most graduates accepted since then have been recipients of SANRAL bursaries for undergraduate study.

The academy is funded entirely by SANRAL and candidates pay nothing towards their training. SANRAL provides training courses, appropriately experienced mentors and workstations equipped with the necessary hardware and software for engineering practice. Candidates have access to all the necessary standards, codes, guidelines, technical methods, specifications and procedures.

Graduates are exposed to real design projects under the guidance of mentors and progressively assume more responsibility until they are able to work independently.

The fields of training include geometric, pavement and drainage design, hydrological analysis, economic evaluation, and supply chain processes for the procurement of consulting and contracting engineers. Weekly knowledge sharing sessions expose candidates to specialist presentations on various subjects.

The SANRAL regional materials-testing and training laboratory, based in Port Elizabeth, offers trainees the opportunity of gaining hands-on experience in materials-testing methods and the interpretation of various test results.

In 2016, a total of 27 candidate engineers underwent training at the academy. Some of these will move to construction sites in 2017 and others to regional offices of SANRAL to assume posts as assistant project managers.

There was an intake of a further 27 graduates in 2017. This group included three civil engineering technicians from the Eastern Cape Provincial Department of Transport who were seconded to the academy at the request of the department.

The total process of professional development, from enrolment at the academy to ECSA registration, extends over 48 months. The first three graduates who helped found the academy in 2014 are expected to be ready for registration towards the end of 2017.

The possibility of accrediting the academy is being discussed with ECSA.

Table 43: Candidate engineers at Technical Excellence Academy in 2016 by gender

Females	Males	Total
10	17	27

Table 44: Candidate engineers at Technical Excellence Academy in 2016 by race

Black	Indian	Coloured	White	Total
15	7	3	2	27

7. Employee wellness programme

SANRAL’s Ekhaya Wellness Programme provides comprehensive health and psycho-social services to enhance employee wellbeing and workplace effectiveness. It includes access to a care centre on a 24/7 basis throughout the year, including weekends and public holidays.

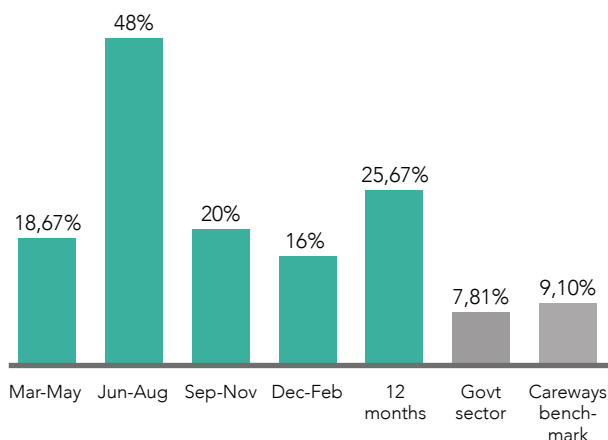
The Ekhaya programme, which is currently delivered by the Careways corporate healthcare provider, includes assistance to employees and managers in identifying and resolving workplace problems. It strives to create a supportive environment that facilitates behavioural change.

During the SABP audit, SANRAL’s performance against the wellness standards achieved a 91% score. Some of the strengths of the programme were:

- The integration of Discovery Health information into wellness activities, which made it possible to identify and mitigate health and wellness risks more easily.
- The inclusion of a change management workshop during wellness day activities
- The introduction of a Smoke Enders programme, which achieved a reduction in the number of habitual smokers
- Clear definition of safety roles and the appointment of safety champions at all offices.

Figure 12 compares utilisation of the SANRAL wellness programme with utilisation in the public sector and in other Careways employee programmes and confirms that use of the agency’s scheme is higher than the norm.

Figure 12: Percentage of employees utilising SANRAL wellness programme 2016/17



Note: Data on 12-month utilisation rates for the government sector and Careways have been included for purposes of comparison

Occupational health and safety

Mitigation of the risk of injury on duty is a key priority at every SANRAL office and trained safety officers ensure that safety at work is respected.

SANRAL’s health and safety procedures and standards are continuously improved in order to remain abreast of legislation and developments in the field. The Occupational Health and Safety Cluster convenes quarterly and cooperates with the Risk Cluster to address issues related to workplace safety.

Procedures are in place to ensure the correct reporting and record-keeping of incidents. The Federation for Employers Mutual Assurance Company Limited (FEMA) has been appointed as the administrator of all injury on duty incidents.

Table 45: Injuries on duty 2016/17

Regions	Number
Head Office	1
Northern	0
Eastern	0
Southern	3
Western	3
TOTAL	7

8. Programme for road maintenance workers

The construction industry is adversely affected by depletion of skills due to unmanaged HIV infection. Workers in the industry are at high risk of HIV infection due to their work circumstances: solitary work environments, extended periods away from home, and limited ability to access health services.

SANRAL has implemented a nationwide wellness programme for all its routine road maintenance projects, focusing on the national health imperatives of strengthening prevention and treatment of HIV, TB and sexually transmitted infections (STIs).

SANRAL has appointed service providers to manage the wellness programme with the assistance of 44 wellness champions appointed through contractors at road maintenance sites. These champions are trained peer educators in the fields of HIV, TB and STIs as well as general wellness.

The programme aims to enable workers to live healthier lifestyles and in particular to:

- Offer all road maintenance workers and their immediate families an opportunity to know their HIV status
- Assist HIV-positive workers and family members to access treatment at the nearest clinic
- Ensure HIV-negative workers and family members acquire adequate knowledge and motivation to maintain their HIV-free status
- Provide bi-annual health education and screening for TB and STIs to all workers and families as well as voluntary testing of blood glucose and cholesterol levels.

The programme has created 44 new jobs for health champions, performed health screening and testing for 2 700 individuals, and distributed about 20 000 condoms.

Approximately R30m has been budgeted for the continuation of this wellness programme over the next three years.





Home Dashboard Reporting Customization Help Log Out



Promoting Human Capital



Information technology

Collaboration, participation and the support of relevant stakeholders are the key to an efficient information technology function that effectively supports the core business of SANRAL. The clarity provided by the revised IT charter and IT governance framework – both approved by the Board during 2016 – will be invaluable as IT personnel focus on strengthening the partnerships that are so critical to implementation.

A new Information Technology Governance Committee will be established to direct strategic planning, IT risk management, architecture transition, and investment priorities.

Clean system audits

The IT audits undertaken in 2016 by BIG – a contracted service provider – examined three aspects of SANRAL's corporate systems:

- IT general controls
- SAP basis controls
- Application systems controls.

The 2016 audit yielded a good rating with zero findings. This was an improvement on the 2015 audit where the rating was satisfactory and minor housekeeping findings were noted. The IT staff paid close attention to the remedial actions required and ensured that these were applied consistently to avoid any recurrence of the identified issues.

Major systems acquisitions

Data centre refresh

SANRAL runs multiple mission-critical and business-critical applications on which the productivity of the

organisation depends. These applications have placed a significant demand on ageing IT infrastructure and SANRAL has embarked on a major upgrade of its data centre.

The modern converged data centre looks nothing like data centres of the past and is capable of tasks that were regarded as unattainable only a few years ago. SANRAL is tapping into the opportunities presented with emerging technologies. In addition to the data centre upgrade, the agency is deploying managed security services to protect its systems against growing security threats.

The solution acquired by SANRAL meets the following critical requirements:

- It is designed for speed and efficiency
- Has tightly integrated components that are optimised to support on-demand IT infrastructure
- Meets critical business objectives, such as value for money
- Delivers increased performance
- Ensures high availability
- Provides private cloud storage
- Accommodates mixed workloads.

Video conferencing

SANRAL has identified the need for more agile and effective work teams that span several offices. The need to meet quickly and economically with team members near and far, share ideas, and collaborate on critical projects has fuelled the demand for visual collaboration.

To meet this demand, the agency has sourced a turnkey video conferencing solution that can be easily and consistently deployed without costly room remediation. The chosen video conferencing system

deploys anywhere in minutes. Every detail has been addressed to ensure teams can focus completely on effective collaboration.

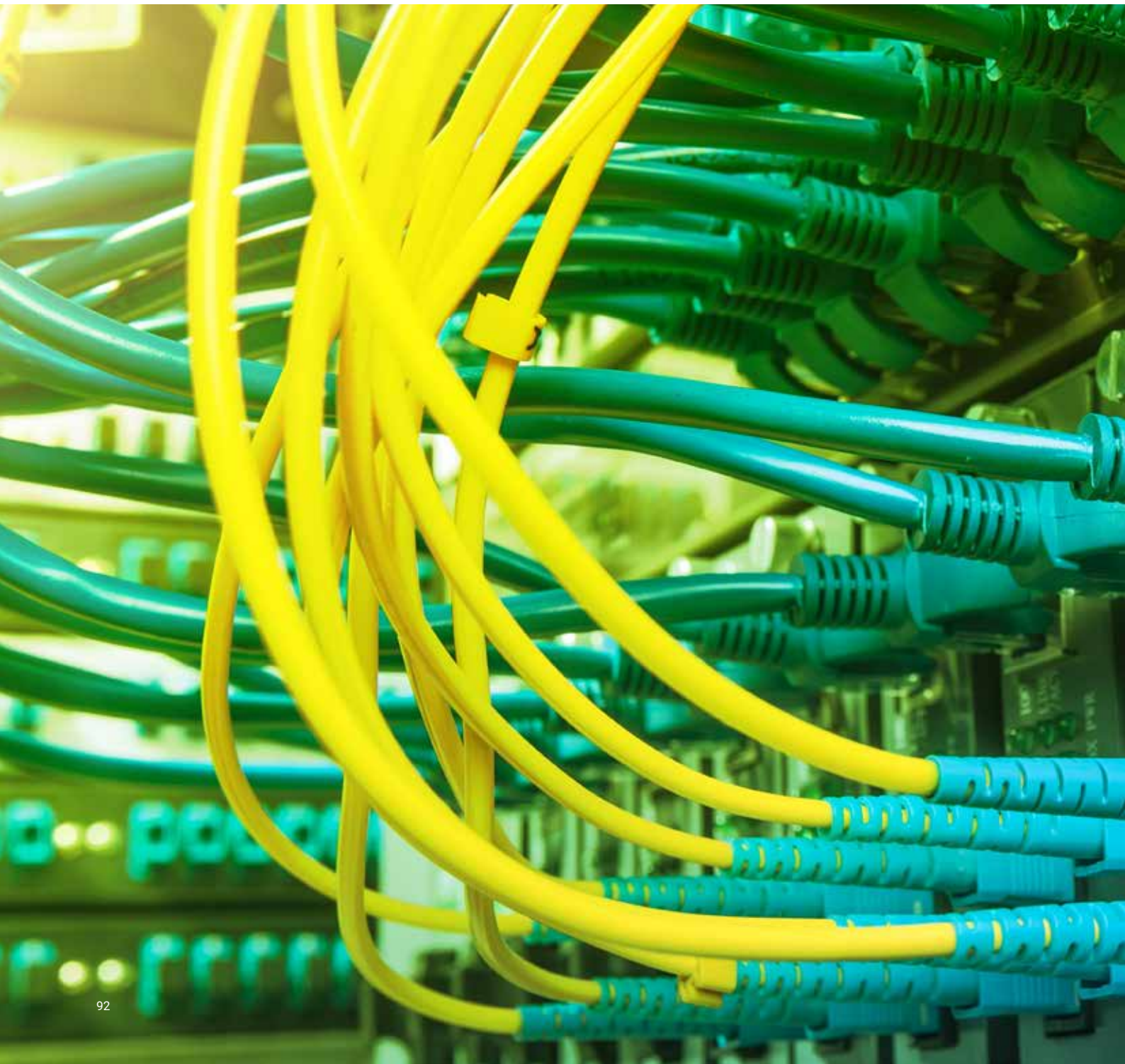
Other major projects

Cyber security managed services

A security breach can expose an organisation to considerable financial and reputational damage and, therefore, enterprise security is something SANRAL cannot afford to get wrong. Yet it remains one of the most challenging organisational disciplines to understand, implement and maintain.

In light of the unprecedented increase in cyber security threats, SANRAL initiated a comprehensive security project to acquire world-leading technology to address the threats it could potentially encounter.

The cyber security overhaul has been designed to ensure that adequate, appropriate and effective safeguards are in place and these safeguards are working as designed. SANRAL adopted a holistic approach and opted for a "defence in depth" multi-layered security system to safeguard its confidential and sensitive data and reduce the likelihood of breaches occurring at any security layer.



The security solutions are being built and designed to comply with standards that are required by the IS27001/2 (Broader Information Security Standard) and the Protection of Personal Information (POPI) Act.

Wide area network upgrade

SANRAL appointed a telecommunications service provider to upgrade the capacity of its wide area network (WAN) from 2mbps to a 100mbps MPLS connection. This upgraded network is provided at a substantially lower cost than the previous service and increases bandwidth available to the regional offices.

The WAN architecture and design are based on a MPLS layer 3 VPN network and will cater for voice, interactive video and data.

Looking ahead

Progress achieved in 2016/17 provide a solid foundation for implementation of SANRAL's IT strategy for the short -, medium - and long-term. Looking ahead, SANRAL still has a distance to go in optimising its utilisation of IT in order to improve efficiencies within the agency, improve integrated reporting – especially on major strategic projects, and enhance security awareness.





SECTION

3

CORPORATE GOVERNANCE



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Corporate Governance



1. King IV Declaration

SANRAL subscribes to King IV and recognises its importance in identifying principles and practices which guide corporate governance practice within any organisation and, in particular, a state-owned company such as SANRAL.

SANRAL prides itself on its commitment to good governance practice as it delivers on its mandate of providing an effective national road network using state and investor funding. The tone for ethical business practice is set by the accounting authority, that is, the Board, and it filters through the entire fabric of the organisation.

SANRAL applies the first 16 principles of King IV which are relevant to the agency and the conduct of its business. This section explains the application of each of the principles in order to illustrate the quality of governance practice within SANRAL.

1.1 Leadership, ethics and corporate citizenship

Principle 1: Leadership

The governing body – or accounting authority – should lead ethically and effectively.

The functioning and conduct of the Board and its committees are guided by the charters of the Board and committees and the board code of conduct, which are reviewed and approved annually.

The importance of acting in the best interests of SANRAL is understood by all Board members. There is proactive avoidance of conflicts of interest by annual

written disclosure of interests by Board and committee members and also by disclosure at every Board and committee meeting.

Board members receive training with respect to governance and the core functions of SANRAL, as required. All board members have working knowledge of SANRAL. This enables the Board to set strategic direction, monitor implementation and performance, oversee effective risk management and ensure responsible disclosure of activities and performance.

Principle 2: Organisational ethics

The governing body should govern the ethics of the organisation in a way that supports the establishment of an ethical culture.

SANRAL's HR policy, which includes a code of conduct for employees, is approved by the Board. Important principles of conduct include an annual declaration of interest. Such declaration of interest is required from Board members, employees and suppliers (as part of the tender process). The maintenance of confidentiality, transparency, independence of decisions and clean procurement processes are part of the code of conduct which becomes binding on signature of the contract of employment.

In addition, all SANRAL employees involved in supply chain management (SCM) are required to sign an SCM Practitioners Code of Conduct on an annual basis. Periodic checks are done through the Companies and Intellectual Property Commission (CIPC) website to establish whether any SANRAL employees hold directorships of companies which could lead to a conflict of interest.

Ethical behaviour is reinforced by presentations given during employee induction and annual governance, risk and compliance roadshows.

The Board reviews and approves the Fraud and Corruption Policy and Risk Management Policy annually. SANRAL has a fraud hotline for employees and external parties, including service providers, to report suspected fraud. Tip-offs may be made anonymously and the hotline is independently monitored.

All supplier contracts include a requirement that any conflicting interests be disclosed. Employees serving on bid evaluation committees must disclose any conflict of interest that arises and recuse themselves from further involvement in the bidding process.

The recruitment and appointment of employees are preceded by necessary checks on personal credentials, criminal history, credit standing, qualifications and references.

Principle 3: Corporate citizenship

The governing body should ensure that the organisation is and is seen to be a responsible corporate citizen.

Given SANRAL's mandate to manage South Africa's national road network, it finds opportunities to contribute to the well-being, development and empowerment of the country and its citizens in diverse ways through internal and external transformation initiatives. Internally, these include the practice of and respect for equity in terms of diversity and the provision of skills development opportunities to employees. External initiatives promote the development of SMMEs and communities through work opportunities and skills development programmes, as well as through scholarships, bursaries, internships and partnerships with universities. Community development projects ensure the provision of access and mobility in rural communities, while road safety-related projects improve the safety of roads through pedestrian bridges and other infrastructural and educational interventions.

Employees

SANRAL values its employees and strives to reflect this in policies and programmes applicable in the following areas:

- **Employment equity:** SANRAL has a three-year Employment Equity Plan, the implementation of which is monitored by the Social, Ethics and Transformation Committee (SETC). Performance against targets is reported to the Board and the Minister of Transport annually.
- **Fair remuneration:** Measures to ensure fair remuneration include a yearly salary review by an external company to ensure that SANRAL's remuneration structure is in line with the market. All positions in the organisation are evaluated and graded to ensure fair and equitable remuneration. Moreover, the Social, Ethics and Transformation Committee and Board approve annual remuneration adjustment rates.
- **Safety, health and dignity:** SANRAL provides a comprehensive employee wellness programme. In terms of the safety of contractors' employees, SANRAL ensures that companies responsible for all contracts valued at more than R40m are registered with the Department of Labour. An occupational health and safety practitioner is appointed to oversee each site and ensure compliance with safety regulations.
- **Development of employees:** A work skills plan, derived from each individual's development plan, determines the career development path for each employee. Internal bursaries are available to staff who have an interest in pursuing further education. The SANRAL Technical Excellence Academy in Port Elizabeth provides training, mentorship and work exposure to accelerate the professional registration of engineering graduates.

1.2 Strategy, performance and reporting

Principle 4: Strategy and performance

The governing body should appreciate that the organisation's core purpose, its risks and opportunities, strategy, business model, performance and sustainable development are all inseparable elements of the value creation process.

The Board is responsible for setting strategic direction and was fully involved in the process that was

undertaken in 2016/17 to develop SANRAL's Strategy 2030. The Board will consider and approve Strategy 2030 in 2017/18. The Board also reviews risks which could influence the achievement of strategic objectives and is responsible for risk management.

SANRAL's strategic objectives are backed by key performance indicators (KPIs) which are linked to individual performance agreements and have annual targets. Performance against most targets is monitored quarterly, six-monthly or annually. The KPIs measure performance in important areas of business such as road asset performance, road safety, transformation, finance, research, stakeholder management and environmental management.

The aim is for SANRAL to deliver against its mandate and make a real contribution to the lives of its stakeholders, including employees, contractors and associated SMMEs, road users, and communities along the national road network.

Principle 5: Reporting

The governing body should ensure that reports issued by the organisation enable stakeholders to make informed assessments of the organisation's performance and its short, medium and long-term prospects.

SANRAL's integrated report, including the annual

financial statements, is published on the SANRAL website. The integrated report includes governance disclosures with respect to the King IV Code.

The integrated report provides information on SANRAL's contribution to national road infrastructure, transformation and empowerment, performance with respect to targets, and financial performance.

1.3 Governing structures and delegation

Principle 6: Primary role and responsibilities of the governing body

The governing body should serve as the focal point and custodian of corporate governance in the organisation.

The Board's role and responsibilities are detailed in the Board charter. Functions include setting of strategic direction, approval of policy, oversight of implementation and accountability through appropriate disclosure in the integrated report, performance management and additional reporting. The Board is satisfied that it has fulfilled its responsibilities in line with the Board charter and code of conduct.

The Board held five meetings during the year, with attendance as in the table below.

Table 46: Attendance of Board members at meetings held in 2016/17

Director	Position	30 May 2016	12 Aug 2016	22 Nov 2016	11 Jan 2017	30 Jan 2017
Mr R Morar	Chairperson Non-executive	√	√	√	√	√
Mr C Hlabisa	Non-executive	√	√	√	√	A
Ms Z Kganyago	Non-executive	√	√	√	√	√
Ms A Lawless	Non-executive	√	√	√	√	√
Ms D Mashile- Nkosi	Non-executive	A	√	A	√	√
Mr M Matete	Non-executive	√	√	√	√	√
Ms A Halstead	Non-executive	A	√	√	√	√
Mr N Alli	CEO – Executive	A	√	R	R	R
Mr S Macozoma	CEO – Executive	-	-	-	√	√

√: Member present A: Member absent R: Retired -: Not appointed



Mr Nazir Alli was CEO until 30 September 2016 when he retired. Mr Koos Smit attended the meeting of 22 November 2016 as Acting CEO and Mr Skhumbuzo Macozoma was present at meetings after his appointment as CEO on 1 December 2016.

The 2016 shareholder meeting, or annual general meeting, was held on 9 September 2016.

Board strategy sessions were held on 2 February 2017 and 3 March 2017 to discuss Strategy 2030.

Principle 7: Composition of the governing body

The governing body should comprise the appropriate balance of knowledge, skills, experience, diversity and independence for it to discharge its governance role and responsibilities objectively and effectively.

SANRAL's sole shareholder is the state, represented by the Minister of Transport. Most Board members are appointed by the Minister of Transport. Appointments are made in terms of the South African National Roads

Agency Limited and National Roads Act No 7 of 1998 (the SANRAL Act), as amended.

The Board comprises eight members, as listed on page 101. Ms Avril Halstead is a non-executive member representing National Treasury and is appointed by the Minister of Finance. Mr Chris Hlabisa represents the Department of Transport. The CEO is the only executive member. The other five members are non-executive, independent members who serve a maximum of two three-year terms.

The Board includes four engineers, a chartered accountant and three finance and business specialists. This is considered to be a good mix of skills that are relevant to SANRAL's business. The gender ratio is 50:50.

The chairperson is an independent, non-executive member of the Board. A lead member has not been designated among the independent members. In the absence of the chair at any meeting, the Board appoints another member to serve as chair.

Table 47: Biographical summaries on SANRAL board members

Director	Position	Age	Length on SANRAL board	Other significant board membership/professional positions
Mr R Morar	Chairperson Non-executive, independent	50	5 years	PIC, ACSA, Adcock Ingram Holdings, Pan African Group, Morar Investments, Morar Trust Services, Amakhono Capital
As a chartered accountant and certified fraud examiner, Mr Morar has extensive experience relating to financial management, business advisory, audit and forensic assignments in both the public and the private sectors. He has served on various public and private sector boards, including as chair of audit committees and boards.				
Ms A Halstead	Non-executive	40	1 year	South African Blind Mobility Trust
Ms Halstead has been a chief director at the National Treasury for more than 10 years and is responsible for overseeing approximately 40 large state-owned enterprises. Prior to joining the National Treasury, she worked for McKinsey & Company, Old Mutual and Wipcapital, a subsidiary of Wiphold.				
Mr C Hlabisa	Non-executive	55	3.5 years	Roadside Abattoir (Pty) Ltd, Umzansi Lodge B&B CC, Amangotsha Enterprises CC
As Deputy Director-General for Roads Transport in the Department of Transport, Mr Hlabisa's role encompasses responsibility for road engineering standards, road infrastructure and industry development, road regulation, driving license card entity oversight, public entity oversight and strategic integrated projects. Prior to his appointment to the DoT in 2013, he was Head of Department at the KZN Department of Transport.				
Ms Z Kganyago	Non-executive, independent	50	2 years	Tsogo Sun Gaming, Hospitality Property Fund, Arcotograph Investments (Pty Ltd)
Ms Kganyago's experience is in the area of property planning, development and management.				
Dr A Lawless	Non-executive, independent	64	2 years	South African Institution of Civil Engineering (SAICE) board and council, SAICE Professional Development and Projects (SAICE-PDP), Human Resource Development Council (HRDC), Allyson Lawless (Pty) Ltd, Tortoise Investments (Pty) Ltd, advisor to Department of Higher Education and Training on skills for Strategic Integrated Projects
As MD of SAICE Professional Development and Projects since 2004, Ms Lawless has launched many engineering skills development initiatives and has served on many national structures relating to engineering qualifications, skills and innovation. Her early career was in consulting. With the emergence of desktop computers, she became a pioneer in developing the local civil engineering software market.				
Ms D Mashile-Nkosi	Non-executive, independent	58	2 years	Kgalagadi Manganese (Pty) Ltd, First Rand Foundation, Metmar Ltd, Women's Development Bank Holdings, Eyesizwe Mining (Pty) Ltd
Ms Mashile-Nkosi has a strong development background as an activist on gender issues. She encourages business to improve the quality of life of poor communities and to nurture women entrepreneurs and business leaders. Ms Mashile-Nkosi is a leader in infrastructure development, having built a mine, a sinter plant and surface infrastructure, including a road, a rail line and a 132 JVA substation. She was the first black woman to own a mine in SA.				
Mr M Matete	Non-executive, independent	48	2 years	Southern African Transport Conference
Mr Matete has been in business since 2001 and has more than six years' experience as a non-executive member of boards. He has been involved in the civil and transportation engineering field for more than 20 years. He has experience in business establishment and development.				
Mr N Alli	CEO - Executive	66	18 years	None
Mr Alli served as CEO of SANRAL from its establishment in 1998 until September 2016, when he retired. The entity's road network more than tripled on his watch as did the staff complement. He was a respected champion of good governance and honest business throughout his time with SANRAL.				
Mr S Macozoma	CEO - Executive	41	4 months	None
Mr Macozoma joined the DoT in 2002 following 10 years as a researcher at the CSIR. As a chief director in the DoT from 2005, he was responsible for road, rail and aviation infrastructure. He served on the 2010 FIFA World Cup Organising Committee and was responsible for transport, logistics, accommodation and hospitality. He then served as MD of the Johannesburg Roads Agency for three years and as CEO of the Electronic Toll Concession Ltd (GFIP e-toll operations) for a short period. He joined SANRAL as CEO on 1 December 2016.				

Principle 8: Committees of the governing body

The governing body should ensure that its arrangements for delegation within its own structures promote independent judgment and assist with balance of power and the effective discharge of its duties.

Section 16 (1) of the SANRAL Act states that "the Board may from time to time appoint one or more committees to assist the Board in performing its functions".

The board has established four committees to assist it in discharging its control and oversight duties. These are the Contracts Committee, the Audit and Risk Committee, the Social, Ethics and Transformation Committee, and the Assets and Liabilities Committee.

SANRAL does not have a nominations committee as the appointment of the Board is the responsibility of the Minister of Transport as legislated in the SANRAL Act. The representative of National Treasury is nominated by the Minister of Finance.

Functions that might otherwise vest in a remuneration committee are undertaken in SANRAL by the Social, Ethics and Transformation Committee.

The various committees do not assume any management or operational responsibilities but have oversight of the implementation of their recommendations. All committees also have the responsibility of monitoring the management of risks within their respective areas of oversight.

The Board appoints the members of committees from among Board members on the basis of the skills required to fulfil the functions of each committee. The tenure of members of committees is concurrent with their period of service on the Board. The Board

may also appoint external, independent members or advisers on committees, should their skills be required for the effective functioning of the committees.

Contracts Committee

The Contracts Committee is established in terms of its charter, which is reviewed and approved on an annual basis by the Board of Directors.

The Contracts Committee is responsible for the adjudication and award of contracts and authorisation of contract expenditure. It also has oversight of SANRAL's transformation initiatives in the construction industry and the empowerment of SMMEs and small contractors.

The committee comprises three non-executive members and the CEO. They are listed in Table 48 and their qualifications and experience are detailed in Table 47.

No external advisers or invitees attended committee meetings regularly during 2016/17. SANRAL's Engineering Executive, the Contracts Manager, the Legal Adviser, the CFO, the Company Secretary and the Committee Secretary attended all meetings by invitation.

A key area of focus during the year was increasing SANRAL's transformation impact by the unbundling of projects to provide opportunities for smaller contractors.

Thirteen meetings were held during the year and attendance of meetings is indicated in Table 48.

The committee is satisfied that it fulfilled its responsibilities in accordance with its charter during 2016/17.

Table 48: Attendance at meeting of the Contracts Committee in 2016/17

Director/ member	Position	8 Apr 2016	9 May 2016	7 Jun 2016	12 Jul 2016	11 Aug 2016	30 Aug 2016	06 Sep 2016
Ms Z Kganyago	Non-executive chairperson	√	√	√	√	√	√	√
Mr M Matete	Non-executive member	√	√	√	√	√	√	√
Mr C Hlabisa	Non-executive member	√	A	A	A	√	A	√
Mr N Alli	Executive member	√	√	√	√	√	√	*

* Mr JJ Smit, Acting CEO, attended as executive member

Table 48 continued

Director/member	Position	27 Sep 2016	11 Oct 2016	10 Nov 2016	13 Dec 2016	07 Feb 2017	07 Mar 2017
Ms Z Kganyago	Non-executive chairperson	√	√	√	√	√	√
Mr M Matete	Non-executive member	√	√	√	√	√	√
Mr C Hlabisa	Non-executive member	A	A	√	A	A	A
Mr S Macozoma	Executive member	*	*	*	√	√	√

* Mr J J Smit, Acting CEO, attended as executive member

√: Member present

A: Member absent

Audit and Risk Committee

The Audit and Risk Committee (ARC) is established in terms of its charter, which is reviewed and approved on an annual basis by the Board of Directors. Two committee members are independent, non-executive directors and one member is a non-executive director. Their names are listed in Table 50 and their qualifications and experience are detailed on page 101.

The board has also appointed an adviser to the committee, in order to support and strengthen its financial literacy and related skills.

The functions of the committee, as set out in the charter, are:

- Independent oversight of the integrated report and the financial statements.
- Internal control and oversight of internal audit.
- Independent oversight of combined assurance, including the external audit.
- Oversight of compliance, risk management and anti-fraud and corruption measures.
- Information technology governance.

- Other functions such as oversight of the annual performance plan, performance report, annual budget and public liability claims.

The committee meets at least once a year with the internal and external auditors respectively. Management is absent from such meetings in order to facilitate discussions that may not be appropriate in the presence.

Both the internal and external audit teams attend all Audit and Risk Committee meetings by invitation. In addition, the CEO, CFO, the Management Accountant, the Corporate Services Executive, the Risk Manager, the Company Secretary and the Committee Secretary attend all meetings by invitation.

Key areas of focus during the year included oversight of the internal audit team, audits related to GFIP Open Road Tolling, risk management, management and follow-up of audit findings by operational teams. Moreover, SANRAL has a policy on non-audit services.

Five committee meetings were held during the year and attendance of meetings is indicated in Table 50.

Table 49: Biographical summary on external advisor to Audit and Risk Committee

Name	Position	Age	Length of time in position	Other significant board membership/ professional positions
Mr Akhter Hoosen Moosa	Advisor – Audit and Risk Committee	64	13 months	Pitlake Investments (Pty) Ltd, South African Airways, Competition Tribunal, SAA Technical (Pty) Ltd, Encha (PMB) (Pty) Ltd, and Distribution and Warehousing Network (Pty) Ltd

Mr Moosa was the CEO and later the chair of MSGM Masuku, a firm of auditors and accountants which subsequently merged with PwC. He served on the executive committee of PwC and later on its governing board. He also led the firm's transport and logistics industry group.

Table 50: Attendance at meetings of the Audit and Risk Committee in 2016/17

Director/ Member	Position	24 May 2016	28 July 2016	15 Nov 2016	24 Jan 2017	14 Mar 2016
Ms A Lawless	Non-executive, independent chairperson	√	√	√	√	√
Ms Z Kganyago	Non-executive, independent member	√	A	√	√	A
Mr M Matete	Non-executive, independent member	√	√	√	√	√
Mr A Moosa	Advisor	√	√	√	√	√

A detailed report by the Audit and Risk Committee in this annual report provides further information on the committee's activities and governance responsibilities during the year. The committee is satisfied that it fulfilled its responsibilities in accordance with its charter during 2016/17.

External Auditor

In terms of the SANRAL Act and the Public Finance Management Act, the Auditor-General of South Africa (AGSA) is the appointed external auditor. The committee is satisfied that the external auditor is independent of the organisation.

The external auditor conducted limited assurance engagements during the year under review on the compliance with commercial paper regulations relating to proposed issues by SANRAL of guaranteed notes under its amended R31.91bn Domestic Medium Term Note Programme.

The external auditor did not provide any non-audit services.

The committee has considered the quality of the external audit done by the AGSA. The AGSA is mandated by the Public Audit Act No 25 of 2004, to conduct the audits in accordance with the International Standards on Auditing. The AGSA adopted the International Federation of Accountants' Code of Ethics and International Organization of Supreme Audit Institutions' Code of Ethics to ensure that the audits are conducted in an ethical manner and in accordance with the standards. These codes require the company to identify the threats to independence and put mitigating measures in place.

The AGSA rotates engagement managers whenever a familiarity threat to independence is identified. The rotation policy stipulates that an engagement manager should be rotated on a five-year basis and this is monitored by the risk and ethics unit within the AGSA. However, if conditions exist that suggest a significant threat to independence, the rotation can be done earlier.

Responsibility for nomination of members

SANRAL does not have a Nominations Committee. The appointment of the Board is the responsibility of the Minister of Transport, as legislated in the SANRAL Act. The National Treasury representative on the Board is nominated by the Minister of Finance.

Responsibility for risk governance

The Audit and Risk Committee oversees risk governance within SANRAL. It reviews the strategic (primary) risk register and the report of the fraud hotline at every meeting, that is, at least once every quarter.

The committee also leads an annual risk session for the Board during which members identify new risks and closely interrogate the risk register.

Further details are provided in the Report of the Audit and Risk Committee.

Social, Ethics and Transformation Committee

As mentioned earlier, SANRAL's Social, Ethics and Transformation Committee is also responsible for remuneration. It is established in terms of its charter, which is reviewed and approved on an annual basis by the Board. Its functions are governed by Regulation 43 of the Companies Act No 71 of 2008 and include oversight of:

- Labour and employment management. This includes the review of remuneration policy and annual remuneration adjustments
- Social and economic development programmes, including transformation, skills development, employment equity, and good corporate citizenship endeavours
- Customer and stakeholder relationships
- Environmental, health and safety responsibilities.

The committee has three members, two of whom are non-executive. Their names appear in Table 51 and their qualifications and experience are detailed on page 101.

The activities of the committee are guided by an annual work plan and it held three meetings during 2016/17 with attendance as indicated in Table 51.

Table 51: Attendance at meetings of the Social, Ethics and Transformation Committee in 2016/17

Director/member	Position	10 Jun 2016	29 Sept 2016	19 Jan 2017
Ms D Mashile-Nkosi	Non-executive chairperson	A	√	√
Mr R Morar	Non-executive member	√	A	A
Mr C Hlabisa	Non-executive member	A	√	√

The committee had no advisers or invitees who attended its meetings regularly. However, SANRAL's remuneration service provider provides advice each year in October/November on the annual remuneration adjustment for various employee grades, based on an annual remuneration survey.

The CEO, the Corporate Services Executive, the Company Secretary and the Committee Secretary attend all meetings by invitation. The committee is satisfied that it fulfilled its responsibilities in accordance with its charter during the financial year 2016/17.

The Assets and Liabilities Committee

The Assets and Liabilities Committee is established in terms of its charter, which is reviewed and approved on an annual basis by the Board of Directors. The committee monitors the implementation of policies and controls governing SANRAL's financial risk management activities with respect to liquidity, investments, interest rates and credit. The committee sets risk management parameters for each risk category and reviews the performance of the treasury function. Provisions in the Treasury Policy and Control Manual regulate the

activities of the treasury function. The committee periodically reviews the relevance and validity of these controls. Any proposed amendments are subject to approval by the Board.

The committee comprises two non-executive members and the CEO. Their names are listed in Table 52 and qualifications and experience are detailed on page 101.

No external advisers or invitees attended committee meetings regularly in 2016/17. SANRAL's Treasurer, Financial Risk Manager, the CFO, the Company Secretary and the Committee Secretary attended all meetings by invitation.

The main areas of focus were SANRAL's borrowing plan and liquidity management.

The committee held five meetings during 2016/17 and attendance is listed in Table 52.

The committee is satisfied that it fulfilled its responsibilities in accordance with its charter during the financial year 2016/17.



Table 52: Attendance of meetings of the Assets and Liabilities Committee in 2016/17

Director/ member	Position	14 June 2016	23 Aug 2016	18 Oct 2016	18 Nov 2016	21 Feb 2017
Ms A Halstead	Non-executive chairperson	√	√	√	√	√
Ms D Mashile-Nkosi	Non-executive member	√	√	√	A	A
Mr N Alli	CEO, executive member	√	√	-	-	-
Mr K Smit	Acting CEO, executive member	-	-	√	√	-
Mr S Macozoma	CEO, executive member	-	-	-	-	√

√: Member present

A: Member absent

-: Not appointed

Principle 9: Evaluation of performance of governing body

The governing body should ensure the evaluation of its own performance and that of its committees, its chair and its individual members, and support continued improvement in its performance and effectiveness.

The performance of the Board and its committees was evaluated formally during 2016/17 by an external, independent evaluator who rated the performance of the Board and SANRAL's corporate governance practice as satisfactory. One area of concern was that the size of the Board, with eight members, was considered as small and a few more members were required, given the growth in SANRAL's mandate and operations. Increasing the size of the Board would require a change in legislation, and the Board has raised this matter with the Minister of Transport.

Another area of concern was succession planning and the time it took to appoint a suitable CEO. The serving CEO had reached retirement age in May 2016 but continued to serve under contract extensions and a new CEO was only appointed on 1 December 2016.

The Board considered that the evaluation had added value to its functioning and created greater appreciation of its oversight role and fiduciary responsibilities. The evaluation report was made available to the Minister of Transport and to Parliament's Portfolio Committee on Transport.

Principle 10: Appointment and delegation to management

The governing body should ensure that the appointment of management and delegation to management contribute to role clarity and effective exercise of authority and responsibilities.

CEO

Following the retirement of the founding CEO on 30 September 2016, the current CEO commenced duties on 1 December 2016 on a five-year contract, with a notice period of a month, as provided in the SANRAL Act. The CEO reports to the Board which is responsible for the performance evaluation of the CEO and for making a recommendation on his annual salary adjustment to the Minister of Transport.

The CEO is accountable for the implementation and execution of approved strategy and policy, and for oversight of operational planning and implementation. He serves as the chief link between the Board and management.

The CEO's major contractual responsibilities are delivering the KPAs captured in the shareholder compact, managing business operations, driving company strategy, maintaining technical excellence in delivery, and addressing key company challenges.

The CEO has no other professional commitments.

Mr Macozoma was appointed by the Minister of Transport on the recommendation of the Board after an intense recruitment process.

The Board has approved a delegation of authority to the CEO. This is governed by the requirements of relevant legislation and general governance principles, ensuring adequate control and oversight by the Board while ensuring that the CEO has the authority to implement and execute Board-approved strategy. The delegations of powers are reviewed annually and when statutory changes necessitate their revision.

The CEO has also issued delegations of power to the management team to ensure appropriate levels of

delegated authority and segregation of duties among staff. The Board is satisfied that the delegation of authority framework applicable in SANRAL contributes to role clarity and the effective exercise of authority and responsibilities.

Company Secretary

The Board has appointed a Company Secretary, as required by the Companies Act. The position is at arms-length of the Board and the Company Secretary is not a member of the Board. Her performance and independence are reviewed and evaluated by the Board every year.

The Company Secretary is responsible for providing support to the Board and developing systems and processes to enable the Board to function effectively. She provides guidance and support with regard to the powers, roles and responsibilities of the Board and its committees, as well as to individual members. She guides the Board on corporate governance matters, including the requirements of the Companies Act and other governance-related legislation. The Company Secretary is considered by the Board to be fit and proper for the position and is qualified to perform the duties which are required of the role. She reports to the Board functionally and to the CEO administratively.

1.4 Governance functional areas

Principle 11: Risk governance

The governing body should govern risk in a way that supports the organisation in setting and achieving its strategic objectives.

The Board has approved the Risk Management Policy and Framework, which is reviewed and approved annually.

The Board delegated to management the establishment of a Risk Focus Group which meets quarterly and reviews the primary risk register and the secondary risk register.

SANRAL uses an enterprise-wide risk management methodology to assess both strategic and operational risks in the light of SANRAL's strategic objectives.

The annual governance, risk and compliance roadshow to all of SANRAL's offices provides a reminder to all employees about SANRAL's risk management and anti-fraud and anti-corruption philosophy. It is also an opportunity to highlight the risks and failures experienced.

The Board is ultimately accountable for risk management and the Audit and Risk Committee monitors risk management on an ongoing basis on behalf of the Board.

Principle 12: Technology and information governance

The governing body should govern technology and information in a way that supports the organisation in setting and achieving its strategic objectives.

The Information Technology Governance Committee (ITGC) is constituted as a management committee and its duties have been assigned by the Board in accordance with the SANRAL ICT Charter and ICT Governance Policy Framework. The ITGC has no decision-making powers except where expressly provided by the Board through the delegation of authority framework and approved policies.

The ITGC oversees the development and implementation of ICT governance policies. These are integrated with the business strategy process and facilitate the achievement of SANRAL's strategic objectives, thereby improving SANRAL's performance and sustainability.

The Audit and Risk Committee exercises oversight of IT governance on behalf of the Board.

The following policies were reviewed, updated and approved by the Board during the financial year:

- ICT Charter
- ICT Governance Framework
- ICT Project Governance Framework.

The following major IT acquisitions were made:

- IT hardware refresh projects
- Information security services project
- Video conferencing facilities and services.

The ITGC reports to the Audit and Risk Committee every quarter to ensure that IT processes are capable of delivering the intended outcomes cost-effectively. These monitoring measures focus on key aspects of IT capability, such as systems performance, availability, agility and integrity, as well as the development of new solutions, the ability to operate reliable and secure services in an increasingly demanding environment, and the development of human resources and skills.

Development of the 2030 ICT Strategy commenced in

2016/17 along with the overall business strategy. The activities envisaged as part of the new strategy include:

- Starting the design of a unified communications solution, integrated with the newly deployed state-of-the-art video conferencing solution
- Maturing ICT governance practices and defining the desired ICT maturity level in SANRAL
- Reducing IT complexity
- Upgrading the enterprise resource planning system, starting with system design and requirements
- Focusing on innovative efforts and creating a more enabling and strategic IT set-up.

Principle 13: Compliance governance

The governing body should govern compliance with applicable laws and adopted, non-binding rules, codes and standards in a way that supports the organisation being ethical and a good corporate citizen.

Compliance is a non-negotiable part of SANRAL's ethos and is integral to every activity and operation of the organisation. The annual governance, risk and compliance roadshow to all employees signals the importance of compliance within every function. A Compliance Policy has been adopted and this clearly states SANRAL's commitment to comply not only with legislation but also with codes, standards and best practice.

The identification of statutory obligations is part of the compliance culture within SANRAL as are continuous monitoring and reporting in a pro-active and positive manner. A database has been created which lists all sections of all laws and regulations which impose a responsibility on SANRAL.

Compliance with procurement legislation is also closely monitored through SANRAL's Supply Chain Management Unit, which is required to ensure that any changes are implemented by all SANRAL offices and challenges are immediately managed throughout the organisation. Strict adherence to supply chain management regulations is critical as is the avoidance of any real or perceived conflict of interest.

There have been no regulatory penalties, sanctions or fines for non-compliance or contravention of statutory obligations by the Board or senior management since SANRAL's establishment.

Principle 14: Remuneration governance

The governing body should ensure that the organisation remunerates fairly, responsibly and transparently so as to promote the achievement of

strategic objectives and positive outcomes in the short, medium and long term.

SANRAL's Human Resources Policy contains a chapter which describes remuneration policy and sets out the process for determining remuneration. The policy is updated annually and approved by the Board, on the recommendation of the Social, Ethics and Transformation Committee. It is also tabled and approved at the shareholder meeting.

SANRAL has appointed consultants to conduct remuneration surveys to ensure market-related remuneration for employees. The remuneration comparator group research provides information which allows for market related remuneration scales for all employee grades. Any adjustment to remuneration has to be within the limits approved by the Board.

The performance of employees is appraised annually and remuneration adjustments are based on the performance rating received by each employee. SANRAL's short-term incentive scheme is entirely performance-based.

The Minister approves the scale of remuneration for the Chairperson and the members of the Board annually. The Board is then remunerated at a daily rate for every day spent on SANRAL business.

Details of Board and management remuneration are published in the annual integrated report.

Principle 15: Assurance

The governing body should ensure that assurance services and functions enable an effective control environment, and that they support the integrity of information for internal decision-making and the organisation's external reports.

Internal Audit has confirmed to the Audit and Risk Committee that, for the current financial year, SANRAL's governance, risk management and control processes are effective in all material aspects.

Also refer to the Audit and Risk Committee Report on page 114.

1.5 Stakeholder relationships

Principle 16: Stakeholders

In the execution of its governance role and responsibilities, the governing body should adopt a

stakeholder-inclusive approach that balances the needs, interests and expectations of material stakeholders in the best interests of the organisation over time.

As a corporate citizen SANRAL is enjoined by prescripts and good governance practices, such as the King IV Report on Corporate Governance, to place stakeholder engagement at the heart of its operations.

Evidence of SANRAL's inclusion of stakeholders is reflected in the number and nature of engagements undertaken, particularly in relation to project flashpoints. These included interactions with chambers of commerce, information sessions with communities affected by projects such as the Moloto Road upgrade, the official opening of projects such as the R71 Moria Interchange, and presentations to provincial governments about key projects, such as the interoperable tag that can be used at toll plazas across the country.

In all such meetings SANRAL strives to understand the concerns and address the expectations of stakeholders. It is the agency's firm belief that this approach bears fruit over time as stakeholders are consulted about SANRAL activities that affect them and they often influence the decisions taken.

SANRAL's strategic approach during 2016/17 was a planned programme of stakeholder outreach which spanned all regions and focused particularly on potential flashpoints, such as the proposed N3 Development Expressway, the N2 Wild Coast road and the Moloto Road improvement.

Through flagship programmes, such as Taking SANRAL to the People and ChekiCoast, SANRAL conducted public information and education activities in various regions.



2. Corporate performance information

Programme performance indicators and targets for 2016/17

Programme 1 – Strategic Objective 1: Manage the national road network effectively and efficiently

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17	
1.1	Smooth travel exposure (STE)	Quarterly	95.75	≥ 95%	
1.2	Low rut exposure (LRE)	Quarterly	95.74	≥ 95%	
1.3	High texture exposure (HTE)	Quarterly	98.90	≥ 95%	
1.4	Bridge condition exposure (BCE)	Quarterly	92.89	≥ 90%	
1.5	Routine maintenance: km	Quarterly	21 490	21 579	
1.6	Network resurfaced: km	Annual	1 563	900	
1.7	Roads strengthened, improved and new: (CAPEX) km	Annual	370	450	
1.8	SIP-1 Annual Maintenance of N1, N4, R33, R510, R511 and R520 National Road to Lephalale (km)	Annual	885	885	
1.9	SIP-4 Annual Maintenance of National Roads in North West Province: (km)	Annual	2 598	2 598	
1.10	Traffic information collection and dissemination on FMS (Freeway Management System) network	Quarterly	Information on the full network of 450 km is being received	Collection and dissemination of real time information (expected travel times) on 100% (450km) of FMS network	

Note: 1.5, 1.6 and 1.7 – As in SANRAL Roadworks Classification document and under construction

Programme 2 – Strategic objective 2: Provide safe roads

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual Target 2016/17	
2.1	Identify, Investigate and Propose Remedial Measures for 12 Pedestrian Hazardous Locations	Quarterly	18 pedestrian hazardous locations identified, investigated and remedial measures proposed	Identify, investigate and propose remedial measure at 12 hazardous locations per year	
2.2	Road Safety Audits completed for upgrade and/or improvement projects in the Project Detail Design Phase	Quarterly	100% progress in 4 road safety audits	8 audits	
2.3	Road safety education and awareness programmes at selected educational districts in a 5km radius of the national network and linked to SANRAL construction projects	Semi-annual	42 educational districts/sites	15 educational districts	

	Quarter 4: 31 March 2017		
	Achieved	Variation	Comments/reasons for variation
	97.0%	+2.11%	Accelerated reseal projects
	99.9%	+5.16%	Accelerated reseal projects
	99.5%	+4.74%	Accelerated reseal projects
	93.6%	+4.00%	New 5 yearly condition assessments completed over the network
	22 197	+2.86%	Additional roads incorporated during course of the year
	1 891	+110.11%	Reseal projects on newly incorporated roads accelerated to minimise the deterioration of roads
	575	+27.77%	Projects on newly incorporated roads accelerated to address sections in poor to very poor condition
	885	0%	Active RRM on all routes
	2 598	0%	Active RRM on all routes
	Collection and dissemination of information on 100% (450km) of FMS network is happening currently	0%	Ongoing traffic information and dissemination

	Quarter 4: 31 March 2017		
	Achieved	Variation	Comments/reasons for variation
	13 Pedestrian Hazardous Locations identified, investigated and remedial measures proposed	+8.33%	Emphasis on road safety projects
	14 Road Safety Audits have been completed	+75%	Emphasis on road safety audits at design phase
	Programmes in 54 education districts/sites	+260%	Emphasis on road safety education and awareness programmes at sites identified by Regional Offices

Programme 3 – Strategic objective 3: Carry out government's targeted programmes

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17
3.1	Percentage of the Routine Road Maintenance project contract value contracted to SMMEs and black-owned companies and in terms of Black ownership of the main contractor	Quarterly	85%	>65 %
3.2	Percentage of the Non-Routine Road Maintenance project contract value contracted to SMMEs and black-owned companies and in terms of Black ownership of the main contractor	Quarterly	46%	>35 %
3.3	Jobs created on project (full-time)	Quarterly	15 721	21 000
3.4	Number of SMMEs working for SANRAL*	Quarterly	2056	1 200
3.5	Number of internships (practical experience for under-graduate studies)	Quarterly	326	121
3.6	Number of external bursaries (tertiary)	Quarterly	122	85
3.7	Number of scholarships	Quarterly	196	200
3.8	Employment Equity Plan (EE Plan)	Annual	Targets achieved as per Board approved EE Plan	Achieve annual targets as per Board approved EE Plan
3.9	Community development infrastructure projects	Annual	18 projects in construction	12 projects in construction

Note: 3.1 and 3.2 – As in SANRAL roadworks classification document

* 3.4 – The number includes SMMEs counted more than once when providing services on different project types (routine maintenance, special maintenance, strengthening, toll and non-toll projects). The total number of unique SMMEs is 1 312.

Programme 4 – Strategic objective 4: Co-operative working relationships with all spheres of government and SADC member countries

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17
4.1	Ensure minimum of two annual meetings for each COTO sub-committee chaired by SANRAL	Annual	2 meetings held for Road Asset Management Systems (RAMS) and Roads Materials Committee (RMC) and Structures	2
4.2	Revise following TRH/TMH guidelines through COTO sub-committees and submit to COTO for approval	Annual	TMH3, TMH8, TMH9, TMH13, TMH14, TMH18, TMH19 and TMH22 - Revised and submitted to COTO for approval	TRH5; TRH13; TRH14
4.3	Revision of the COTO standard specifications for road and bridge works	Annual	60% completed	100%
4.4	Construction of Botswana Border Bridge (Notwane River)	Annual	75% construction has been completed	100% construction completed
4.5	National Technical Committee to produce four Incident Management System (IMS) reports for COTO	Quarterly	4 IMS reports completed and presented to COTO via NDOT	Production of 4 IMS reports for COTO

Quarter 4: 31 March 2017			
	Achieved	Variation	Comments/reasons for variation
	76%	+17%	BBBEE credentials of contractors better than expected
	50%	+43%	BBBEE credentials of contractors better than expected
	19 047 Male = 79.1% Female = 20.9% Youth = 59.0%	-9.30%	Increased disruption of various SANRAL projects
	1 833	+52.75%	Increased community participation goals stipulated in SANRAL tenders
	304	+151%	More students than anticipated were awarded internships
	133	+56%	More students than anticipated were awarded bursaries
	194	-3%	Applications received on closing date did not meet the requirements as outlined in the scholarship applications
	98.18% of the target achieved	-1.82%	Slightly delayed employee intake
	24 projects in construction	100%	Projects continuing from previous years and construction start of projects which completed the design phase

Quarter 4: 31 March 2017			
	Achieved	Variation	Comments/reasons for variation
	2	0%	Required meetings held as scheduled
	TRH8, TRH13, and TRH21: circulated with COTO sub-committee	-100%	The revision of TRH5 and TRH14 awaiting completion in terms of SANS standards. As substitutes, TRH8 and TRH21 were revised instead
	100%	0%	Final draft of chapters submitted for external technical review
	Construction 100% completed	0%	Project completed on target
	4 IMS reports produced and sent to COTO	0%	Regular monitoring of IMS reports

Programme 5 – Strategic objective 5: Maintain good governance practice

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17
5.1	Fraud Hotline	Quarterly	Reported incidents have been investigated and action has been taken or was being taken as appropriate	Reported incidents to be investigated and action to be taken as appropriate

Programme 6 – Strategic objective 6: Maintain financial sustainability

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17
6.1	Private Sector Investment Index (PSII)	Quarterly	22.15%	>18%
6.2	Expenditure Efficiency Index (EEI)	Quarterly	4.13%	< 10%

Programme 7 – Strategic objective 7: Pursue research, innovation and best practice

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17
7.1	Complete the development and testing of SARDS (SA Road Design Software) portal (% complete)	Annual	50% complete	75%
7.2	Number of formalised SARDS (SA Road Design Software) training courses presented to users and user certification	Annual	4 courses	4
7.3	Three-year longitudinal study to determine the knowledge and behaviour of road users in selected areas	Annual	33% of study complete	66%

Programme 8 – Strategic objective 8: Safeguard SANRAL's reputation

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17 Achieved
8.1	Communication: promote awareness of SANRAL's mandate and contribution to society	Quarterly	Achieved with at least 15 positive stories profiled per month on various mediums nationally	Profile at least six positive messages in national/regional press (print, broadcast or online) per month
8.2	External Publications	Semi-annual	5 issues of By the Way were published	Publish 2 issues of By the Way
8.3	Stakeholder engagement	Semi-annual	8 roundtable discussions/ stakeholder engagement sessions held.	Hold four roundtable discussions

Programme 9 – Strategic objective 9: Pursue and maintain environmental sustainability and best practice

Programme performance indicator		Reporting period	Baseline Actual 2015/16	Annual target 2016/17
9.1	Undertake six environmental applications inhouse for the three year period (10 over 5 year period) and submit them for external review and/or decisions	Annual	Two environmental authorisation applications has been undertaken inhouse. One has been submitted for review and the other for final decisions which have been received.	Undertake 2 environmental authorisation applications inhouse, submit for external review and/or final decisions

Quarter 4: 31 March 2017			
	Achieved	Variation	Comments/reasons for variation
	All reported incidents have been investigated or are under investigation and action has been taken or is being undertaken as appropriate	0%	Ongoing efforts to reduce fraudulent and corrupt activity within SANRAL procurement and other operational processes

Quarter 4: 31 March 2017			
	Achieved	Variation	Comments/reasons for variation
	24.20%	+34.44%	Accelerated expenditure on Toll Capex projects, associated with reduced expenditure on non-toll projects due to community protest actions
	5.25%	+47.5%	Emphasis on efforts to reduce overheads

Quarter 4: 31 March 2017			
	Achieved	Variation	Comments/reasons for variation
	75%	0%	Development and testing on target
	0	-100%	Training on software use cannot commence until SANRAL IT hardware upgrade is complete. According to SANRAL IT the hardware upgrade will now only be complete by July 2017
	66% completed	0%	Research project on target

Quarter 4: 31 March 2017			
	Variation	Comments/reasons for variation	
	Achieved with at least 15 positive stories profiled per month on various mediums per month	+150%	Appropriate communication is essential for SANRAL
	5 issues of By the Way published	+150%	Appropriate communication is essential for SANRAL
	13 roundtable discussions/stakeholder engagements were held	+225%	Stakeholder communication is essential particularly for large projects which affect communities significantly

Quarter 4: 31 March 2017			
	Achieved	Variation	Comments/reasons for variation
	Two environmental authorisation applications have been undertaken inhouse. Both submitted for final decisions and decisions have been received.	0%	Emphasis on in-house skills development

3. Report of the Audit and Risk Committee

In terms of Treasury Regulation 27(1) of the Public Finance Management Act (PFMA), as amended, the Audit and Risk Committee presents its report for the financial year ended 31 March 2017.

3.1 Audit and Risk Committee members and meetings

The Audit and Risk Committee (ARC) consists of three independent non-executive directors. During the current year five meetings were held. The Chief Executive Officer, Chief Financial Officer, Corporate Services Executive, Chief Risk Officer, ICT Manager, Internal Audit and the External Auditors attend meetings by invitation.

The committee members were as follows:

Dr Allyson Lawless	Chairperson (Independent non-executive Board member)
Ms Zibusiso Kganyago	Member (Independent non-executive Board member)
Mr Matete Matete	Member (Independent non-executive Board member)

On 27 March 2017, the Board resolved that Ms Zibusiso Kganyago be replaced as an Audit and Risk Committee member by Ms Daphne Mashile-Nkosi, an independent non-executive Board member.

The Committee was assisted by Mr Akhter Moosa, as an independent adviser.

3.2 Responsibilities of the committee

The Audit and Risk Committee is constituted in terms of the Companies Act 2008, as amended, as a statutory Board committee. The Audit and Risk Committee has adopted the Audit and Risk Committee Charter, which has been confirmed by the Board. The charter prescribes the mandate of the committee.

During the financial year the committee has conducted its affairs with integrity, impartiality and objectivity. It has complied with its roles and responsibilities as stated in the Act and its charter.

In executing its duties during the reporting period, the ARC has:

- 2.1 Reviewed and considered the annual integrated report and financial statements.
- 2.2 Monitored and supervised the effective operation of the internal control and internal audit function.
- 2.3 Overseen the external audit process and the review of the report of the Auditor-General.
- 2.4 Ensured that an effective, efficient and transparent system of risk management is maintained.
- 2.5 In reviewing the reports from internal and external audit as well as the reports from the internal risk function, the committee has performed an oversight role to ensure compliance with laws and regulations.
- 2.6 Assisted the Board in carrying out its IT governance responsibilities.
- 2.7 The Committee has assisted the Board with the following:
 - a) Reviewing the Strategic Plan and Annual Performance Plan prior to Board approval.
 - b) Reviewing the annual budget prior to Board approval.
 - c) Reviewing the summary of public liability claims and other legal actions prior to Board approval.
 - d) Considering the concerns raised with regard to SANRAL's going concern status as a result of the low collection rate of the Gauteng Open Road Tolling (GORT) project and has proposed actions to the Board, to mitigate this risk.
 - e) Performing such other oversight functions as may be determined by the Board.

3.3 Adequacy of internal controls

SANRAL's system of internal control is designed to provide reasonable assurance that assets are safeguarded and that liabilities and working capital are efficiently managed.

The ARC is pleased to report that nothing came to its attention suggesting that any material breakdown had occurred in the functioning of the systems, procedures and controls that could lead to material losses, contingencies or uncertainties that would require disclosure in the financial statements. Any control deficiencies identified by the internal and external auditors were brought to the attention of the Committee and management implemented corrective action. Where internal controls did not operate effectively throughout the year, compensating controls

or corrective action or both were used to eliminate or reduce risks. For Gauteng Open Road Tolling (GORT), a specific risk realisation process concluded that no material errors or breaches materialised as a result of the control weaknesses identified. Additional substantive tests were performed to ensure that reported financial results were materially accurate.

The committee has further reviewed the written assessment from internal audit on the design, implementation and effectiveness of the internal financial controls. Based on the results of this review, the committee is of the opinion that the internal financial controls form a sound basis for the preparation of reliable financial statements

3.4 Internal audit

The internal audit function is outsourced. The appointed service provider from 1 March 2016 for a period of three years is Business Innovation Group (BIG). The committee has considered and reviewed the performance of the service provider on a continuous basis and has been kept informed as such by both the Chief Financial Officer (CFO) and the external auditor. For the year under review the CFO has also managed the function of the Chief Audit Executive, however, this role has been redefined and will be separated in the new financial year.

The ARC reviewed and amended the Internal Audit Charter, which stipulates the terms of reference for the internal audit. The internal audit annual operational and three-year-plans were considered and approved by the ARC. All internal audit work performed, internal audit reports and progress reports were reviewed by the ARC.

Internal audit also actively participated in SANRAL's Risk Cluster, identifying and assessing risks.

3.5 Expertise and effectiveness of the Chief Financial Officer and the finance function

The committee examines and reviews the competence of the Chief Financial Officer and the finance function, annually. It is satisfied that the Chief Financial Officer and the finance function have the appropriate expertise and experience. It further considered and satisfied itself of the overall appropriateness of the expertise and adequacy of resources of the finance function.

Accordingly, the committee has considered the effectiveness of the CFO and the finance function to be adequate in order to:

- Manage and maintain effective, efficient and transparent systems of financial and risk management and internal control
- Manage available working capital efficiently and economically
- Manage and safe-guard the assets and manage the revenue, expenditure, and liabilities of SANRAL
- Ensure compliance with any tax, levy, duty, pension, and audit commitments as required by legislation.

3.6 Evaluation of annual financial statements

The Audit and Risk Committee has:

- Reviewed and discussed with the Auditor-General and the Board of Directors the audited financial statements to be included in the report
- Reviewed the Auditor-General's management and audit reports
- Reviewed changes in accounting policies and practices
- Reviewed significant adjustments resulting from the audit
- Reviewed the annual integrated report and recommended it for Board approval.

The Audit and Risk Committee concurs and accepts the conclusions of the Auditor-General on the annual financial statements and is of the opinion that the audited financial statements be accepted and read together with the report of the Auditor-General.

3.7 Risk management

The committee has oversight of fraud, and information technology risks. The committee fulfills an oversight role regarding financial reporting risks, internal financial controls, fraud and information technology risks as they relate to financial reporting.

3.8 Going concern

The committee assessed the going concern premise of SANRAL, for the foreseeable future, and confirms this status to the Board.



Allyson Lawless

On behalf of the Audit and Risk Committee
as at 31 March 2017

Date: 25 May 2017

Acronyms

ARC	Audit and Risk Committee
Bakwena	Bakwena Platinum Corridor Concessionaire
BBBEE	Broad-based black economic empowerment
BEE	Black economic empowerment
CBD	Central business district
CDP	Community development project
CEO	Chief executive officer
CCTV	Closed circuit television cameras
CPI	Consumer price index
CSI	Corporate social investment
DBSA	Development Bank of Southern Africa
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DoE	Department of Education
DWS	Department of Water and Sanitation
EIA	Environmental impact assessment
EMP	Environmental management plan
EWT	Endangered Wildlife Trust
FMS	Freeway management system
GCIS	Government Communication and Information System
GDP	Gross domestic product
GFIP	Gauteng Freeway Improvement Project
IAS	International Accounting Standard
ICT	Information communication technology
IDP	Integrated development plan
IFRS	International Financial Reporting Standards
IT	Information technology
ITS	Intelligent transport system
Km	Kilometres
M	Metres
MoU	Memorandum of understanding
NMMU	Nelson Mandela Metropolitan University
N3TC	N3 Toll Concession
OCI	Overall condition index
ORT	Open road tolling
OUTA	Organisation Undoing Tax Abuse
PFMA	Public Finance Management Act
PPP	Public-private partnerships

RRM	Routine Road Maintenance
RSE	Road Safety Education
RTMS	Road Traffic Management System
SANRAL	South African National Roads Agency SOC Limited
SAPS	South African Police Service
SETC	Social, Ethics and Transformation Committee
SIP	Strategic Integrated Project
SMME	Small, medium and micro enterprise
SOC	State-owned company
SOE	State-owned enterprise
STEM PP	Science Technology Engineering and Mathematics Pipeline Project
TMC	Traffic management centre
TRAC	Trans African Concessions
UFS	University of the Free State
VMS	Variable message signs
Wits	University of the Witwatersrand

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