



2018 INTEGRATED REPORT VOLUME 1

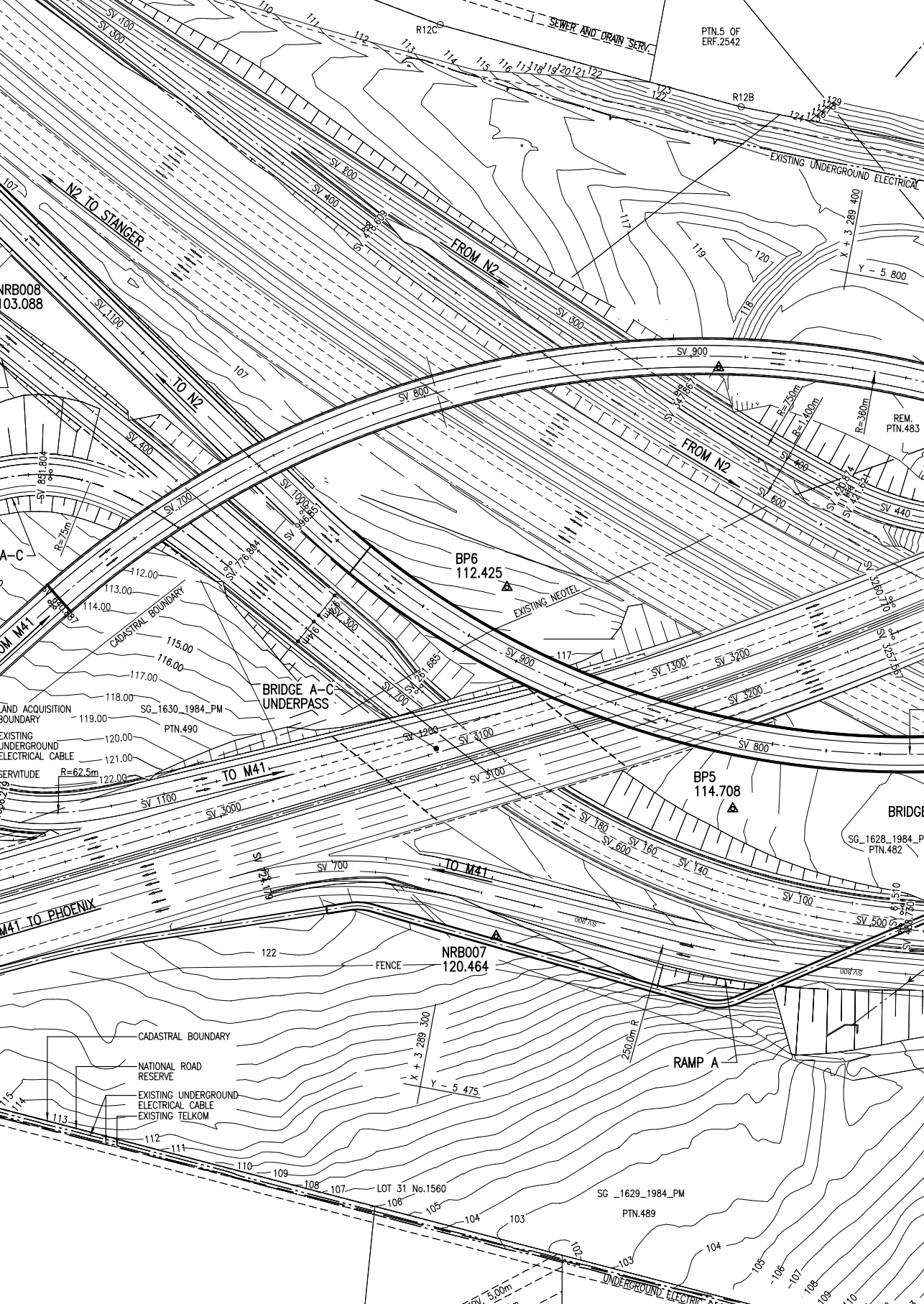
*Goals can only be achieved if efforts and courage
are driven by purpose and direction*

SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD



Reg No. 1998/009584/30

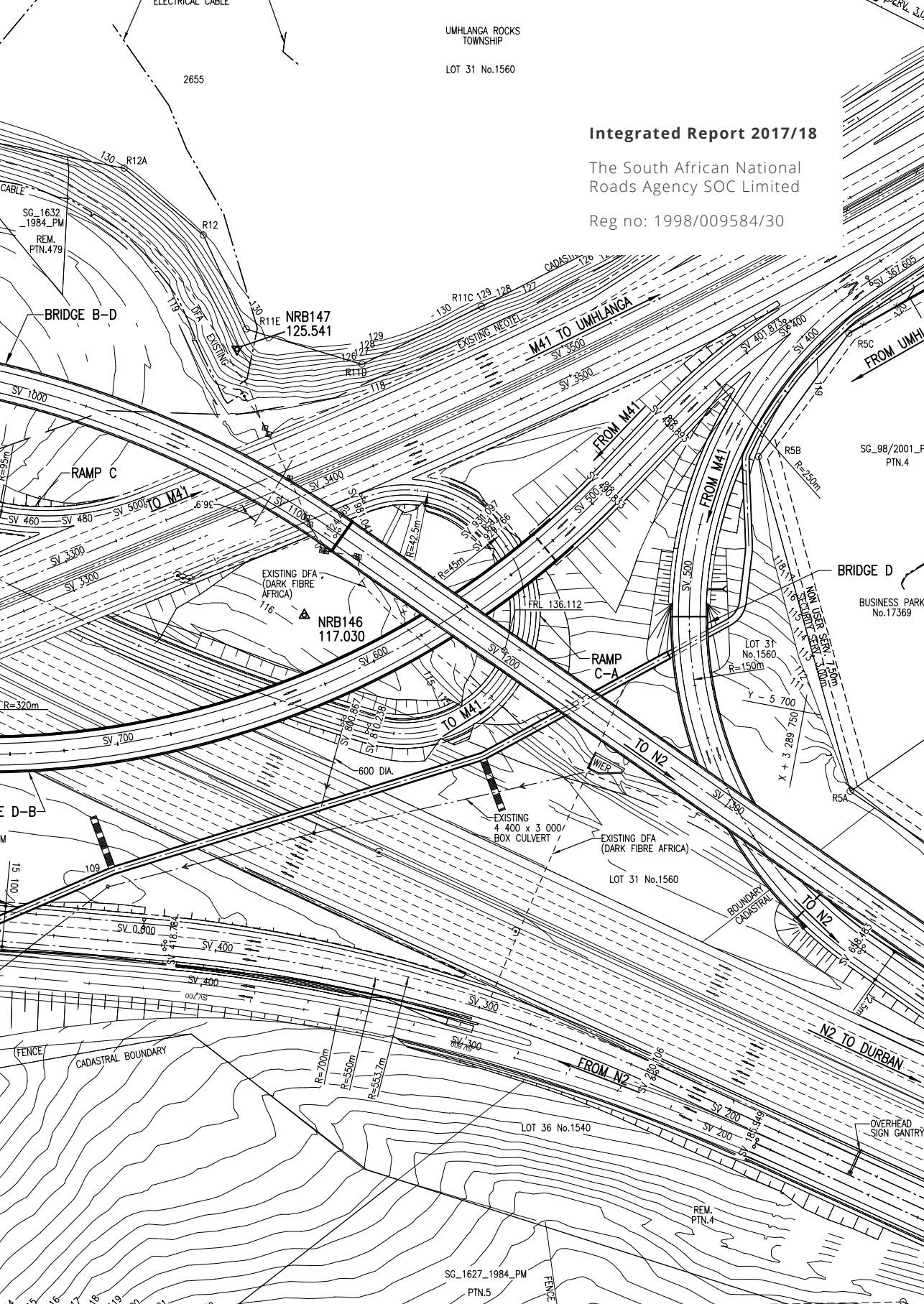
**BUILDING SOUTH AFRICA
THROUGH BETTER ROADS**



Integrated Report 2017/18

The South African National
Roads Agency SOC Limited

Reg no: 1998/009584/30



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The South African National Roads Agency SOC Limited

Integrated Report 2017/18

About the Integrated Report

The 2018 Integrated Report of the South African National Roads Agency (SANRAL) covers the period 1 April 2017 to 31 March 2018 and describes how the agency gave effect to its statutory mandate during this period.

The report is available in printed and electronic formats and is presented in two volumes:

- **Volume 1:** Integrated Report is a narrative on major development during the year combined with key statistics that indicate value generated in various ways.
- **Volume 2:** Annual Financial Statements contains the sections on corporate governance and delivery against key performance indicators, in addition to the financial statements.

2018 is the second year in which SANRAL has adopted the practice of integrated reporting, having previously been guided solely by the approach adopted in terms of the Public Finance Management Act (PFMA). The agency has attempted to demonstrate the varied dimensions of its work and indicate how they are strategically coherent. It has continued to comply with the reporting requirements of the PFMA while incorporating major principles of integrated reporting.

This new approach is supported by the adoption of an integrated planning framework in SANRAL's new strategy, Horizon 2030.

In selecting qualitative and quantitative information for the report, the agency has been guided by Horizon 2030 and the principles of disclosure and materiality. SANRAL has attempted to provide concise but reasonably comprehensive information that enables the reader to make an assessment of the agency.



The following criteria guided the selection of content:

Internal criteria	External criteria
Company vision, mission, mandate and values, plus published code of ethics	Developments in the global and national economic and political environment that present challenges and opportunities for the agency
Objectives, shareholder targets, associated key performance indicators (KPIs), policies, processes and procedures	Regulatory changes that impact on SANRAL's operations
Expectation and feedback from stakeholders, including the shareholder, employees, suppliers, customers, communities where it operates, regulators and environmental organisations.	Guidance provided by independent expert advisors
Key risks affecting the agency, and guidance provided by SANRAL's management, specialist employees and auditors about risk response.	Factors impacting reputation.

The report presents certain data by population group and gender. This is purely in the interests of monitoring progress in terms of transformation and not because SANRAL attaches any other importance to such distinctions.

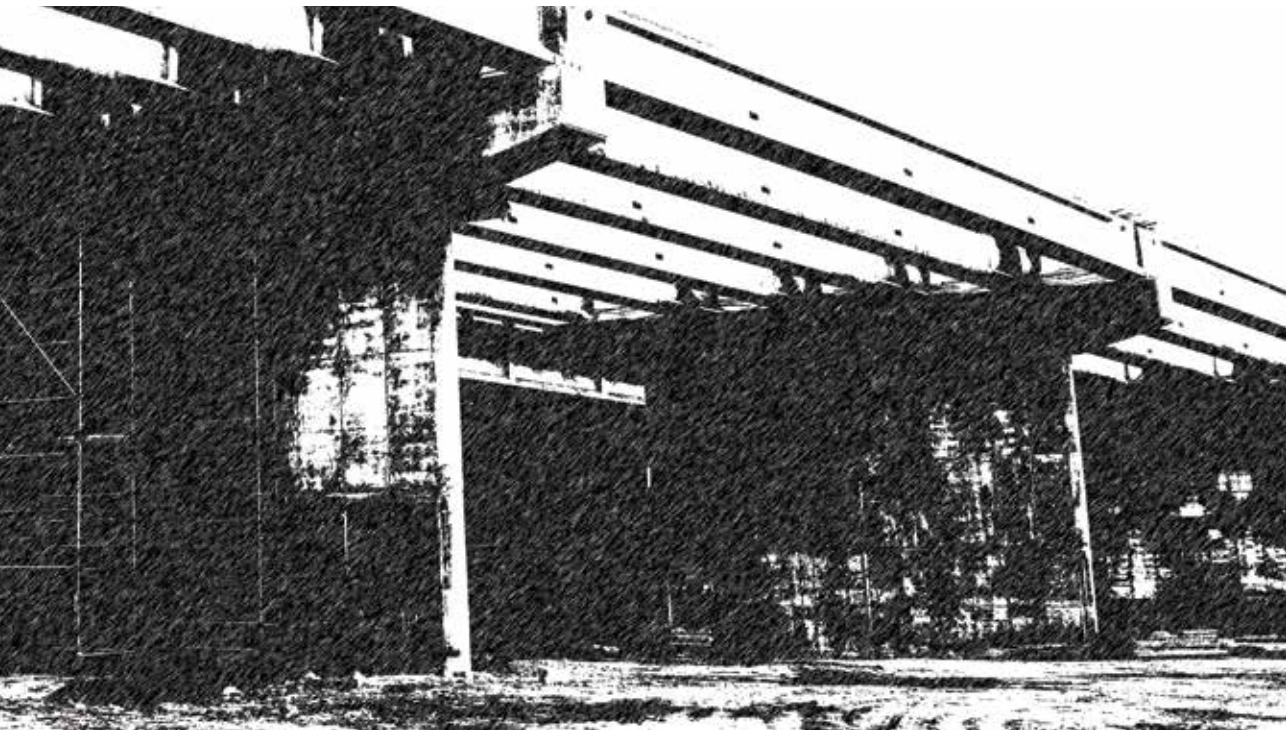


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Chairperson's Report



The South African National Roads Agency (SANRAL) reached a critical juncture during the 2017/18 financial year. Two decades after its establishment by the first democratic government, the agency decided to undertake a comprehensive review of its mandate, vision and strategic objectives.

This resulted in the publication of Horizon 2030, a comprehensive new strategy that will serve as the roadmap for this vital government agency over the next decade and beyond.

The decision to develop a new long-term strategy reflects the dynamic nature of the organisation. Over the years SANRAL has exceeded expectations in managing South Africa's primary road network, which is the

country's most valuable infrastructural asset.

Our approach is best reflected in our purpose statement in Horizon 2030:

“Our purpose is to deliver a safe, efficient, reliable and resilient national road transport system for the benefit of all the people of South Africa.”

As the outgoing Chairperson of the Board, I am exceptionally proud of the fact that we were able to deliver such a visionary strategy as the product of a broad process of consultation, both within SANRAL and with external stakeholders.

Vision 2030 confirms SANRAL's position as a leading road agency on the global stage and one which is ahead of the curve in terms of planning, engineering, construction and maintenance of a strategic primary road network.

As a state-owned agency within a developmental state we willingly assume our responsibilities in terms of contributing to socio-economic development and the building of a more equitable and stable country.

Commitment to training and research

Among SANRAL's successes during the term of the current Board are our contributions to education, training, research and knowledge-creation. During this reporting period alone, 161 students received SANRAL bursaries to pursue studies at tertiary institutions and 203 high school learners were enrolled in our scholarship programmes.

We work closely with local universities to improve educational outcomes in critical subjects such as science, technology, engineering and mathematics. Our sponsorship of chairs of higher learning at the Universities of Cape Town, Stellenbosch and the Free State contributes to original research in areas such

as construction, transportation and road safety, and to improved science and maths education.

At our SANRAL Technical Excellence Academy we enable new graduates in engineering to make a successful transition from the academic environment into professional careers. This is a programme that is already benefiting the broader construction and built environments.

This culture of excellence has also taken root within our own organisation where we are making significant investments in the training of employees through our learning and development strategy.

Corporate governance and transformation

Internal transformation is managed through employment equity plans and skills development initiatives. We continue to attract top professionals in the engineering and construction environments, and ensure their progress within the ranks of the organisation through our skills pipeline.

During the past year we were able to make senior appointments to critical management positions both at head office and in the SANRAL regions from within our own ranks – a positive indication that our human capital development strategy is achieving results.

SANRAL prides itself on its commitment to good governance and we fully subscribe to the principles of King IV report on corporate governance. This commitment is reflected in this Integrated Report in our reporting on performance, identification of risks and description of systems of control and governance.

To date, in all twenty years of SANRAL's existence, it has not fallen foul of the principles of good governance.

As a state-owned company we endeavour to move beyond the concept of good corporate citizenship. We recognise the role that a well-

managed primary road network can play in the broader socio-economic development of the country and we embrace government initiatives that will contribute to the rise of a new dawn in South Africa.

The accelerated implementation of the National Development Plan 2030 will be at the core of government initiatives over the next decade. There can be little doubt that the quality of the country's primary road network will be critical to the success of the NDP.

Future financing

The development of Horizon 2030 offered SANRAL an opportunity to take a critical look at our business model and, especially, our funding policy. It has become clear that SANRAL cannot continue on the growth trajectory of the previous two decades during which the size of the network expanded without commensurate funding.

2017/18 was also a watershed in that SANRAL found it necessary for the first time to transfer an amount of R1 667m from the non-toll business to the toll road portfolio. This transfer, made with the concurrence of the Minister of Transport, was in order to reduce losses incurred as a result of sustained non-payment of toll fees by users of the roads constructed under the Gauteng Freeway Improvement Project (GFIP). The transferred amount was in addition to the special grant of R406m made by Treasury to off-set the reduced income on GFIP.

All other toll roads managed directly by SANRAL and through concessions operated smoothly – with increased use of e-tags on these routes – and were economically viable.

SANRAL is alert to the fact that we operate in a climate where there is widespread resistance to payment by users of public services such as water and electricity and this is exacerbated by the adverse economic climate. In this context, the financing of new roads through

private financing and toll collection becomes increasingly challenging.

Horizon 2030 recognises that National Treasury will remain the primary source of funding the development and maintenance of roads but that it will continue to be necessary to explore opportunities for public-private partnerships. The imperative for comprehensive consultation with communities and stakeholders ahead of such partnerships cannot be overstated. The notion of “buy in” takes on a very real meaning when public infrastructure is to be funded, wholly or partly, by user payment.

Acknowledgements

Towards the end of the financial year we welcomed the appointment of a new Minister of Transport, Dr Bonginkosi Blade Nzimande. Within a short period SANRAL has begun to benefit from his wisdom and energy.

It would be remiss of me if I did not acknowledge the previous Minister of Transport, Mr Joe Maswanganyi, for his endorsement of the long-term strategy, Horizon 2030, and draft Transformation Policy, both of which he launched.

I also want to pay tribute to the leadership and support given by the Deputy Minister of Transport Sindisiwe Chikunga, managers at the Department of Transport, and our partners in provincial and local government departments and other infrastructure-related agencies.

The term of the current Board will come to a close during the current financial year. I have been privileged to serve on the Board since 2011 and wish to thank my colleagues on the Board for their devotion to the organisation and their commitment to good corporate governance.

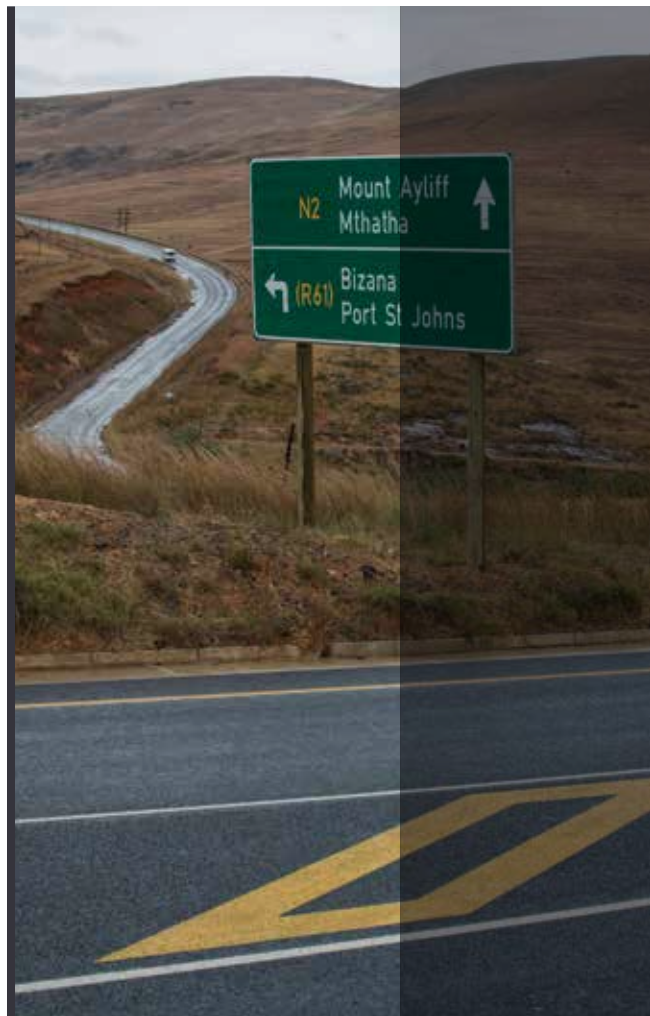
I also want to pay tribute to the employees of SANRAL, from administrative staff, through the professional ranks to senior management. Your loyalty and professionalism has helped to create an organisation that is a national asset. I have great faith in the management of the

organisation, under the leadership of our CEO, Skhumbuzo Macozoma, and its ability to ensure SANRAL realises its new vision and strategic objectives.

As South Africa commemorates the 100th birthday of Nelson Rolihlahla Mandela we can state with considerable pride that, through our mandate for road development and management, we have contributed to the economic progress of our country and its journey towards social justice and inclusivity.



Roshan Morar
CHAIRPERSON



Chief Executive Officer's Report



SANRAL starts its third decade with a fresh vision and mandate and clearly defined strategic objectives. During the past year we have taken fundamental decisions that will determine the trajectory of the organisation and position SANRAL as a catalyst for future economic growth in the country and on the continent of Africa.

The publication of Horizon 2030 – our new long-term strategy – was a seminal moment in SANRAL's development as the state-owned company responsible for managing South Africa's primary road network.

The strategy provides the organisation with a new, shared vision and identifies the actions that are required to meet our objectives

over the next decade. It confirms SANRAL's reputation as a progressive entity within the South African public sector and a leading agency in the fields of engineering, construction and road management within the global environment.

Horizon 2030 was accompanied by the Transformation Policy which affirms SANRAL's commitment to the broader developmental objectives of the country as defined by the National Development Plan.

It recognises our catalytic role within the construction and engineering sectors and explores opportunities for SANRAL to leverage this position. We embrace the challenge to use our procurement and tender processes in shaping the long-term growth path of the construction and related industries.

The transformation policy sets clear and unambiguous targets for the participation of black contractors, professionals and suppliers in all projects commissioned by SANRAL. We are intentionally exploiting to the full the provisions of prevailing economic empowerment legislation with the clear aim of breaking down monopolies in the supply chains for materials, equipment, technologies and professional services.

SANRAL went the extra mile in consulting with industry stakeholders, labour formations and communities through a series of meetings across all nine provinces. We welcomed the feedback we received and took care to accommodate the views of stakeholders in our final proposals.

The year in perspective

At the operational level, 2017/18 was a complex year. On the one hand, the agency had a large number of capital projects in process – a total of 223 covering 848km of roadway. But spending on capital projects was considerably lower than in 2016/17, reflecting a slowdown in construction, with a high proportion of projects running behind schedule.

In addition to this, while some exciting new construction projects were initiated during the year, there was a sharp decline in the number of contracts issued – from 172 in 2016/17 to 60 in the reporting year – and there was a similar trend in relation to design phase contracts.

Within the toll road portfolio, SANRAL deliberately exercised restraint in issuing construction tenders because of the financing difficulties referred to in the Chairperson's Report.

Factors largely beyond SANRAL's control accounted for the decline in tenders awarded and work undertaken on non-toll roads.

The tendering process was impeded by difficulties SANRAL experienced in applying new tender requirements of National Treasury. Both parties recognise the considerable impact this problem has had on the construction industry and therefore have a mutual interest in resolving matters.

A far more disturbing development accounts for the slowdown of work on a number of existing projects. It has been referred to in the media as "tender-jacking" – attempts by business interest groups in areas close to road construction works to coerce principal contractors to give them sub-contracts without any tendering processes. These demands are sometimes backed by threats of violence, damage to property and, occasionally, serious physical harm to individuals on site.

Reasons for pressing these demands may differ, from a perception of entitlement based on a misreading of empowerment legislation to plain criminal intent. SANRAL has intensified its community engagement efforts in an effort to pre-empt these conflicts and supported contractors in securing police protection where needed.

Milestones and highlights

Against this difficult background, there were some significant highpoints that served to remind us just how important the national road network is in facilitating the movement of goods and services and connecting people to economic opportunities.

- On the N2 Wild Coast Road we started with the construction of the 1.1km long bridge across the Mtentu Gorge. On completion this will be the longest main span cantilever bridge on the African continent. An upgraded N2 will significantly cut down travel time between Durban and East London and create new opportunities for growth and development along the eastern seaboard.
- Inland we started with major improvements to three intersections on the N14 between Olifantshoek and Kathu. This road connects the Northern Cape with the urban metros in Gauteng and plays a vital road in the lives of people who live in contiguous rural communities.
- On the N2 north of Durban we are nearing completion of a major capital project to upgrade the Mount Edgecombe intersection. This improved stretch of road and intersection will bring relief from congestion for commuters travelling to the KwaZulu-Natal North Coast and further stimulate the growth of the tourism and leisure industries in the region.
- In Mpumalanga work is progressing on the N11 near Middelburg in the Steve Tshwete District. This includes the reconstruction of the existing road and the widening of the Kranspoort Pass, an infrastructure investment of more than R415m.

On all contracts, from major new construction projects to routine maintenance work, SANRAL ensures that primary contractors allocate significant portions of the work to emerging enterprises, especially those owned by black people, women and young people.

In the 2017/18 financial year work to the value of R3 087m was contracted to SMMEs for construction, rehabilitation and maintenance projects. Construction and maintenance projects also generated the equivalent of 15 299 full-time jobs while a total of 3 421 individuals received training and skills upgrading through these projects.

Commitment to transformation

A primary objective of our transformation policy is to grow the share of work done by black-owned enterprises beyond the statutory threshold and to expect of our primary contractors to commit to a more focused and inclusive empowerment and skills transfer programmes.

SANRAL believes its transformation drive starts from within - by amending its supply chain management policies to ensure inclusive investment in the construction industry and economy and working with stakeholders to deliver on government's promise to move South Africa forward.

Our primary objectives are to grow the construction and engineering sectors and attract new entrants, especially black contractors who can build businesses and create jobs.

Technological advancement

SANRAL's expertise and technical prowess are widely recognised among our peers in the regional and global environments. We are a member of the World Road Association (PIARC) and later this year we will host the 2018 PIARC International Seminar in Cape Town.

Similarly, we have embraced the initiatives by the United Nations to promote road safety through its Decade of Action programme. SANRAL is among those road agencies that have adopted the "safe systems" approach where the emphasis is on engineering solutions to create safer road environments.

We are also deepening our road safety awareness campaigns in collaboration with researchers and academics and in partnership with provincial education departments, schools and communities situated close to the SANRAL road network.

Embracing change

Our commitment to research and knowledge creation is also evident in our partnerships with universities, our endowment of research chairs and our growing support to programmes that aim to enrich teaching and learning of science, mathematics and technology.

Through our scholarship and bursary programmes we contribute to the identification and training of the next generation of engineers and professionals in the construction and built environments. At the SANRAL Technical Excellence Academy we enable young engineers to make the transition from academia to the work sphere through on-the-job training.

The year under review has, indeed, been a period of change for SANRAL. We welcomed the appointment of Dr Bonginkosi Emmanuel Nzimande as the new Minister of Transport and are bidding farewell to our Chairman, Roshan Morar, and members of our Board as they come to the end of their terms.

As a dynamic organisation which places high value on innovation and modernisation, we embrace the changes and are looking forward to work with new and existing stakeholders on our journey towards Horizon 2030.



Skhumbuzo Macozoma
CHIEF EXECUTIVE OFFICER





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COMPANY OVERVIEW



VISION

Ensuring our national road transport system delivers a better South Africa for all.



MISSION

Our purpose is to deliver a safe, efficient, reliable and resilient national road transport system for the benefit of all the people of South Africa.



CORE VALUES

Customer centricity: we know our customers, we deliver what matters and make decisions with empathy.

Accountability: we promote accountability and trust through our consistent, open, honest, and ethical actions.

Relevance: we endeavour to be relevant to local communities in which we operate by promoting transformation and environmental sustainability.

Efficiency: we are dedicated to efficient service and strive for excellence and customer satisfaction.

Safety: we are committed to safety and the search for innovative solutions to reduce harm.



PRINCIPAL TASKS

- Plan, design, construct, operate, rehabilitate and maintain South Africa's national roads.
- 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.
- Advise the Minister of Transport on matters relating to South Africa's roads.

Overview of Strategy

On 13 December 2016, SANRAL embarked on a process of developing its long-term strategy - also known as Horizon 2030. This strategy outlines SANRAL's long-term vision and perspective; acknowledges the major successes of the past 19 years; and seeks to build on them.

The approach adopted in the development of Horizon 2030 took into consideration all the realities facing SANRAL as well as the strategic opportunities that may arise in the next decade.

Subsequently SANRAL launched both Horizon 2030 and a Transformation Policy on 29 September 2017. These documents formed the basis for consultative, round table, stakeholder engagement sessions throughout the country.

Horizon 2030 identifies the key pillars that support the organisation, enablers to help delivery of its mandate for the future, and refines SANRAL's vision, mission, core values and strategic objectives.

The four pillars of delivery on SANRAL's mandate are:

- **Roads** – the delivery and maintenance of high quality road infrastructure remain at the core of SANRAL's endeavours
- **Road safety** – the strategy outlines a more comprehensive approach to road safety in line with global trends
- **Stakeholders** – acknowledging that SANRAL serves a wide spectrum of stakeholders whose expectations must be addressed through research, consultation and pro-active communication
- **Mobility** – SANRAL will facilitate stronger integration of road infrastructure into transport planning and operations

Among the key focus areas of Horizon 2030 is SANRAL's intention to pursue an integrated funding strategy comprised of fiscal allocations from National Treasury, own revenue generation and a reaffirmation of private finance.

Other key strategic imperatives are:

- demonstrating relevance to South Africans
- enhancing the community development programme
- public transport enablement
- transformation, both internally and in the construction sector
- exploring opportunities in Africa and beyond.

Over the past year SANRAL embarked on a process of extensive consultation with industry associations, professional bodies, stakeholders and communities in all nine provinces to explain its proposals for transformation and to ensure alignment with these objectives.

SANRAL continues to strengthen the country's expertise in engineering and construction through the accelerated development of its own professionals as well as strategic interventions in education and research designed to promote knowledge and expertise.

Through bursaries and learnerships it enables young people at schools and universities to continue their studies; through partnerships with tertiary institutions it improves the quality of teaching in maths and science; and through sponsorships it encourages advanced research that contributes to knowledge creation in the transport and engineering industries.

Through the SANRAL Technical Excellence Academy in Port Elizabeth it offers a structured programme for graduate engineers to

equip them with advanced knowledge and competencies. Graduates are exposed to real design projects under the guidance of mentors and they progressively assume more responsibilities until they are able to work independently.

Looking Ahead

SANRAL's long-term strategy - Horizon 2030 - has several key strategic themes which set the tone for the organisation to exploit potential opportunities:

- Rebuilding of public trust
- Ensuring greater collaboration and synergy in the area of road safety within the transport and related industries
- Developing an operating model to deliver on SANRAL's long-term objectives
- Continuing with the implementation of efficient and effective road network management principles, to ensure that SANRAL is financially sustainable and avoids a fiscal cliff
- Leveraging partnerships with both the public and private sectors to extract value for the economy
- Demonstrating relevance to the public through SANRAL's delivery programme and the enhancement of the community development programme, resulting in infrastructure that touches communities and fosters ownership
- Implementing sustainable transformation by ensuring that SANRAL's projects contribute to the transformation of the industry with a strong emphasis on the inclusion of black business

- Growing the pool of engineers through the Technical Excellence Academy
- Strengthening the Technical Innovation Hub by pursuing cutting-edge research and development to leverage on advancements in technology.

Horizon 2030 outlines that SANRAL will pursue an integrated funding strategy that includes fiscal allocations from National Treasury, own revenue generation and capital raised through private finance – from domestic and international bond markets. SANRAL recognises the realities facing all organs of state – insufficient budgets that are declining in real terms; an economy under pressure; the triple challenges of poverty, unemployment and inequality which have also contributed to protests and disruptions at various project sites.

These realities contributed to SANRAL's decision to develop a new Transformation Policy, a 14-Point Plan and sub-sector strategies to enhance inclusivity.

The integrated funding strategy is a critical component of SANRAL's strategic objectives and consists of three pillars:

The first is fiscal allocations from National Treasury. Horizon 2030 demonstrates how these allocations have grown since SANRAL's inception in tandem with the size of the network. Public funding is a critical source of revenue for SANRAL and will continue to play a definitive role in the agency's funding envelope.

The second pillar is private finance. Horizon 2030 makes a strong case on how valuable this alternative financing has been to enable SANRAL to broaden the scope of its funding envelope and deliver more road infrastructure than if it had only been reliant on public funds.

This enabled SANRAL to implement strategic and flagship projects, and major works which include network expansion, greenfield- and brownfield upgrades.

The third pillar – generation of own revenue – marks a material deviation from the past. This entails an assessment of every potential revenue generating opportunity within SANRAL and developing a business development strategy. This is critical for the sustainability of the agency and fits into government’s review of state-owned entities.

It also presents an opportunity to manage certain business units along commercial lines, stabilise the agency’s financial position and drive an entrepreneurial culture within the

agency. The initial starting point would be to only explore opportunities where value can be derived by all parties.

Generation of own revenue fits well with the ‘Africa and Beyond’ theme outlined in Horizon 2030. SANRAL has amassed considerable expertise in the fields of engineering, tolling, asset management and operations. The agency frequently hosts visits by other African road authorities and actively participates in ASANRA, SADC and AU structures involved in road management and transportation issues. There is, thus, significant potential to provide services on a fee basis to other countries where toll projects are being actively pursued and engineering expertise is required.



Board of Directors

Non-executive directors



ROSHAN MORAR

Chairperson
CA (SA) CFE



ALLYSON LAWLESS

Pr Eng C Eng BSc (Civ 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



MATETE MATETE

BSc (Hons)
Transportation
Planning MBA



AVRIL HALSTEAD

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



ZIBUSISO KGANYAGO

BCom Diploma in
Advanced Property
Practice

Executive Director



SKHUMBUZO MACOZOMA

Chief Executive Officer
BSc (Civ Eng) MSc (Civ Eng)

Company Secretary



ALICE MATHEW

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)
PGDip Leadership
Development Cum
Laude



LOUW KANNEMEYER

Engineering Executive
BEng (Civ) MEng
(Transportation) Cum
Laude Pr Eng Pr CPM

Regional Management



LOGASHRI SEWNARAIN

Eastern Region
BSc (Civ Eng) Pr Eng
Pr CPM MSAICE
FAArb



WILLEM SCHALK VAN DER MERWE

Northern Region
BEng (Civ) MEng
(Transportation) Pr Eng
Pr CPM MSAICE



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





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1 Manufactured Capital

SANRAL is directly responsible for improving, maintaining and managing 94% of South Africa's 22 214km national road network, while the remaining 6% of the network is managed through public-private partnerships that centre on 30-year concessions on various national toll routes.

The national road network is not a static entity and has, in fact, expanded on an annual basis as various provincial roads have been incorporated. It is expected to grow in the medium-term to approximately 25 000km.

The great majority of roads under SANRAL's direct management – 87% of the total national network – are not subject to tolling, but selected routes, comprising 7% of the total national road system, are toll-routes operated by SANRAL.

A common asset management system spans the entire national road network. This involves close monitoring of the condition of all roads in order to predict their future performance and set priorities for major upgrading and rehabilitation. Routine maintenance is undertaken across the entire network on a continual basis.

SANRAL's roads are maintained to a very high standard, measured against recognised international benchmarks, and its major construction projects reveal the extraordinary design, engineering and construction skills the agency is able to leverage.

The toll roads managed under concession and the companies responsible for them are as follows:

- Trans African Concessions (TRAC) which is responsible for the N4 eastward from Pretoria to Maputo in terms of a cross-border concession made in 1997.
- The N3 Toll Concession (RF) Proprietary Limited (N3TC) which was granted a concession in 1999 in respect of the N3 between Cedara in KwaZulu-Natal and Heidelberg in Gauteng.
- Bakwena Platinum Corridor Concessionaire (Bakwena) which has managed two routes since 2001: the N1 between Pretoria and Bela Bela in Limpopo, and the N4 going west from Pretoria to the Botswana border.

1.1 Road development, improvement and rehabilitation

During 2017/18 SANRAL undertook a total of 223 projects to build new roads, improve existing roads, and rehabilitate roads in a sub-optimal condition. These projects on non-toll and toll roads directly under the agency's management involved a total of 848km of roadway.

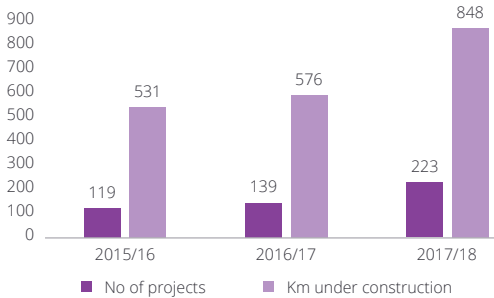
Because each project is unique, a simple head-count of projects undertaken and the length of improved or new pavement are inexact indicators of the volume and quality of work. However, they serve as a rough measure and indicate that SANRAL's output increased in 2017/18 relative to previous years (Figure 1 - see next page).

Four out of five construction projects during the year were undertaken on non-toll roads and, overall, strengthening and improvement projects on existing roads comprised 52% of total capital projects. On toll routes, however, projects for the construction of new facilities outnumbered those for the strengthening and improvement of existing roads.

Capital projects and length of road beneficated 2017/18

Type of capital project	Non-toll roads		Toll roads	
	Projects	Km beneficated	Projects	Km beneficated
Strengthening and improvement	98	282	18	20
New facilities	81	382	26	164
Total	179	664	44	184

Figure 1: Three-year trend in capital projects and length of road beneficated



New contracts

A total of 60 new contracts were awarded during the year. The total value of these contracts was R4.9bn. They included one mega-project and two major projects, all to be financed as non-toll roads:

- Work commenced in January 2018 on the four-lane bridge extending for 1.1km across the Mtentu Gorge and ultimately forming part of the N2 Wild Coast Highway. The contract worth R1 433m was awarded to the Aveng Strabag Joint Venture and the project is scheduled for completion in May 2021.
- Tau Pele Construction began work in August 2017 on the construction of three roundabouts on the outer ring road in Kimberley, Northern Cape in order to improve safety. This is a yearlong project valued at R115m.
- Construction is underway on a contract awarded in June 2017 for the improvement of three intersections on the N14 in the

Olifantshoek-Kathu area of the Northern Cape. KPMM Roads and Earthworks is the principal contractor on this R84m contract which is due to be completed in July 2018.

The total number and value of new construction contracts awarded in 2017/18 were considerably lower than in the previous year. In 2016/17, a total of 172 new contracts were awarded with a combined value of R15.9bn. In addition, there were delays in the awarding of tenders for the design of projects. Tendering processes were interrupted by difficulties in interpreting new Treasury procurement regulations.

Projects in progress

Details of major multi-year projects on non-toll roads that were already in progress at the start of 2017/18 appear on pages 27 and 28.

The following projects were completed during the year:

- The R24 upgrade near Rustenburg in the North West was completed a month early, in 29 months, at a total construction cost of R450.03m, 11.5% over the original budget.
- The reconstruction and widening of the N11 between Middelburg and Loskop Dam in Mpumalanga ran seven months over the expected completion date due to additional slope stability measures and other safety improvements in the Kranspoort Pass. The original contract price was exceeded by 17.5%.

- The improvement of the R570 from the N4 to Jeppest Reef in Mpumalanga was completed in 36 months, three months later than planned. The duration of the project was extended due to community protests, obstacles to accessing a quarry and borrow pits, rain delays and the construction of local access roads and drainage. Additional costs amounted to 8.5% of the original contract price.
- The improvement of the N7 between Citrusdal and Cederberg in the Western Cape was completed 1% under the original budget although it exceeded the planned completion date by five months as additional slope stabilisation was required.
- The project to realign the N7 in order to cater for the planned increase in the capacity of the Clanwilliam Dam was brought in on budget about two months later than the scheduled.
- The construction of a new two-lane carriageway on the N1 from Trompsburg to Fonteintjie in the Free State was completed at a cost of R413m. It was delivered about 14 months late and about R100m over budget due to difficulties securing borrow pit materials and the impact of drought in the area.

Delays were experienced on a high proportion of projects despite the efforts of project managers in SANRAL's regional offices to work with contractors to avoid or minimise delays.

The reasons for delays range from additional construction work required for slope stability measures and safety reasons, to disputes that arise either in the labour relations field or with community role-players in respect of local sub-contracting. The last factor has become a substantial risk to construction projects in several provinces and sometimes poses a serious threat to the safety of contractors.

SANRAL is totally committed to the participation of local communities in road projects and has formalised this through project liaison committees, which are now a requirement for all projects. Generally local participation expedites projects, but it becomes an obstacle when community groups misunderstand the formal processes for local participation or when there are divisions and competition within communities.

The agency is devoting more resources to managing local-level stakeholder relations with the objective of improving communication, avoiding disputes and eliminating all avoidable time extensions.



Projects on non-toll roads

Major construction and rehabilitation projects in progress 2017/18				
Section of road	Percent complete	Value of work done 2017/18	Scope of work	Main contractor
R61 from Baziya to Mthatha, EC	88% *	R108.9m	Widening Upgrade of intersections New bridges, culverts & pedestrian underpasses	Basil Read
R61 from All Saints to Baziya, EC	92% *	R36.7m	Construction of new road Earthworks, pavement & sealing New bridges & culverts	Aveng Grinaker-LTA
R72 from Port Alfred to Fish River, EC	85%	R153.8m	Improved alignment	Concor
R72 from Birah River to Openshaw Village, EC	35%	R133.5m	Improved alignment	Trianic
N6 from Rouxville to Smithfield, FS	33%	R114.9m	Rehabilitation	WBHO Construction
N2 Mount Edgecombe Interchange, KZN	96% *	R174.3m	Upgrade of interchange to four-level free-flow system	CMC di Ravenna South Africa
N3 Hammarsdale Interchange, KZN	51% *	R93.4m	Mass earthworks Six new on- and off-ramps, partial clover configuration New five-lane overpass bridge Demolition of old bridge	Stefanutti Stocks
N5 from Harrismith to Industriqua, FS	98% *	R128.3m	Upgrade to dual carriageway New interchange	Edwin Construction
R573 from Siyabuswa to Marble Hall, LP	33% *	R69.6m	Addition of shoulders Rehabilitation New roundabout at N11 junction	KPMM-CBE JV
R505 from Wolmaransstad to N14, NW	52% *	R256.3m	Partial reconstruction	Power Construction
N4 from Pampoennek to R512, NW	40% *	R67.8m	New dual carriageway Extra climbing lanes Partial clover leaf interchange Environmental rehabilitation	Aveng- Lubocon JV

R34 from Km31 to Schweitzer Reneke, NW	67%	R122.4m	Rehabilitation and improvement	Edwin Construction
N11 from Hendrina to Hendrina Power Station, MP	56%	R103.5m	Paved shoulders Strengthening of existing road	Power Construction
R61 from Mthatha to Ngqeleni, EC	46%	R88m	New dual carriageway Upgrade of old carriageway Six bridges Replacement housing	Haw & Inglis
N7 from Atlantis South to Leliefontein, WC	54%	R166.8m	New carriageway Upgrade of old carriageway	Triamic Construction
N7 from Kalbaskraal to Abbottsdale, WC	33%	R262.8m	Upgrade from single to dual carriageway	Triamic Construction
N7 from Abbottsdale to Voortrekker Rd Interchange, Malmesbury, WC	77% *	R96.9m	Upgrade to freeway standard with access roads	Stefanutti-Stocks Power JV
N7 Malmesbury to Hopefield Interchange, WC	31%	R93.9m	Upgrade from single to dual carriageway	Triamic Construction
N7 at Olifants River, WC	87%	R52.6m	New bridge over river	Stefanutti-Stocks KZN
N12 at Olifants River, WC	82% *	R37.7m	Widening of two bridges	Bates & Kennedy Manyano
N14 from Olifantshoek to Kathu, NC	45% *	R22.4m	Improvement of three intersections on N14 in Kathu	KPMM Roads & Earthworks
N8/R31, N12/R31 & R31/R357 intersections on outer ring road, Kimberley, NC	44%	R37.1m	Construction of three roundabouts	Tau Pele Construction

* Indicates a time delay on contract with associated cost overrun

Major projects completed during 2017/18

N1 from Trompsburg to Fonteintjie, FS	100% *	R86.9m	New two-lane carriageway and demolition of old road	Aveng Grinaker-LTA
N8 from Bloemspruit to Sannaspos, FS	100% *	R18.0m	Widening, partly to dual carriage Rehabilitation	Raubex Construction

R24 near Rustenburg, NW	100%	R65.2m	Upgrade from single to dual carriageway	WBHO Construction
N11 from Middelburg to Loskop Dam, MP	100% *	R49m	Widening of road Reconstruction New bridges and culverts	KPMM Roads and Earthworks
R570 from N4 to Jeppes Reef, MP	100% *	R567.6m	Improvement of road	Triamic Construction
N7 from Citrusdal to Cederberg, WC	100% *	R1.8m	Improvement of road	Haw & Inglis
N7 at Clanwilliam, WC	100% *	R73.5m (SANRAL's portion)	Realignment of road at Clanwilliam Dam	Haw & Inglis

* Indicates a time delay on contract with associated cost overrun

Projects on toll roads managed by SANRAL

Section of road	Percent complete	Value of work done 2017/18	Scope of work	Main contractor
N1 from Ventersburg to Holfontein, FS	70%	R174.1m	New carriageway Rehabilitation of existing carriageway	Aveng Grinaker-LTA
N1 from Holfontein Interchange to Kroonstad, FS	95% *	R154.3m	New dual carriageway Rehabilitation of old dual carriageway	Hillary Construction
N1 from Winburg Interchange to Winburg Station, FS	96% *	R158.5m	New dual carriageway Rehabilitation of old carriageway	WBHO Construction
N1 Musina Ring Road, LP	52% *	R146.6m	New single carriageway Several bridges	Basil Read
N1 Polokwane Eastern Ring Road, LP	65%	R195.5m	Double-up existing road Four new bridges Strengthening of pavement	Basil Read

* Indicates a time delay on contract with associated cost overrun

Toll roads under concession

Collectively TRAC, N3TC and Bakwena awarded seven new construction contracts to the value of R1 896m during the course of 2017/18. The largest of these were:

- A R582.2m three-year contract awarded to Raubex by Bakwena for the construction of a

new carriageway on the N4 between the M17 and the Brits Interchange in the North West. The upgrade will significantly increase the capacity and safety of this road.

- A R466.8m contract awarded by TRAC for lane additions and rehabilitation of the N4 between Belfast and Machadodorp,

Mpumalanga. Work is scheduled to take three years and will be undertaken as a joint venture by WBHO and Motheo.

- A R450m two-year contract awarded by N3TC to Basil Read for the rehabilitation of the N3

between Cedara and Mooi River, KwaZulu-Natal.

Details of these and additional contracts entered into during 2017/18 appear in the table below.

New construction and rehabilitation contracts on toll concessions awarded

Project	Start and end date	Value of contract	Scope of work	Main contractor
TRAC				
N4 from Bronkhorstspuit to Bossemanskraal, GP	Feb 2018 - Feb 2019	R139.3m	Rehabilitation of existing carriageway: milling and replacing	Roadmac Surfacing
N4 between Belfast and Machadodorp, MP	Jan 2018 - Jan 2021	R466.8m	Upgrading: lane additions	Concor
N3TC				
N3 from the Villiers Interchange to Dasville, FS	Mar 2018 - Feb 2019	R87m	Rehabilitation	Roadmac Surfacing
Bakwena				
N4 from M17 to Brits Interchange, NW	Mar 2018 - Mar 2021	R582.2m	Addition of second carriageway. Includes extension of structures and realignment of ramps to tie in with new carriageway and a bridge over the Crocodile River	Raubex
N4/R511 Interchange in NW	May 2018 - Jan 2019	R59.2m	Upgrading of interchange by provision of west facing ramps	Raubex
N4 from R512 to Buffelspoort, NW	Apr 2018 - Nov 2018	R111.4m	Rehabilitation of N4 westbound carriageway	Roadmac Surfacing

The total value of construction and rehabilitation work performed during 2017/18 on toll routes under concession was R1 565.9m. Details of the location and nature of relevant projects appear in the table below (pages 31 and 32).

Most projects on toll road concessions that were completed during the year were delivered within budget and according to schedule:

- The TRAC contract for upgrading and rehabilitating the N4 between Hectorspruit and Komatipoort in Mpumalanga came in on time and at the original contract value.
- An 11% saving was achieved on the Bakwena

project on the N4 between Zeerust and Lehurutshe in the North West which was completed on schedule, and with a 2% saving on the contract for the section between Swaruggens and Groot Marico although this project was delivered a month late.

- Two of the three N3TC projects were completed on time (or virtually on time) and on budget, but the third – for the rehabilitation of the N3 from the Harrismith/ Warden Interchange, extending towards Warden – ran six months over schedule and 9% over the original contract amount. A combination of factors contributed to the delay: non-availability of materials, additional works and adverse weather.

Ongoing construction and rehabilitation projects on toll route concessions

Section of road	Percent complete	Value of work in 2017/18	Scope of work	Main contractor
TRAC				
N4 from Malag Hotel to Montrose Waterfall T-junction, MP	67%	R179.3m	Upgrading: additional lane Reconstruction of existing road	Raubex Construction
N4 from Kromdraai / Highveld Steel interchange to OR Tambo interchange, MP	67% *	R206.3m	Upgrading: additional lanes Reconstruction of existing road	Raubex Construction
N3TC				
N3 from Cedara to Mooi River, KZN	25%	R450m	Rehabilitation	Basil Read
Bakwena				
N4 from Vaalkop to Swaruggens, NW	45%	R75.5m	Reconstruction of road	G4 Civils

Completed construction and rehabilitation projects on toll route concessions

Section of road	Percent complete	Value of work in 2017/18	Scope of work	Main contractor
TRAC				
N4 between Hectorspruit and Komatipoort, MP	100%	R80.8m	Upgrading: lane additions Reconstruction of existing road	Raubex
N3TC				
N3 from Harrismith/ Warden Interchange in the direction of Warden, FS	100% *	R127m	Rehabilitation	Roadmac Surfacing
N3 from Frere Interchange to Colenso/ Winterton Interchange and onward almost to Bergville Interchange	100%	R109m	Resealing	Roadmac Surfacing
N3 from Warden Interchange to Wilge Plaza, FS	100%	R46m	Rehabilitation	Roadmac Surfacing
Bakwena				
N4 between Zeerust and Swartruggens, NW	100%	R83.6m	Rehabilitation	WBHO
N4 between Swartruggens and Groot Marico, NW	100% *	R121.4m	Rehabilitation	G4 Civils
N1 between Pumulani Toll Plaza and Hammanskraal, GP	100%	R113.9m	Rehabilitation	Murray and Robberts

* Indicates a time delay on contract with associated cost overrun

1.2 Road network management and maintenance

The national road infrastructure is an asset of immense value and requires active management in order to preserve it and expand it in response to changing road use patterns occasioned by urban growth and socio-economic development.

SANRAL undertakes a never-ending cycle of surveillance of the state of national roads, utilising both automated systems and human observation. This data, combined with information on traffic flows and predictions on future road use, forms the basis of planning for road development, improvement, rehabilitation and maintenance.

The integration of information and communication technology (ICT) systems into the management of some of the busiest freeways in the country has taken road network management to another level, with real-time information on traffic flows and incidents available to traffic control centres which activate emergency response services. The installation, maintenance and upgrading of these ICT systems has now become an essential part of road management on these urban freeways.

Pavement management

SANRAL accords the highest priority to road maintenance in order to protect road assets and prevent deterioration. Maintenance includes routine tasks such as drain clearance, grass cutting and pothole filling, as well as periodic interventions, such as resealing and new overlays.

The effectiveness of the agency's maintenance programme is measured against internationally used measurements:

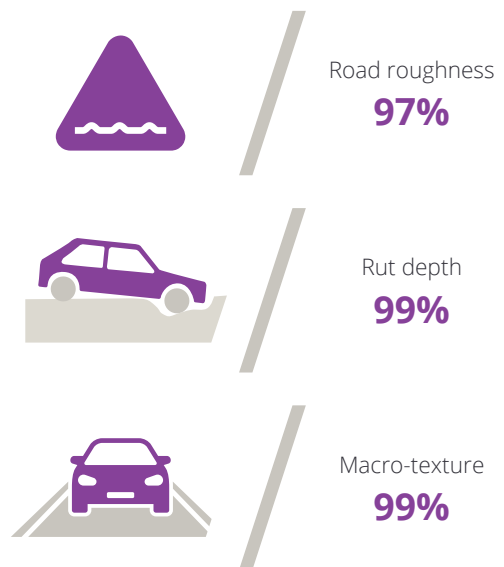
- Road roughness, for which the desired standard is less than 4.2m/km.

- Rut depth, where standard is less than 20mm. Depressions deeper than this can hold water and cause vehicles to aquaplane.
- Macro-texture, where the desired texture is higher than 0.4mm. The coarseness of the road surface affects friction and safety at speeds exceeding 60km/h in wet conditions.

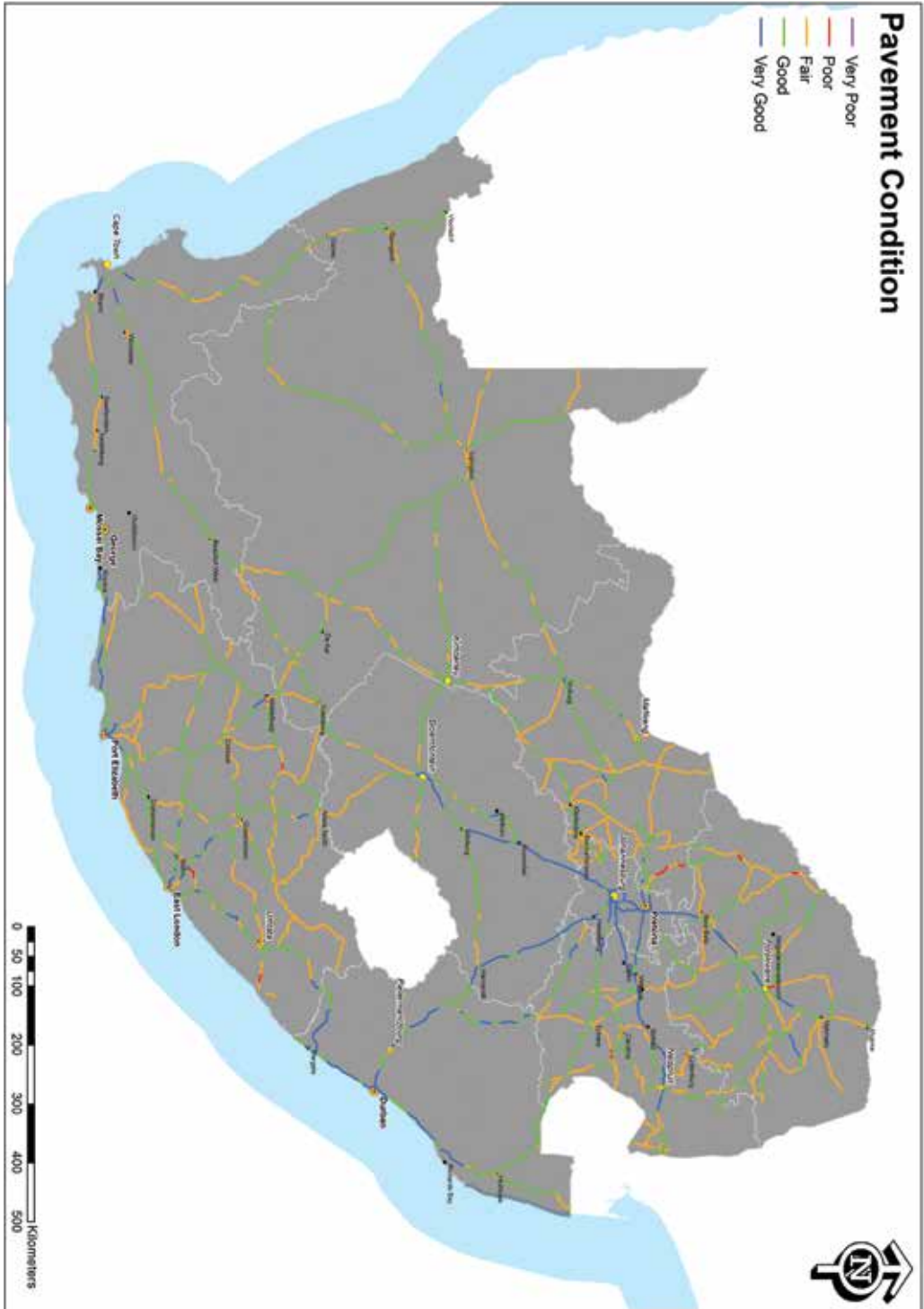
South Africa's national roads scored very highly in 2017/18: between 97% and 99% of travel on these roads met the minimum requirement. The figures have been stable over the last three years showing consistency in road maintenance. In recent years, some provincial roads in sub-optimal condition have been added to the national network. SANRAL has made a concerted effort to improve the newly incorporated roads and this attention has ensured that overall performance has remained high.

See map on Pavement Condition on next page.

Percent of travel in 2017/18 on roads meeting international standards



Pavement condition on national roads 2017/18



Bridge management

In 2017/18 the national road system included 9 874 bridges and major culverts large enough to require inspection every five to six years by accredited inspectors of the Committee of Transport Officials (COTO) in order to ensure they are in good condition. The above figure includes 927 bridges and culverts on routes managed by concession holders.

The majority of bridges and culverts were inspected in the period 2015 to 2017. In addition, wherever road upgrades include new bridges and culverts, inspectors ensure that these structures meet the specified flood capacity standards.

Overall, 93% of travel on national roads in 2017/18 involved bridges considered to be in good condition. This was slightly lower than in 2016/17 when the figure was 94%.

Bridge condition exposure measurements

Description	2015/16 Actual	2016/17 Actual	2017/18 Actual
Percentage of travel over or under bridges on national roads with OCI higher than 70%*	93	94	93

*The Overall Condition Index (OCI) threshold for structures in good condition or better is 70%

When older roads are taken over from the provinces the roads, bridges and culverts are generally in a poorer condition than the rest of the network and this negatively affects the bridge condition exposure index.

SANRAL has begun to commission bridges that feature integral design. This eliminates the use of roadway joints and bearings and reduces maintenance. The first long integral bridge – a 91m structure over the Van Zylsprit on the N1 south of Bloemfontein – has been constructed and its performance is being closely monitored.



Slope management

SANRAL undertakes proactive management of unstable slopes in all regions.

In the Northern and Eastern Regions, personnel responsible for routine road maintenance (RRM) monitor the condition of slopes with the assistance of specialist service providers and action is instituted to mitigate risks where necessary. In the Southern and Western Regions, long-term contracts are in place for the management of high cut-and-fill slopes. These long-term contracts will be extended to the other regions in due course.

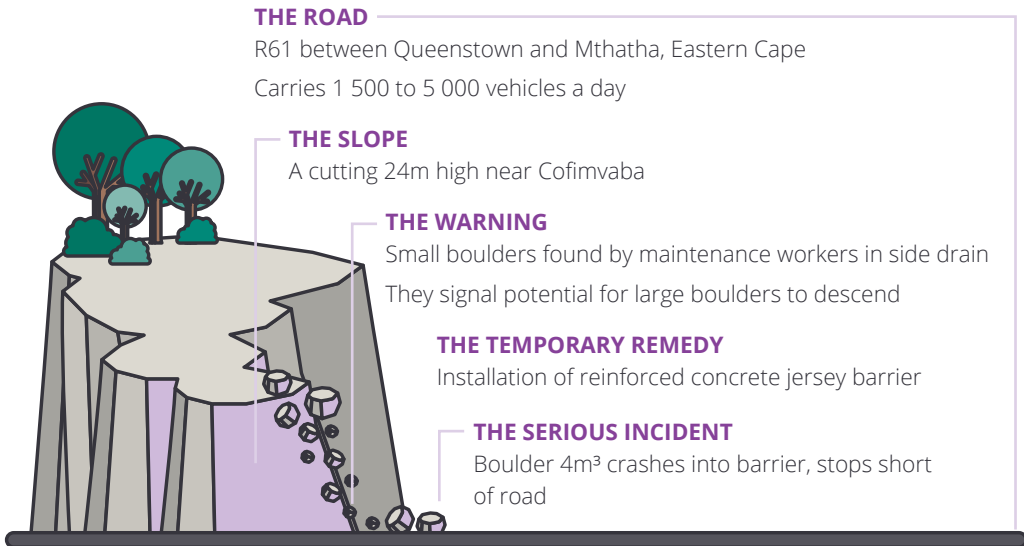
In the Western Region, 945 slopes have been assessed according to SANRAL's slope management system, while in the Southern Region about 2 300, or 60% of the total number

in the region have been assessed. Overall, about 80% of roadside slopes assessed in the two regions were in fair to good condition, while about 20% are in need of attention. These are now being prioritised.

Detailed visual inspections of the concrete retaining structures in place on various slopes are to be assessed in the next phase. Ground anchors will also be inspected, stress tested and maintained during this phase.

RRM contractors are required to report regularly on slope-related incidents in their areas so that remedial measures can be taken. In the Southern Region eight serious incidents were reported by road maintenance teams during 2017/18 and assessed by the specialist contractor.

How slope management works:



THE PLANNED SOLUTION

This is likely to include:

- Breaking up of boulders
- Anchored cable-mesh panels to stabilise large boulders
- Steel mesh drapery over entire cut-face
- Shotcrete application to some areas
- Rock bolts to secure major planar or wedge failure zones

Routine road maintenance

In 2017/18 SANRAL's four regional offices entered into RRM contracts to the value of R2 166m. These contracts covered both non-toll and toll roads, excluding those under concession.

The total value of road maintenance contracts was about the same as in the previous two years. However, there are considerable year-on-year variations at regional level. Factors such as the incorporation of provincial roads or inclement weather conditions affect regions unevenly and play a substantial role in determining SANRAL's RRM allocations to regions.

Between 2012 and 2016 SANRAL assumed responsibility for a considerable number of provincial roads. This led to a large increase in RRM spending in 2015/16 as most of the newly acquired roads were in a poor to very poor state. In 2016/17 many of these roads were classified as capital projects and removed from the maintenance function. Since then RRM spending has decreased: it averaged R57/km in 2016/17 and dropped to R51/km in 2017/18.

RRM contracts have been a key instrument to advance economic participation by black-owned, locally based SMMEs. Contracts can easily be localised, capital equipment requirements are relatively modest, and skills can be acquired quickly.

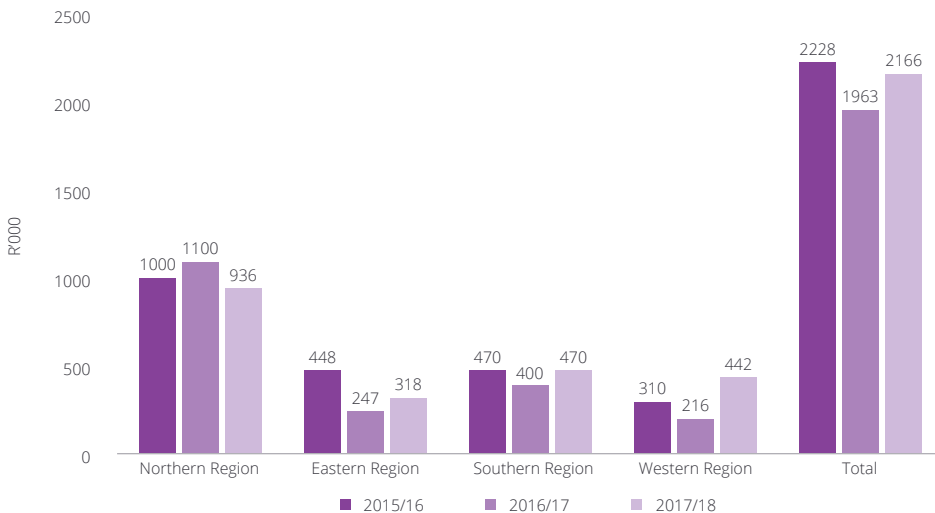
Value of road maintenance contracts 2017/18

Road area	Contract value
Northern Region: Gauteng, Mpumalanga, Limpopo and North West	R936m
Eastern Region: Free State and KwaZulu-Natal	R318m
Southern Region: Eastern Cape	R470m
Western Region: Northern Cape and Western Cape	R442m
Total for SANRAL-managed roads	R2 166m

In respect of toll roads under concession, the responsible companies collectively spent R101m on RRM.

- TRAC's expenditure was R35m, distributed across 12 SMME contracts.
- N3TC, with five contracts in place, spent R35.2m. SMMEs participated mainly as sub-contractors and earned between 15% and 20% of spending on each contract.
- Bakwena allocated all its routine road maintenance contracts to SMMEs and spent a total of R37.1m.

Three-year trend in routine road maintenance contracting

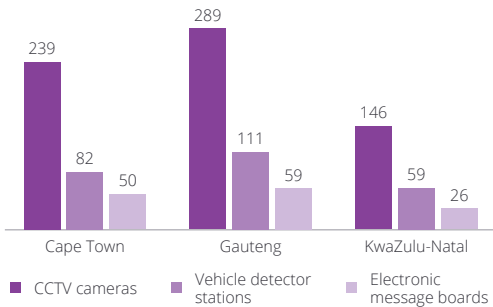


Smart road systems

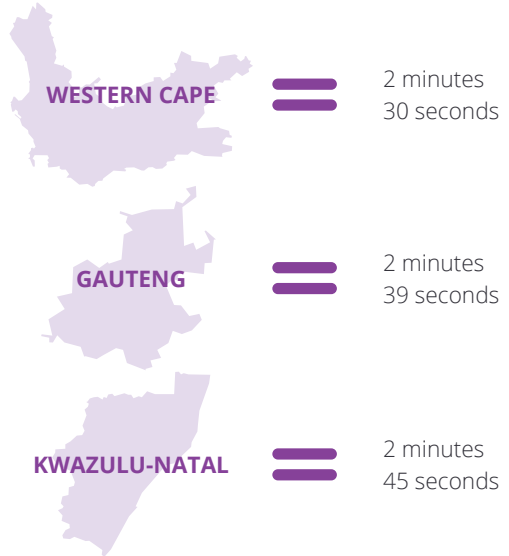
In the space of a few years, information and communication technology have become an integral part of the management of the busiest freeways in the country's major urban centres. Smart freeway management systems are in place on the freeways of Cape Town, Gauteng and the busiest sections of freeway in KwaZulu-Natal.

Networks of CCTV cameras and vehicle detector stations, with a 24-hour control centre at their heart, create the conditions for rapid emergency responses to all kind of incidents, saving lives where collisions occur, and saving congestion and commuter time in almost all instances. The ability to communicate about traffic conditions from the control centres to the public, via electronic messaging boards on the freeways, social media platforms and local radio stations, assists road users to avoid areas of congestion and plan their routes.

Freeway management systems infrastructure 2017/18



The average incident detection time in 2017/18

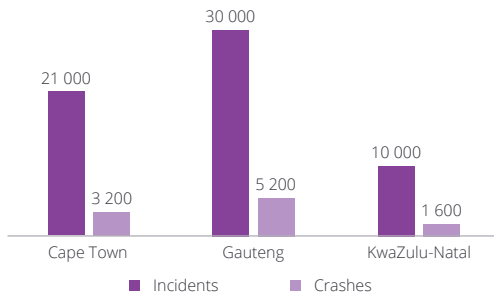


The ultimate success of the system lies in the interface with first responders and their capacity to react swiftly. Gauteng, which deals with the largest number of incidents and a high ratio of crashes, has a dedicated fleet of on-road services that are on the scene before the emergency medical services arrive in six out of 10 cases.

In all areas, the freeway management system has enhanced the safety of road users. It has proved invaluable in gaining road user cooperation and directing major planned freeway closures – for example, during critical Eskom maintenance on overhead power lines across the R21 in Gauteng and the demolition of the Old Oak Bridge on the N1 in Cape Town.



Freeway management systems: incidents and crashes 2017/18



Freeway management systems also facilitate sophisticated analysis of traffic and incident data, enabling management teams to identify high risk areas and plan accordingly.

In all three metro areas:

- Software refinements are ongoing in order to improve the functionality of the system and increase access to information.
- There is continual improvement in the use of digital communication systems – websites, social media platforms and message boards on highways – to supply real-time information to road users.

In Cape Town, the addition of a mobile CCTV trailer and experimental use of a camera with panoramic surveillance capability have extended the system in a flexible way. For example, the mobile facility was used to monitor a crime hot spot and to ensure safety outside Parliament during the State of the Nation address in 2018.

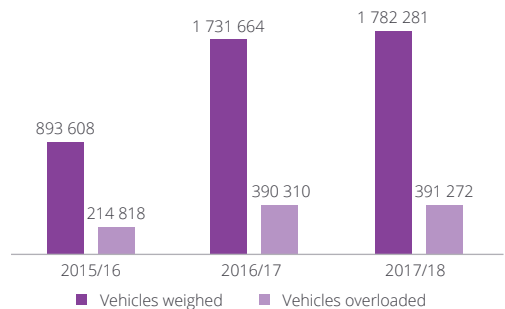
Information and communication technology have also been deployed in automated toll fee administration and the development of an integrated system for this countrywide. The three concession holders on national toll routes have all cooperated to make this possible.

Combatting vehicle overloading

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 set up weighbridges on national routes across the country and works with local law enforcement authorities to impose penalties for overloading.

In 2017/18 approximately 10.5m vehicles were screened using weigh-in-motion devices at weighbridges. A total of 1.78m vehicles that were possibly overloaded were directed for weighing on the static scale.

Vehicles weighed at SANRAL weighbridges and number overloaded

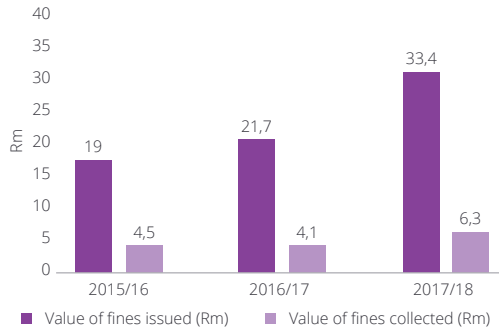


In recent years the number of vehicles weighed has almost doubled and the value of fines imposed increased from R19m in 2015/16 to R33m in 2017/18. However, the value of fines recovered relative to fines imposed has dropped below one in five Rands, while the rate of overloading remains high, at 22% of all vehicles statically weighed. The number of drivers charged in 2017/18 amounted to just 8% of the number of overloaded vehicles.

Traffic control centre data

	Established traffic control centres (12-month data)	Total- Including ER sites
Vehicles weighed	1 696 647	1 782 281
Vehicles overloaded	388 873	391 272
Drivers charged	28 324	30 623
Drivers arrested	1 001	1044
Fines issued	R31 313 000	R 33 452 300
Fines paid	R6 041 000	R 6 277 975

Value of fines issued at SANRAL weighbridges vs value of fines collected



Overloading measures by concession-holders

The three toll road concession holders all have facilities to weigh vehicles and relationships with relevant traffic authorities to impose sanctions where required. Data on overloading are collected and analysed. At Bakwena weighbridges fines to the value of R7.4m were imposed and R2.3m in fines was collected during the year.

Number of vehicles weighed and number overloaded

	TRAC	N3TC	Bakwena
Total number of vehicles weighed	>844 300	185 579	364 405
Overloaded but within grace limit	-	46 168	
Overloaded	8 707	5 674	6 928

Vehicle safety Inspections

SANRAL has eight vehicle inspection facilities at major weighbridges which tested 10 652 vehicles in 2017/18. Of these, 30% failed to meet road safety standards. Traffic police on site either issued fines to the drivers or removed the vehicles from the road.





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.

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 2017/18. There were 936 long-term traffic-monitoring stations in operation and 789 short-term traffic-monitoring counts were conducted.

1.3 Going forward: sector transformation

SANRAL has a proven track record for effective management of South Africa's national roads. The agency's contractual relationships with construction companies of the highest calibre have resulted in outstanding design and the innovative application of the best available technology in major road development projects.

SANRAL is proud of this reputation and confident it can be enhanced by taking a more assertive stance on economic transformation and the building of a more equitable and stable country.

The strengthening of the construction industry and the empowerment of black business and professionals within this industry are not opposing goals but compatible strengths. SANRAL's task in the next few years is to build confidence and the social will within the industry, among potential black investors, in the labour movement and civil society more broadly to advance economic transformation while upholding competence, creativity and responsibility.

Already 64% of contracts – representing 53% of contract value – are being awarded to companies in which the majority of shares are owned by black people.

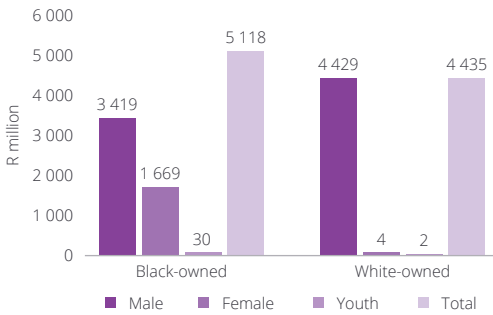
SANRAL's Transformation Policy seeks to build on this substantial foundation. It should be noted that the empowerment of black entrepreneurs has allowed black women to rise within this sector. Black women held 38% of all contracts with black-owned companies. This is in sharp contrast to the virtual absence of women among the white owners of construction companies.

TRANSFORMATION POLICY

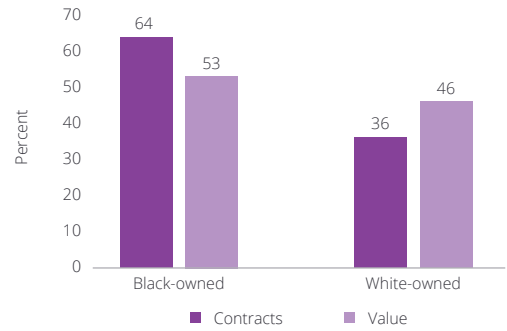
OF THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED



Value of SANRAL 2017/18 contracts by ownership of contractors



Share of 2017/18 contracts and contract value by ownership of contractors



Competency certification of black-owned companies

The Construction Industry Development Board (CIDB) operates a voluntary grading system. SANRAL had contracts with 840 CIDB-graded companies with a majority of black shareholders. As can be seen, the majority have capacity at the lower end of the scale, but there is a modest selection of black-owned companies at the top end and this will surely grow. CIDB registration is an absolute requirement for companies to compete at prime contract level for SANRAL work.

CIDB gradings of registered black-owned construction companies

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Total
Number	422	69	66	86	58	61	27	28	23	840
Percent	50%	8%	8%	10%	7%	7%	3%	3%	3%	100%

Despite progress made, socio-economic transformation remains a huge challenge which should not be underestimated. It demands to be addressed with seriousness, expertise and consistency.

A major strategic factor that needs to be decided in the near future is the optimal extent of the national road network. The incorporation of provincial roads into the network has at

times been driven mainly by a desire to resolve road management issues in certain provinces. However, public sector funding for the development, improvement and maintenance of national roads has not kept pace with the expansion of the network. If this trend continues, available funding will be stretched too thinly and there is a real risk that the quality of roads across the entire network will begin to suffer.



N2 WILD COAST

Road out of isolation

The N2 Wild Coast Road is a project of many parts. But fundamentally it is about economic and social redress for a region that was arguably apartheid's most neglected backwater. Still isolated and deeply impoverished, this part of the Eastern Cape cannot dream of a brighter future without physical connection to the economic and social mainstream.

This is precisely what the N2 Wild Coast Road will offer.

The project involves the construction and upgrading of 410km of road between East London and Port Edward. There are long stretches of brownfields work, involving the upgrading of the R61. This has been under way for several years.

Then there is the greenfields stretch, 96km of new highway passing through largely undeveloped countryside from Ndwalane to Lusikisiki and onward, almost to Port Edward.

The landscape is postcard perfect: endless green hills and deep river gorges. The construction challenges of this scenic beauty can be gauged from the need for seven major bridges and two mega-bridges on the greenfields section alone.

Work on one of the mega-bridges, over the Mtentu River near Lusikisiki, began in January 2018. When it is completed – in about three years' time – this main-span cantilever structure will be the highest bridge in Africa, rising 220m above the river and extending for 1.1km.

The bridge construction contract was awarded to the Aveng Strabag Joint Venture, which

harnesses a combination of European and South African expertise. The contractor has earmarked R100m for SMME contractors and suppliers, and R30m for wages for local workers.

In all, the greenfields component is expected to contribute R2.7bn to SMMEs and R400m in wages for unskilled and semi-skilled workers. This is a powerful economic injection into a remote rural region where people depend largely on social grants and the salaries of migrant workers.

But development comes at a price and road construction is rarely confined to stone and asphalt. In preparation for the mega-bridge projects, SANRAL has dealt with a range of sensitive issues – from the relocation of graves and homes to a search and rescue operation involving the relocation of 30 000 plants.

The fact that residents have accepted the give-and-take of development speaks partly to SANRAL's investment of effort in community relations, but also to local people's grasp of the bitter price of isolation.

When the N2 Wild Coast Road is complete, travel time between East London and Durban will be reduced by three hours. The Wild Coast may begin to realise its massive tourism potential. A string of rural towns and villages will be linked to each other and to cities. The perils of travel on inferior roads will be eliminated and hospitals, high schools, colleges and commercial centres will at once be within reach.



THE MOLOTO ROAD

Putting safety first

The Moloto Road has earned its grim label, “road of death”, and safety considerations have been foremost in the upgrade of this busy 139km route.

The road, formally known as the R573, runs through three provinces – from north of Pretoria in Gauteng, through KwaMahlanga and Siyabuswa in Mpumalanga, to Marble Hall in Limpopo. From before dawn to after dusk, there is a ceaseless flow of commuter, commercial and industrial traffic along a road flanked by 33 settlements that hug – and sometimes encroach into – the road reserve.

In early 2018 government allocated R4.5bn for the upgrade. SANRAL will spend R3bn of this amount for the Limpopo and Mpumalanga sections as it is directly responsible for improving these. The Gauteng Provincial Government will be responsible for work within the province’s borders where the Moloto Road is classified as a provincial road. The total project is expected to take five to seven years.

It is estimated that 12 500 jobs will be created in communities along the road over the course of the project, half of them in Gauteng and the rest shared between Limpopo and Mpumalanga.

Work on the first phase of the Mpumalanga section began in early 2017, with a focus on

safety features, such as the construction of roundabouts at busy intersections, the closure of unsafe access roads, the improvement of bus bays and the provision of lighting. This work will be completed in mid-2018, while the first phase in Limpopo is just gearing up.

Unfortunately, work on the Moloto Road upgrade has been vulnerable to disruption by local businesses that believe they are entitled to contracts under government’s economic empowerment policies. High level SANRAL delegations to the area have helped manage this friction and increase understanding of the rules of participation for local companies and workers.

Developmental challenges in the area also present hurdles in the form of informal trading and shack settlements within the road reserve. The temporary relocation of these businesses and homes has to be negotiated with the assistance of municipal authorities. Although road safety was the burning issue that made the Moloto Road a priority, there are signs that other long-term benefits will flow from the project, including a growth in formal sector work opportunities.



MT EDGECOMBE INTERCHANGE

Engineering wizardry in motion

In March 2018, the ramps to the Mt Edgecombe Interchange in eThekweni opened and vehicles flowed freely over the magnificent set of bridges created to ease the traffic congestion caused by urban development in the north of the metropolis.

The interchange links the N2 and M41, connecting residents of Phoenix and uMhlanga with the city of Durban and the North Coast of KwaZulu-Natal. About 40 000 vehicles a day join or leave the N2 at this point and traffic used to back up a long distance up the M41.

The construction of the interchange was funded jointly by SANRAL and the KwaZulu-Natal Department of Transport and the work was undertaken by the South African branch of the Italian construction company, CMC di Ravenna.

The design features four levels of roadway and facilitates the free flow of traffic in all directions.

Two incrementally launched bridges – constructed simultaneously in sections from both ends – contribute to the elegance of the solution. The longer bridge, 948m in length and supported by 23 piers, is the longest incrementally launched bridge in South Africa.

In August 2017, the north and south decks of this bridge were “stitched” together by the in

situ casting of the final bit. Motorists simply went on their way oblivious to the moment of triumph being marked far above their heads.

Corné Roux, Project Manager for SANRAL Eastern Region, remarked: “Constructing one of the longest structures in South Africa over one of the busiest intersections in KwaZulu-Natal without closing any of the roads permanently, bears testimony to the success of the construction methods and materials.”

A pedestrian bridge has been constructed close to the interchange to ensure safe crossing of the N2 and connects to footpaths on either side.

The five-year project will be completed by June 2018 at a cost just under R900m.

At the height of activity, more than 800 individuals were at work on site. A total of 461 workers on the project – mostly young people – received training in skills such as steel-fixing, erection of scaffolding and the operation of construction tools. Despite the sophistication of the project, there was room for 21 SMMEs to participate and earn R59m.

This imposing interchange with its daring design has finally been brought to fruition by hundreds of humble workers.



CAPE-TO-NAMIBIA HIGHWAY

Doubling-up for tourism and trade

The N7 along the West Coast is steadily being upgraded and presently SANRAL is focused on a busy 40km stretch relatively close to Cape Town.

Eventually the improved N7 will support trade with Namibia while benefiting the fruit farmers of Citrusdal and Piketberg, seasonal tourists drunk on Namaqua flower power, and workers commuting daily into Cape Town.

The current R2.37bn upgrade extends roughly from Melkbosstrand to Hopefield and consists mainly of doubling the capacity of the road by creating a dual carriageway. Inevitably, this also involves the construction of wider bridges and improvement of multiple intersections to ensure safety under changed traffic conditions. Better management of pedestrian traffic around towns has been a major consideration.

The project has provided work for 600 local residents and business opportunities worth R297m for SMMEs in the area.

A feature of this initiative is the youth learnership programme that started in and

around Malmesbury with an investment of R1.4m by SANRAL's construction partners, Aecom, Stefanutti Stocks and Power Construction. This enabled 22 learners to complete NQF level 3 and 4 certificates in various construction disciplines. A special certification ceremony was held in Malmesbury Town Hall in November 2017.

The learnership initiative is being replicated by other contractors on the N7 upgrade and another 30 learners are expected to qualify.

The last phase of the current project is scheduled to be completed only in January 2020. But already the design phase has begun for further N7 upgrades, from Hopefield as far as the Piekenierskloof Pass. This will complete the N7 makeover because beyond the pass the road to Clanwilliam and onward to the Vooldsdrift border post has already been improved and is adequate for the traffic it carries.







2 Funding Capital

As a state-owned company incorporated under the Companies Act and a national public entity in terms of the PFMA, SANRAL's financial management must meet the requirements of both statutes. Details of the agency's finances and governance appear in Volume 2 of this report. The following summary serves to indicate how SANRAL's management of funding capital complements other aspects of its value creation.

SANRAL has two distinct areas of business, the operation of toll roads and the operation of non-toll roads, which are funded in different ways.

- An annual grant from the national fiscus, under Budget Vote 35, funds the development, upgrading, repair and maintenance of national roads that are not subject to tolling. These comprise 87% of the national road network.
- Toll levies and borrowings on commercial markets are the main sources of finance for the development, upgrading, repair, maintenance and operation of national toll roads directly under SANRAL's management, which constitute some 7% of the national road network.

SANRAL's toll roads comprise the following:

- Sections of the N1 in the Western Cape, Free State, Gauteng and Limpopo north of Bela Bela.
- A section of the R31 near Brandfort in the Free State.
- Several sections of the N2 in the Eastern Cape and KwaZulu-Natal, including near King Shaka Airport.
- A short stretch of the N4 just west of Pretoria.
- The N17 from Gauteng through to Ermelo in Mpumalanga.

- The Gauteng freeway system (N1/N3 and R21).

In addition, there are toll roads – comprising the remaining 6% of the national road network – for which 30-year concessions have been granted to private companies. These companies, TRAC, N3TC and Bakwena, have concluded public-private partnerships with SANRAL for the construction, maintenance and operation of the relevant routes.

Under these arrangements, the concession holders are responsible for raising capital for road construction, servicing this debt and funding all upgrades, rehabilitation and maintenance as well as operational costs. Toll revenue on these routes accrues to the concession holders. At the end of the concession period the roads are to be transferred back to SANRAL and must comply with specified standards at the time of transfer.

2.1 Annual income

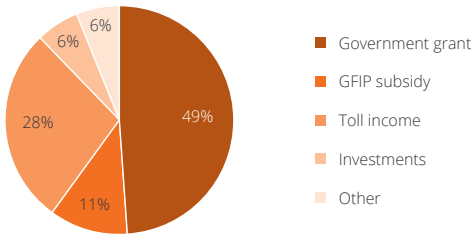
In 2017/18, SANRAL recorded total revenue of R16.285bn (2016/17: R13.95bn). An annual grant from the fiscus of R15.9bn was received. Of this grant:

- An amount of R463m (VAT incl) was earmarked for the Gauteng Freeway Improvement Project (GFIP), to off-set the loss of income resulting from lower toll fees under the dispensation announced by government in 2015.
- A further R1 900m (VAT incl) was also transferred to toll operations.
- The balance was allocated to non-toll roads and R6.3bn of this was apportioned to capital projects. At the end of the financial year, R2.9bn of the capital budget was unspent but committed to multiyear projects.

SANRAL recorded income amounting to R5 194bn from toll fees in 2017/18.

Revenue for non-toll operations is invested until required and this yielded income of R1.07bn in 2017/18. Other income is derived from rental on investment property, sundry and toll road concessions.

Sources of SANRAL income 2017/18



2.2 Grant income trends

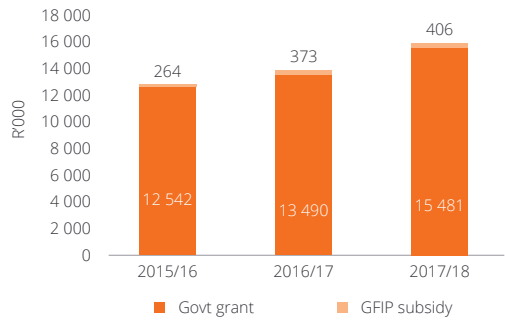
The annual grant made by National Treasury to SANRAL in respect of capital and operational expenditure on non-toll national roads amounted to R15 481m in 2017/18. This grant has increased steadily at a rate above inflation since SANRAL’s inception.

GFIP is the only SANRAL toll route that receives a government grant. This grant is intended to offset the discounts on tariffs which were instituted in response to public opposition

to tolling on Gauteng freeways. The amount has increased each year since the grant was instituted in 2015/16.

The Minister of Transport, representing SANRAL’s sole shareholder, also approved a transfer of R1 667m (net of VAT) to the GFIP account from the non-toll government grant in order to reduce the expected shortfall on this project. This is the first time such a transfer from non-toll to toll operations has occurred.

Growth in government grants to SANRAL 2015/16 to 2017/18



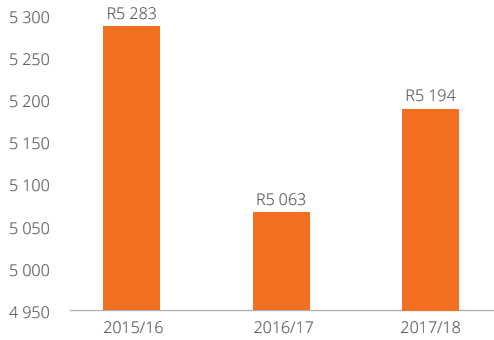
Note: All grants are net of VAT. In 2017/18 an amount of R1 667m (in addition to the GFIP subsidy) was transferred from the general grant of R15 481m to the toll road portfolio.



Total revenue realised across all toll routes managed directly by SANRAL amounted to R5 194m in 2017/18. This represents an increase of 5.77% on the previous year. The tariff adjustment for the year was restricted to a CPI-related rate of 5.9% and the improved revenue was mainly due to increased traffic volumes on these roads.

GFIP showed a downturn of 4.8% in revenue while all other toll roads operated by SANRAL realised an increase in revenue of 12.8%, about half of which was attributable to the tariff adjustment and the rest due to increased traffic.

Three-year trend in toll revenue on routes managed by SANRAL



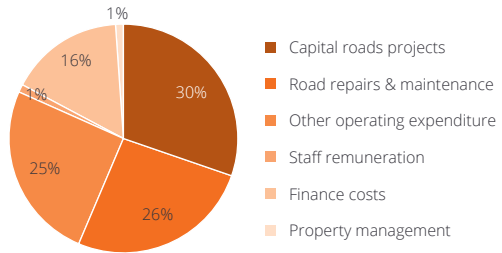
2.3 Annual expenditure

SANRAL’s total expenditure for 2017/18 amounted to R26 523m, and 66% of this spending was related to non-toll roads. Spending was approximately 2.3% lower than in 2016/17.

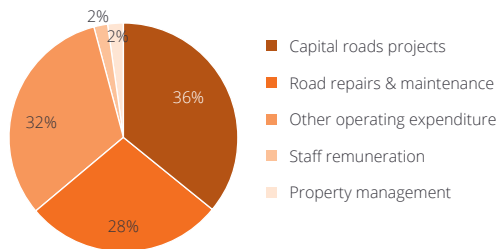
About one-third of total spending – across the combined toll and non-toll business streams – is allocated to capital projects and a further third to road repairs and maintenance. The patterns of expenditure on toll and non-toll roads are distinct.

- Major items of spending in relation to toll-roads are operational costs and finance costs, which feature in a minor way or not at all in non-toll road expenditure.
- Conversely, toll road expenditure features large allocations to operational costs and financing of borrowings, but these items are small or totally absent from non-toll road spending.

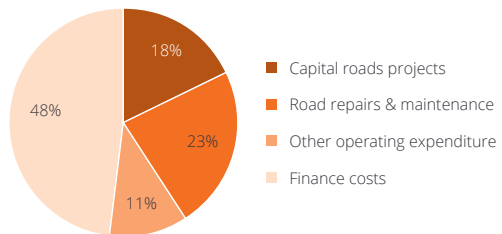
Major categories of expenditure: all roads managed by SANRAL



Major categories of expenditure: non-toll roads



Major categories of expenditure: SANRAL toll roads



2.4 Profit/loss before taxation

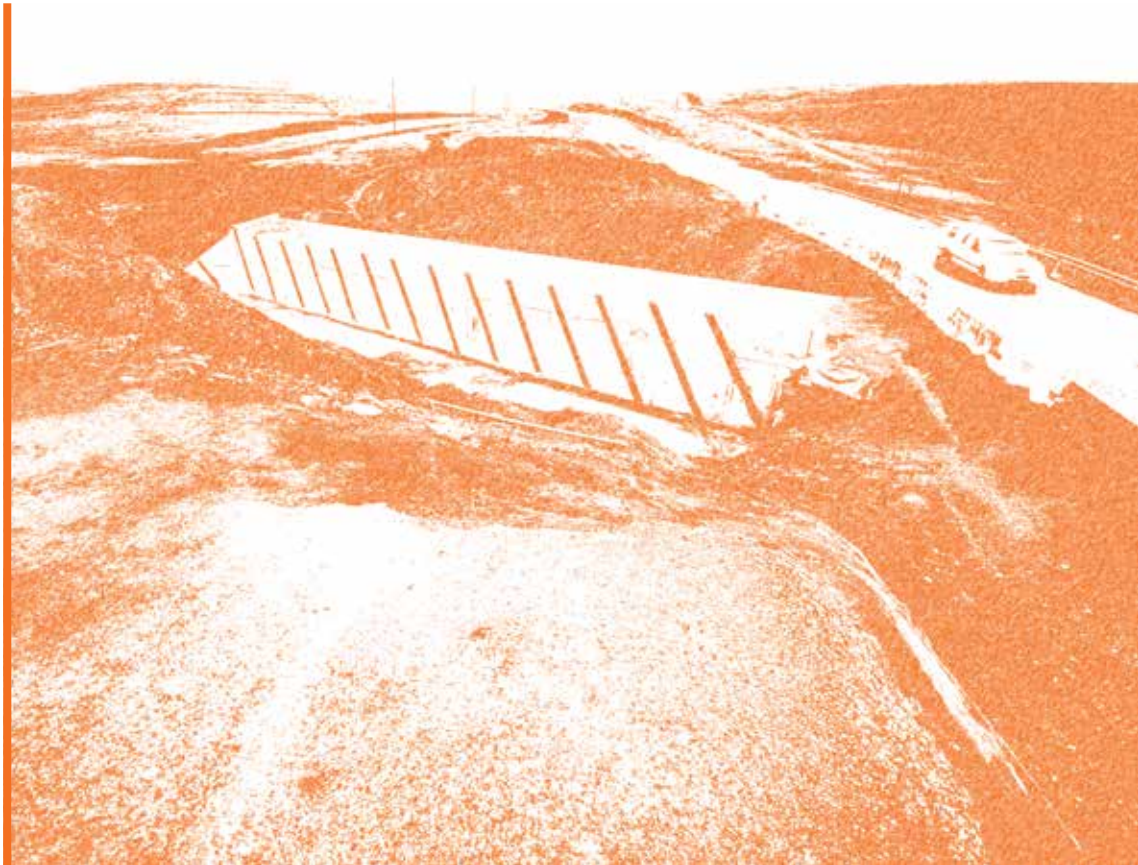
In 2017/18, SANRAL recorded a loss of R260m after the deduction of finance costs and before taxation. This was lower than the losses of R4 962m recorded in 2017/18 and R954.2m in 2015/16.

There was an operating deficit of R801m in respect of non-toll functions in 2017/18, compared to a deficit of R380m in the previous year and a surplus of R0.2m in 2015/16. This deficit was partly due to the transfer of funds from the non-toll business to toll.

Due to the improved revenue flow for toll roads, the cost of operating these roads were lower than revenue and the net profit (after deduction of finance costs) for the 2017/18 year was R541m. This was higher than the loss incurred in 2016/17 (R4 582m), largely due to the transfer from the non-toll business and exceeded the 2015/16 deficit of R1 125m.

Three-year profit/loss before taxation

Year	Non-toll operations	Toll operations	Total
2015/16	+R0.2m	-R1 125m	-R954m
2016/17	-R380m	-R4 582m	-R4 962m
2017/18	-R801m	+R541m	-R260m



2.5 Toll roads under concession

The toll roads under concession and the companies responsible are as follows:

- TRAC manages the N4 eastward to Maputo for the period 1997 - 2028.
- N3TC holds the concession for the N3 between Cedara in KwaZulu-Natal and Heidelberg in Gauteng for the period 1999 - 2029.
- Bakwena manages two routes: the N1 between Pretoria and Bela Bela in Limpopo and the N4 going west from Pretoria to the Botswana border and this concession is for the period 2001 - 2031.

All three companies are non-listed entities purpose-built for toll road management. Their shareholders are various, but all three include the Public Investment Corporation (PIC) which is responsible for investing the Unemployment Insurance Fund and the Government Employees Pension Fund.

Initial capital for construction of the toll roads under concession was raised by the relevant companies by shareholder contributions and borrowings on capital markets. The servicing of this debt is entirely the responsibility of the concession holders.

Revenue

The combined toll revenue of TRAC, N3TC and Bakwena during 2017/18 was R4 694m.

The companies retain this revenue.

Road infrastructure expenditure

The total expenditure of the three companies on capital road improvement projects in 2017/18 amounted to R1 566m and spending on road maintenance was R101m.

The second figure does not include the considerable operational costs of the toll system – the personnel, technology and infrastructure required to administer the collection of tariffs.

All three concession companies realised profit after tax on their annual operations in 2017/18.

Property portfolio management

Over the years, SANRAL has acquired a property portfolio in order to meet its mandate of building and improving roads. In the processes 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.

A total of 383 were leased in 2018/19 and realised income of R21m during the year. Rentals in arrears for 90 days or more amounted to R826 696.

Properties include SANRAL's head office and its regional offices. Some of these have been recently constructed according to green building specifications and it is estimated that this has achieved savings of 40% on operating costs of the relevant building.

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.





3 Intellectual Capital

The design and engineering of roads and the management of road systems are dynamic fields with great opportunity for innovation. The scope and ambition of SANRAL's major projects present opportunities for the best professionals in the industry to produce creative and technologically advanced engineering solutions.

The agency takes pride, for example, in having commissioned the design of the longest and highest – and perhaps the loveliest – bridges in Africa. In 2017, the tender for the construction of the first of these bridges on the N2 Wild Coast Route was, in effect, a search for the highest order of engineering and construction expertise.

SANRAL has also developed in-house capacity for innovation in the application of smart technology to road management and the pioneering of geotechnical solutions to road engineering challenges.

3.1 Innovative design and research

SANRAL commissioned the construction of a major integral design bridge at Van Zylspruit in the Free State. The design, which eliminates the installation of metal expansion joints and bearings, has the potential to extend the life of the bridge.

The big question is: how well will the bridge hold up in South Africa's dry climate with wide daily temperature fluctuations? SANRAL decided to answer the question proactively by partnering with researchers from the University of Pretoria to monitor the performance of the bridge.

The research team has installed a battery of instruments on the bridge, including strain gauges to measure stress on the deck, temperature sensors, tilt meters and earth pressure sensors. Readings are constantly reported via the internet and analysed by the research team. The study will inform decisions on the wider use of integral design in South Africa.

The project has received a Fulton Award for Innovation in Concrete from the Concrete Society of Southern Africa.

3.2 Automated electronic toll payment

A national transaction clearing house for toll payments was developed as part of the Gauteng electronic toll collection system. It was the foundation of interoperability for electronic toll transactions across all toll plazas on national roads.

For the road user, this means that a single toll fee account and one tag fitted to a vehicle opens up cashless travel through all toll plazas across the country.

During 2017/18 the linkage of the last toll plazas was completed and the value of electronic toll transactions at "conventional" toll plazas rose 42%, from R1 430m in 2016/17 to R2 040m in 2017/18. The market share of electronic toll transactions at conventional toll plazas has reached almost 19%. The adoption of the electronic payment option by many road users has reduced congestion at toll plazas during busy periods.

3.3 Technical Innovation Hub

SANRAL's Technical Innovation Hub in Cape Town is powered by mechatronic and electrical engineering graduates who qualified with the assistance of SANRAL bursaries and are currently registered as candidate engineers with the Engineering Council of South Africa.

The central purpose of the hub is to produce smart solutions to challenges in areas such as road safety, asset preservation, and environmental and energy conservation. The following are examples of its early work:

- A pilot study on the use of a drone to inspect the state of rockfall catch fences in Sir Lowry's Pass, Western Cape. This is a new twist on the use of drones in inspecting bridges and slopes. It yielded images of high quality that

enabled geotechnical experts to conduct a visual inspection. The use of drones not only fast-tracks the inspection of steep slopes and inaccessible cuts, but also reduces safety risks by eliminating the need for abseiling into these areas.

- The development of a robotic flagger for roadworks on hazardous high-volume routes. This device, which would reduce the safety risk to road flaggers, is currently being tested. Its usefulness in the dark has already been established and its use over extended periods is being investigated.
- The development of a panoramic camera system – in reality a device utilising multiple cameras – to eliminate “blind spots” in freeway incident detection systems. The device uses image-stitching software to create a coherent panoramic image and initial tests in the Western Cape have been promising.

3.4 Geotechnical solutions

Nanotechnology stabilisation of materials

SANRAL technical experts have developed a theoretical solution to stabilising inherently unstable road building materials by the application of nanotechnology-based resins normally used in industrial processes.

If the theoretical approach is sound, a wide range of lower grade and marginal stone materials could be stabilised and successfully used. This would make road-building more affordable and reduce its environmental impact by making it easier to source materials close to the construction site. The agency intends to test the solution when a suitably situated construction project of modest size comes on stream.

Rehabilitation approach for new contractors

A technique has been developed that will enable new contractors to undertake the reinforcement of pavement in climbing lanes on mountain passes. The approach was successfully demonstrated during a SANRAL project in the Abel Erasmus Pass in Limpopo. It is based on the extensive experience of construction company Roux, Hatting and Van Zyl and overcomes skills and equipment constraints which often put geotechnical rehabilitation projects beyond the reach of emerging contractors. This concept emerged from innovative work done in conjunction with Teichmann and Terra Strata. A new product developed by Tosas would be ideal for use in future projects.



4 Social and Relationship Capital

SANRAL takes seriously its potential to help alleviate the major social and economic challenges of our country: widespread poverty, high unemployment and extreme inequality. It does so principally by incorporating strong social transformation principles into the conduct of its core business.

The terms of all the agency's contracts are such that SMMEs – and particularly black-owned SMMEs – are prioritised for sub-contracts in all construction projects and road maintenance work. In addition, there is an attempt to promote local sourcing of services and the participation of women and youth, not only through sub-contracting but through employment on these projects and associated training.

Further avenues for creating social value are:

- SANRAL's community development projects, which enhance road infrastructure in communities close to but generally off the national road network.
- Its road safety programme, which combines the engineering of safer roads with road safety education and interventions to improve the response to road incidents.
- The contribution it makes to universities in terms of their training of engineers and road transport professionals, the research they undertake and their projects to improve performance in maths and science at school level.

Toll road concession companies are all contractually obliged to undertake social programmes and they fulfil this responsibility in different ways, according to local needs and their corporate culture.

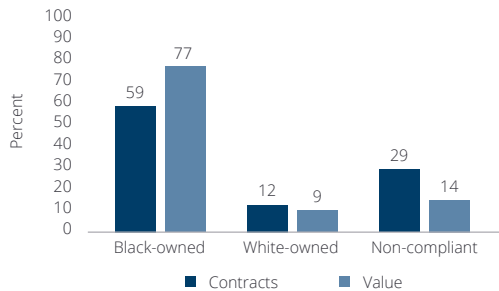
4.1 Empowerment, job creation and skills building

Contracting SMMEs

SANRAL provided 1 886 opportunities for SMMEs to participate in road construction,

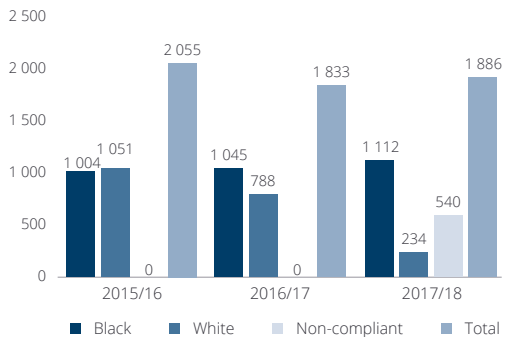
rehabilitation and maintenance projects during 2017/18 and the total amount earned through these contracts was R3 087m. Black-owned SMMEs derived the greatest benefit, accounting for 59% of contracts awarded and 77% of the value of work performed. SMMEs described as "non-compliant" accounted to 29% of tenders.

Percentage share of SMME contracts and value of work 2017/18



Note: Non-compliant SMMEs are companies whose certificates expired during the contract period

Three-year trend in SMME contracts awarded

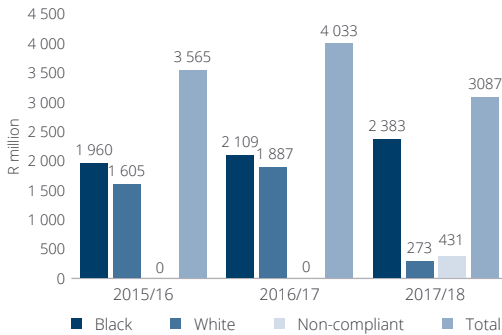


Note: Non-compliant SMMEs are companies whose certificates expired during the contract period

The number of contracts awarded to SMMEs dipped in 2016/17 and only slightly recovered in this reporting year. The total value of SMME tenders has declined substantially. Unforeseen tender management challenges experienced during 2017/18 in the awarding of principal contracts would also have constrained SMME sub-contracting.

However, contracts awarded to black-owned SMMEs have increased, both in absolute numbers and percentage terms. Similar trends are apparent in relation to the value of work undertaken by black-owned SMMEs. These figures indicate the successful implementation of prevailing empowerment policies in SANRAL.

Three-year trend in value of work performed by SMMEs



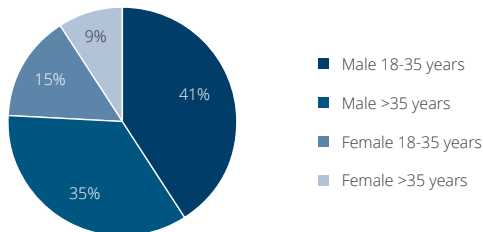
Note: Non-compliant SMMEs are companies whose certificates expired during the contract period

Creating employment

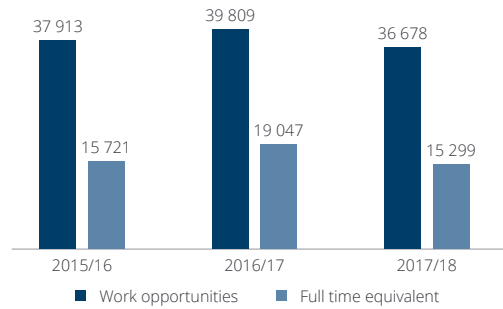
The contracting of SANRAL projects resulted in the creation of 36 678 work opportunities in 2017/18. Many of these opportunities arose from limited-term projects and were temporary in nature. They translated to the equivalent of 15 299 full-time jobs (FTEs).

- One in four work opportunities was taken up by a woman.
- Young men and women under the age of 35 years filled 57% of positions.

Share of 2017/18 work opportunities by age and gender



Three-year trend in work opportunities on SANRAL projects

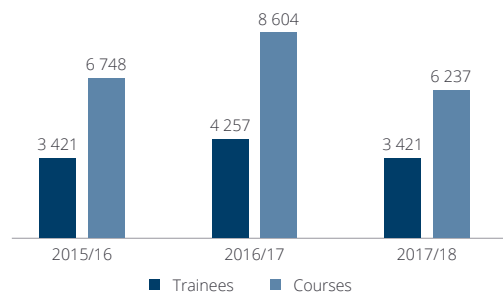


Fluctuations in work opportunities have been smaller than those related to the FTE index. This suggests that the length of work opportunities has been quite variable. The ratio of work opportunities for woman workers has increased somewhat in three years, from 20% to 24% while the youth component has dropped slightly from 59% to 57%.

Training of workers

Contracts opened up training opportunities for 3 421 workers in 2017/18 and the total number of courses undertaken was 6 237. The downward trend in work opportunities is reflected in the decrease in the volume of training compared to 2016/17.

Three-year trend in training provided on SANRAL projects



4.2 Community Development Projects

There was an upturn in community development activity in SANRAL in 2017/18 in terms of the number of projects in progress, value of work completed, SMMEs contracted and work opportunities created.

A total of 29 community development projects were underway in various provinces. The combined expenditure on these projects during the reporting period was R367m, which was 42% higher than in the previous year. Nine projects were completed, while eight new projects, valued at about R224m, commenced.

Community development projects generally involve local roads in communities situated close to the national road network, where the lives of residents may be affected by their proximity to major roads. Typically, these projects involve the construction of cement pedestrian walkways, the surfacing of gravel roads, improvement of culverts, installation of kerbs and lighting, the erection of pedestrian bridges, the improvement of intersections, and the addition of transport laybys and bus stops. In short, they contribute to a safer and more people-friendly road environment.

At the same, these projects create local business opportunities and offer temporary jobs and skills training. The selected construction projects are suited to labour-intensive building methods which generate a substantial number of work opportunities and can often be undertaken by inexperienced workers with the correct guidance and training.

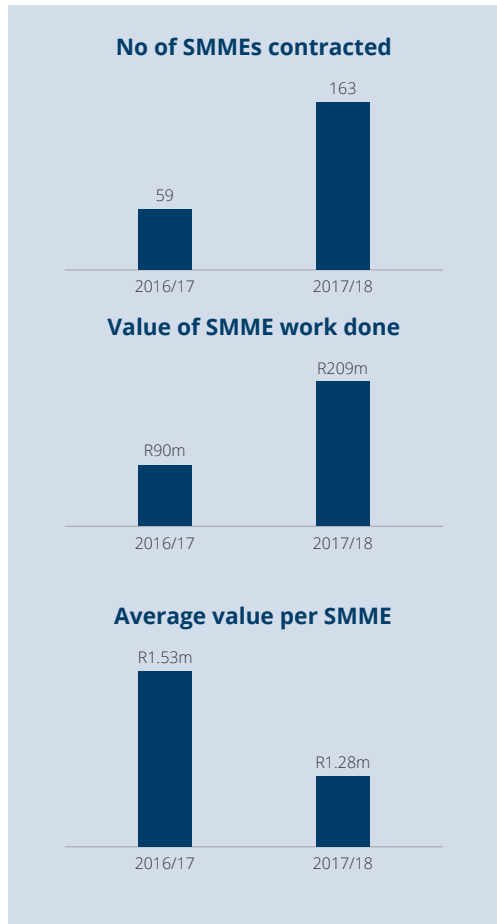
Important features of the programme are:

- Close liaison with community representatives to secure local input and support for projects.
- 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.

In 2017/18, half of SANRAL's community development projects were in the Eastern Cape, where infrastructure is often underdeveloped and poverty levels are among the highest in the country.

Benefit for SMMEs



Empowerment and job creation

Community development projects benefited a total of 163 SMMEs, nearly triple the number in 2016/17, and 91% of these were black-owned. The total amount earned by these enterprises was R209m, a 132% increase on the previous year's earnings. While the benefits of the Community Development Programme were spread more widely, the average amount earned by an individual SMME was slightly lower than in the previous year.

The programme generated 1 750 work opportunities in the reporting year and these were equivalent to 526 full-time jobs. This was a substantial increase on the previous year when the comparative figures were 1 063 work opportunities and 373 full-time job equivalents. However, the average amount earned per job opportunity was 29% lower than in the previous year.

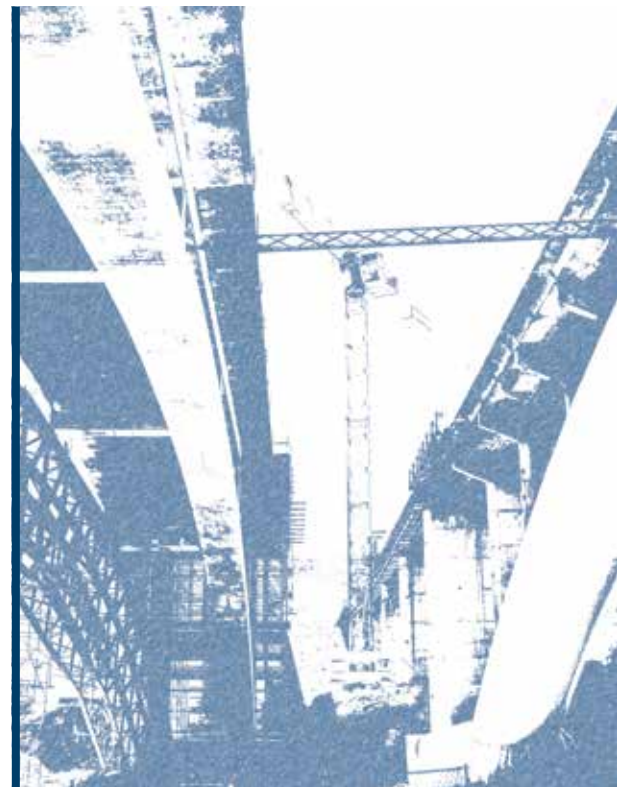
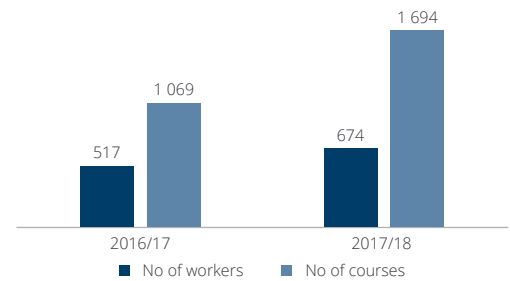
Job creation and poverty alleviation



Training and skills building

SANRAL strives to ensure that workers gain skills during their limited period of work on projects so that their future job prospects are improved. A total of 674 workers on community development projects received training during 2017/18 and the total spending on training (R12.1m) was double the previous year's spending. Most workers who received training attended multiple courses. Wherever possible courses accredited by the South African Qualifications Authority (SAQA) were offered.

Workers trained and courses attended



Concessionaires building small businesses and creating jobs

	TRAC	N3TC	Bakwena
Empowerment of small business	Value of SMME work R35m	Value of SMME work R142m	Value of SMME work R57m
Job creation in construction sector	Permanent jobs in South Africa and Mozambique: 620 (average per month) Route patrol jobs: 42 SMME jobs: 104 (average per month) Jobs created through contracts: > 2 400	Total number of jobs created for road repair, design and operation (including route services): 1 201	837 jobs were created: 52 managerial, 103 supervisory, and 682 for unskilled or semi-skilled work

4.3 Road safety interventions

SANRAL's approach to road safety falls squarely within the strategy set out by the United Nations Decade for Action on Road Safety, which draws to a close in 2020. This global initiative seeks to save millions of lives by developing road safety management capacity, improving the safety of road infrastructure, enhancing the safety of vehicles, improving road-user behaviour and improving the response to crashes.

In particular, SANRAL has taken on board the roles of developing safer road infrastructure, influencing road-user behaviour and improving the response to crashes on South Africa's national roads. The agency's approach is also consistent with the National Road Safety Strategy 2016 - 2030.

SANRAL participated in local, regional and international conferences and forums on road safety. These included two working groups on road safety of the World Road Association (PIARC) where the agency strove to increase the focus on challenges faced in low and middle-income countries.

Safer road infrastructure

All road improvement programmes are, to a degree, safety interventions. But some are undertaken specifically to tackle hazards, eradicate crash "hot spots" and introduce safety features that compensate for the fallibility of road users.

Examples of this are:

- A series of projects to double the capacity of single carriageway roads in order to accommodate the major increase in road traffic on many routes. This assists safe overtaking and reduces the risk of head-on collisions.
- The replacement of a dangerously narrow bridge over the Olifants River, near Vanrhynsdorp in the Western Cape, with a new bridge that complies with specifications for the relevant traffic flow.
- The development of roundabouts at several intersections of national roads and regional roads where serious crashes have occurred.
- Multiple projects for the construction of dedicated pedestrian facilities, such as paved sidewalks and pedestrian bridges over busy highways.

Road safety education

Road safety education is offered to teachers and learners up to grade 6 at primary schools in communities where SANRAL is undertaking construction projects.

The programme is based on the results of research SANRAL commissioned earlier to understand the knowledge, attitudes and behaviour of learners attending primary schools. This research recommended the following approach:

- Road safety education should take account of the local community context, as well as relevant legislation and evidence on learners' knowledge, attitudes and behaviour.
- It should be integrated into the curriculum because this will help ensure age-appropriate content and ongoing education.
- The support of school management should be sought as this is key to securing resources for road safety education, especially the availability of educators to undergo relevant professional development.
- Learner-centred, interactive methods should be used to build knowledge and skills and develop positive motivation to adopt safe road-use behaviour.
- Learners should be assisted to identify risky road situations and develop response skills.
- Parents and caregivers should be included so as to reinforce classroom learning at home and in the community.

SANRAL has used this research to inform the development of new materials for road safety education which is defined as a transversal subject that is introduced in subjects such as maths and languages. The materials, which are for use from grade R to grade 6, promote interactive learning through play, personal reflection and exploration within a safe environment. They also seek to encourage peer interaction. Training of teachers in the use of these materials started in September 2017.

During the year a total of 207 teachers attended train-the-trainer workshops, while 853 received resources to provide road safety education and 38 462 learners benefited from this.

Schools in programme	116
Teachers attending workshops	207
Teachers receiving teaching resources	853
Learners participating	38 462

Effective incident response

Road incident management systems (RIMS) exist for national roads and other roads that support economic development zones and areas of strategic importance to particular provinces. They serve to coordinate the efforts of law enforcement, emergency and health services in responding to incidents. The objective is to detect incidents early, respond rapidly and utilise resources efficiently in order to save lives and minimise traffic disruption.

A national RIMS policy and national operating procedures ensure standardisation across various RIMS and encourage best practice.

SANRAL has been designated by the Minister of Transport as the RIMS implementing authority. This role includes the planning and establishment of systems, project management, and monitoring and evaluation.

SANRAL supports RIMS in various locations by advocating for their development to stakeholders at management level and collaborating to provide training for staff members. A course accredited by SAQA was developed by SANRAL and is offered through the Transport SETA.

SANRAL is assisting the DOT to expand RIMS into the SADC region, working through relevant committees.

A RIMS SNAPSHOT: KWAZULU-NATAL

Eight RIMS in the province covering:

- National routes
- Provincial economic routes
- Economic and social hubs in major cities

Smart systems on major freeways are part of RIMS

Strong multi-stakeholder approach

Commitment to training of operational staff

- Multidisciplinary theoretical workshops
- Simulation exercises
- Training of radio staff

Joint decision-making at incident scenes

Retrospective analysis of responses to major incidents.

Concession holders' road safety initiatives

TRAC, N3TC and Bakwena make a contribution to road safety on the national toll routes that they manage. (See table below.)

Their approaches differ but all address the challenges of creating safer roads, modifying the behaviour of road users, and responding effectively to road incidents, including crashes. For example, N3TC emphasises law enforcement as a means of influencing road-user behaviour and ensuring that drivers are screened for health conditions that might compromise their driving.

	TRAC	N3TC	Bakwena
Safer roads	<p>Installed cables along median to prevent illegal U-turns at interchanges.</p> <p>Provided paved emergency crossing on the N4 between Solomon Mahlangu Interchange in Tshwane and Samora Machel Interchange in Middelburg.</p>	<p>Route services kept roads clear:</p> <ul style="list-style-type: none"> Removed 10 698 items, including tyre tread, and 3 402 stray animals. Tended more than 100 vehicle and veldfires. 	<p>Upgraded stormwater drains on N4 near Zeerust.</p>
Safer road users	<p>Conducted road safety awareness campaigns during peak travel periods at Easter and in December.</p> <p>Provided road safety education to learners.</p>	<p>Supported enforcement of safe road use: drug and alcohol screening of drivers, roadside vehicle testing.</p> <p>Provided road safety education for learners.</p> <p>Organised wellness days and health screening for 9 000 truck drivers.</p> <p>Organised 10 roadside wellness days for road users.</p>	<p>Participated in Safe to School project in Bapong, Majakaneng and Modderspruit in North West. This community-based approach combines education, enforcement and improvement of road infrastructure.</p> <p>Delivered a road safety awareness campaign in partnership with McDonalds during Easter 2018.</p>
Prompt and effective incident response	<p>Stationed emergency and law enforcement services along route during peak Easter and December periods to reduce incident response time.</p> <p>Continued to improve incident reporting systems and integrate these with 24-hour helpdesk and maintenance teams.</p> <p>Helpdesk received 27 624 calls and, with TRACAssist teams, responded to 6 741 incidents.</p>	<p>Participated in 16 RIMS meetings during the year to ensure coordinated, well-resourced response by trained personnel.</p> <p>Route control centre handled 90 048 calls</p> <p>Route services assisted 1 508 road users and managed 21 major incidents.</p>	<p>Bakwena runs a RIMS in co-operation with law enforcement and emergency services to ensure prompt response to incidents.</p> <p>Patrol drivers monitored the route, reporting road damage, ensuring debris removal, assisting at crash scenes and helping road users in distress.</p>

4.4 University Partnerships

SANRAL's partnerships with universities centre on a shared interest in:

- Increasing relevant research and post-graduate study in engineering and related fields.
- Promoting the learning and teaching of science and mathematics at school level with the aim of ensuring a strong flow of talented young people into the engineering professions.

The partnerships increase the public visibility of SANRAL, help the agency meet its own demand for engineering professionals and relevant research, and contribute to a dynamic engineering sector with world class expertise in road design, construction and management.

SANRAL has endowed three specialised chairs at universities. They are:

- The SANRAL Chair in Pavement Engineering at Stellenbosch University (SU), Western Cape which has a dual teaching and research function. It has played a strong role in empowering black professionals and a significant proportion of post-graduate students are drawn from other African countries.
- The SANRAL Chair in Transport Planning at the University of Cape Town (UCT) which enriched the teaching of transport engineering at this institution. Research undertaken places a strong emphasis on the potential impact of transport planning on social equity and alleviating poverty.
- The SANRAL Chair in Mathematics, Natural Science and Technology Education at the University of the Free State (UFS) which directs its energies at post-graduate research on the teaching of maths, science and technology and the training of teachers for these subjects. Between 2014 and 2017, the programme produced 14 PhD and five MEd graduates. It is also conducting a School

Change Project at the request of the Free State Education Department.

An exciting three-way partnership exists between SANRAL, the Council for Scientific and Industrial Research (CSIR) and UP for the establishment and management of an integrated set of National Reference and Research Laboratories for development and testing of materials used in transport and transport infrastructure. The facilities, situated at the CSIR and two campuses of UP, are to be staffed by highly skilled professionals.

The status of the Integrated Laboratory Facility on the UP Hillcrest campus is that the final tender documentation is being prepared. Construction will start, as planned, during the second half of 2018 with completion to the end of 2019.

The agency's investment in improving maths and science teaching at school level flows through well-established programmes run by two universities.

- **Science-for-the-Future** is an initiative of the UFS and it has three distinct components, two of which have also been adopted by Nelson Mandela University (NMU).
 - The ICT Laboratory for Science is geared to the needs of learners in grades 9 – 12 who show promise in maths and science. Total participants from 2009 to 2017 amount to 18 171. Over the course of two or three years, the programme enables learners to participate in 30 laboratory sessions on the Bloemfontein and QwaQwa campuses of the university. Content from the science curriculum is presented to them in novel and creative ways, utilising information technology. Many of these students go on to study science-related subjects at university. The ICT Laboratory is now also offered at NMU's Missionvale campus and teachers from under-resourced schools are encouraged to use the lab during the mornings as a classroom. They are assisted by programme staff.

- Key Concepts in Science covers the grade 8 and 9 natural science curriculum and seeks to enhance school teachers' ability to present and explain scientific principles. It emphasises active, hands-on learning and equips teachers with worksheets and activity materials to support this approach. UFS intends to expand this programme through collaborations with other universities and NMU was the first to come on board.
- The Family Math and Family Science Programme seeks to excite interest in maths and science among younger school children and build their confidence in studying these subjects. It does so through a triangular strategy that trains and equips teachers to adopt novel teaching methods which they then use in the classroom and in special workshops with parents of learners. The design and supply of learning materials and activities is central to the strategy. The programme started in 2009 in

the Free State and Northern Cape and has since expanded to include Gauteng and the Eastern Cape.

- In addition to offering the ICT Laboratory and Key Concepts in Science programmes pioneered by UFS, NMU runs the GATE programme of academic support in science and maths for selected learners in grade 10 - 12. The objective is to boost their performance to the extent that they will be eligible for science-related tertiary studies.

The ICT Lab's record 2009 - 2017

University	Learners	Student teachers & BSc students
Free State	4 326	1 794
Nelson Mandela	2 468	177
Total	6 794	1 971

Who benefits from Family Math and Family Science?*

Province	Schools	Teachers	Learners	Parents	Student teachers	Subject advisors
Eastern Cape	52	94	9 023	6 819	0	3
Free State	89	228	26 535	2 116	2 994	11
Gauteng	10	49	3 790	2 644	0	2
Northern Cape	127	260	26 955	7 637	0	22
Total	278	631	66 303	19 216	2 994	38

*Figures relate to period 2009 - 2017. Provinces joined the programme in different years.



Programme achievements since 2009

Number of Family Math and family Science project participants							
Period	Area	Teachers	Subject Advisors	Schools	Learners	Parents	Student teachers
2009-2017	Free State	228	11	89	26 535	2 116	2 994
2009-2017	Northern Cape	260	22	127	26 955	7 637	0
2012-2017	Eastern Cape	94	3	52	9 023	6 819	0
2016-2017	Gauteng	49	2	10	3 790	2 644	0
	Total	631	38	278	66 303	19 216	2 994

*A total number of 89182 participants during 2015-2017

Study of learners' in region before and after intervention						
	Regions	Period	Avg % before	Avg % after	Improvement	Instrument
Free State						
Gr 3 FM	ThabaNchu/Botshabelo	2012-2014	35.4	60.5	25.1	ANA Results
Gr 3 FM	ThabaNchu/Botshabelo	2015-2016	51	60	9	Common Papers
Gr 4 FM	ThabaNchu/Botshabelo	2015-2016	37	50	13	Common Papers
Northern Cape						
Gr 3 FM	Heuningvei	2015-2016	55.6	61.8	5.2	School Based
Tshwane North						
Gr 3 FM	Hammanskraal	2015-2016	72	88.5	16.5	School Based
Eastern Cape						
Gr 3 FM	Mthatha	2015-2016	53.2	62.8	9.5	School Based
	Libode	2015-2016	59.2	71.9	12.7	School Based

*Results from a thorough study in the specific region, it should be taken into consideration that the ANA as well as the Common Papers and School based assessments showed the same tendency and indicated an improvement.

Concessionaires support for education, health and social development

	TRAC	N3TC	Bakwena
Education	<p>Supported Innibos Meridian Educational Trust which offers high school bursaries.</p> <p>Supported Penreach which provides bursaries for ECD staff.</p> <p>Provided bursaries for engineering students and students working on Endangered Wildlife Trust (EWT) roadkill project.</p>	<p>Provided top-up bursaries for 69 learners from 10 schools and bursaries for 19 university students, including one at doctoral, two at masters and two at honours level.</p>	<p>Supported functional schools pilot project at six schools. This aims to improve school management and strengthen learners' career development.</p>
Health	<p>Provided support for training of 45 healthcare workers at old age home.</p> <p>Continued financial support for KuPhile Clinic in Machadorp, Mpumalanga which offers pro bono care to those who cannot pay.</p>	<p>In addition to Truck Driver Wellness initiative reported under road safety, 626 truck drivers were offered eye tests at satellite clinic(s), with referrals and spectacles provided where needed.</p>	<p>Vision for the Future project conducted eye tests on 5 938 learners, referred 772 to optometrists and provided spectacles to 215.</p> <p>Through a partnership with UP, 4 992 learners had hearing tests and 833 were referred for further examination.</p> <p>Participated in awareness and screening campaigns for breast, prostate and testicular cancer.</p> <p>Provided HIV education to 8 760 learners and 7 808 adults.</p>
Social development	<p>Transferred Thembaletu Community Nursery in Nkomazi, Mpumalanga to community in 2017 after five-year incubation. TRAC will be its primary customer.</p>	<p>Touching Lives development programme benefited 117 755 people, (mostly < 18 years) and created 384 full-time and 124 part-time jobs. It supported a range of projects including environment, tourism and enterprise development.</p>	<p>Drama for Change taught youth at 17 schools to use drama in community outreach on sensitive social issues.</p> <p>First Responder Project trained about 400 learners and teachers and 150 community members in first aid and disaster management.</p> <p>Regular training was offered to 30 small entrepreneurs in Groot Marico.</p>



5 Natural Capital

While the development of road infrastructure is essential to economic progress and social wellbeing, it inevitably has an impact on the natural environment. Not only is the natural environment at the site of construction works disturbed and potentially destroyed, but road construction is a resource-greedy process.

The challenge to road developers and managers, like SANRAL, is to establish and maintain the necessary road network with the least possible environmental sacrifice. This need to balance the interests of human development with respect for the natural environment is recognised in South Africa’s National Environmental Management Act of 2002 (NEMA).

SANRAL strives at all times to give effect to the provisions of NEMA and other legislation relating to the conservation and management of natural resources. The agency commissions independent environmental impact studies on all major projects and welcomes the process

of engagement with a wide range of parties that is required in the course of obtaining the necessary authorisations to proceed with construction.

5.1 Conservation on major projects

The table below summarises some important conservation activities undertaken as part of construction projects during 2017/18. They fall into two main categories:

- Measures taken to mitigate the impact of the road on plant life and water quality in the immediate area of the road.
- Conservation of resources – such as water and stone – used in road building.

The prolonged drought in parts of the country spurred efforts by contractors to apply more resource-efficient construction methods. It also compelled SANRAL’s Western Region office to raise its conservation practices several notches.

Environmental intervention on projects

Intervention	Benefits
<p>Construction of ring road, Musina, Limpopo</p> <p>This necessitated the relocation of several ancient, very large baobabs situated right next to the road to positions deeper in the road reserve. The relocation was undertaken in 2016. Watering and monitoring of the trees is ongoing.</p>	<p>The natural environment was essentially preserved.</p> <p>Safety has been improved by locating the trees further from the road.</p> <p>None of the baobabs was lost; all are in good condition.</p>
<p>N2 upgrade to dual carriageway, Mtunzini Toll Plaza to Empangeni junction, KwaZulu-Natal</p> <p>The construction footprint was reduced to protect sensitive mangrove, woodland and the dryland forests. Protected trees were relocated to safer areas. Silt-traps and sandbags were used to protect water quality. Reclaimed asphalt is being used.</p>	<p>Reduced footprint and saved important swamp forest which would not be easy to re-establish. Relocated trees will be re-established along road during rehabilitation phase.</p> <p>Water quality monitoring shows relevant measures are effective.</p> <p>Anticipated use of reclaimed asphalt is at least 20% of total requirement.</p>

Upgrade of Gwaing Bridge on N2 near George, Western Cape

This involves building a new bridge next to the existing one and realigning the carriageway. Pilings need to be sited in the river and wider cuts made into the rock.

Permits were obtained for relocation of protected species, including 35 trees which are temporarily housed in the George Herbarium until replanting is possible.

Protected species preserved.

All materials for fill layers of road sourced from widening of cuts. No quarries or borrow pits needed.

Resurfacing of N2 between Rivieronderend and Swellendam, Western Cape

Vegetation was relocated to just outside development area, essentially in the same habitat.

Conservation of a range of indigenous plants. Protection of biodiversity.

N7 projects: Kalbaskraal, Abbottsdale, Trawal and Malmesbury to Hopefield, Western Cape

The projects made maximum use of water sources other than the municipal supply. Sources included groundwater and treated effluent.

Savings on use of municipal and river water.

Groundwater used where treated effluent was already fully allocated to alternative purposes, such as agriculture.

Regular reporting on water abstraction and use, as per new statutory requirement during drought period.

Water and waste management on the N2 Wild Coast road project, Eastern Cape

Use of water truck for dust-suppression; use of 20ℓ water containers for drinking water; contractor is using curing compound agent and not water.

- Waste is separated on site into different waste streams; wooden pallets are used in anchoring shutters and for signage

Water wastage is minimised as water is not sprayed at random; taps are not used; and water not used to cure concrete

Use of plastic is minimised; waste is sorted; and 1 250ℓ of oil recycled.



Biodiversity saved and/or maintained on N2 Wild Coast road project, Eastern Cape

Flora

The plant rescue plan requires the identification, removal and where possible, rescue or relocation of threatened or protected plant species. Botanical surveys were undertaken during numerous field trips, within all the various demarcated areas requiring search & rescue.

Flora

Team members identified, photographed, recorded and tagged vulnerable flora. In some cases, where whole plants could not be rescued, seeds or cuttings were taken. Seeds were dried, cleaned and prepared for propagation at the temporary holding area.

**Mthentu haul roads:
25 000 plants rescued**

**Msikaba haul roads:
5 600 plants rescued**

Opportunities have been provided to traditional healers to collect of plants with medicinal value. Some medicinal plants rescued are known to treat skin rashes, sooth stomach cramps, cleansing “dirty blood” and some are used to prevent excess bile in the gall bladder.

Biodiversity saved and/or maintained on N2 Wild Coast road project, Eastern Cape

Fauna

There was concern around possible negative impacts on the Cape Griffon vulture colony in the Msikaba gorge.

Fauna

Monitoring by independent specialists during blasting revealed no noticeable negative impact on the breeding vultures.

Repair of wash-away at Abel Erasmus Pass, Limpopo

Modified dry-bound macadam basecourse layers were applied. This meant:

Locally available materials were used.

Only the natural moisture content of the coarse aggregate and fine aggregate (river sand and local soil) was used. No additional compaction water or slushing were required.

Thinner, more durable layers were applied.

Water saving of 71% (compared to usual construction method) was obtained.

No slushing of the course aggregate base layer was done.

The use of the modified dry-bound macadam proved viable.

Tree planting on R24 in Rustenburg, North West

A total number of 32 trees were planted. The trees were also chosen for their tolerance of the local climatic conditions.

All trees selected and planted are indigenous, hardy, water-wise and low maintenance. They are: Aloe barberae (Tree Aloe), Aloe marlothii (Mountain Aloe), Celtis Africana (White Stinkwood), Combretum molle (Velvet Bushwillow), Olea europeaea subsp. Africana (Wild Olive).

Western Region office

SANRAL, along with all residents and businesses in the Western Cape, was compelled by the severe drought to make adjustments to its water-use practices.

- Recycled, treated effluent obtained from a local sewerage plant is now used to flush toilets and water gardens twice weekly. No municipal water is used on gardens.
- Tap availability in bathrooms has been restricted and all taps in the building have been fitted with aerators to decrease water flow.
- Water features in the garden have been covered with a liquid pool blanket to reduce evaporation.

Environmental impact assessments

Three environmental authorisations were granted during the year and a basic assessment got underway for a proposed road improvement project in Limpopo.

The Department of Environmental Affairs (DEA) issued an authorisation in November for the improvement of the R510 from the North West/Limpopo border to Bierspruit, Limpopo. This followed the conduct of a basic assessment which identified possible impacts on the streams and/or drainage lines, as well as possible traffic delays during construction. Measures to mitigate these impacts were contained in the environmental management plan submitted to the DEA.

SANRAL also received environmental authorisations for two proposed ring roads on the N2, at Butterworth and Idutywa in the Eastern Cape. The granting of the authorisations was the culmination of extensive public participation activities involving residents and various interest groups and the compilation of eight specialist reports over a five-year period.

These dealt with:

- Air quality and aquatic systems
- Vegetation and biodiversity
- Heritage, archaeology and palaeontological resources
- Socio-economic issues
- Town planning, land uses and land rights
- Noise and aesthetic issues.

The socio-economic and town planning studies evoked most interest. No appeals were lodged against the authorisations granted for the proposed ring roads.

SANRAL commenced a basic assessment for the upgrade of the R37 from Modikwa Mine to Burgersfort, Limpopo. The two most important environmental impacts pertain to the Steelpoort River and the marula trees situated in the road reserve. Proposed mitigation measures will be included in environmental management plan which will be submitted along with the assessment to the DEA.

Statutory developments

New regulations on environmental impact assessments and associated listing notices were published in 2017 and became effective at the end of the reporting period. The objective of these amendments was to achieve a higher level of integration between the DEA and Departments of Mineral Resources (DMR) and Water and Sanitation (DWS) in respect of environmental management of mining activities. The regulations affect environmental authorisation applications for SANRAL's borrow pits and quarries and the agency's environmental practitioners have engaged the DEA to clarify the changes and processes to be followed.

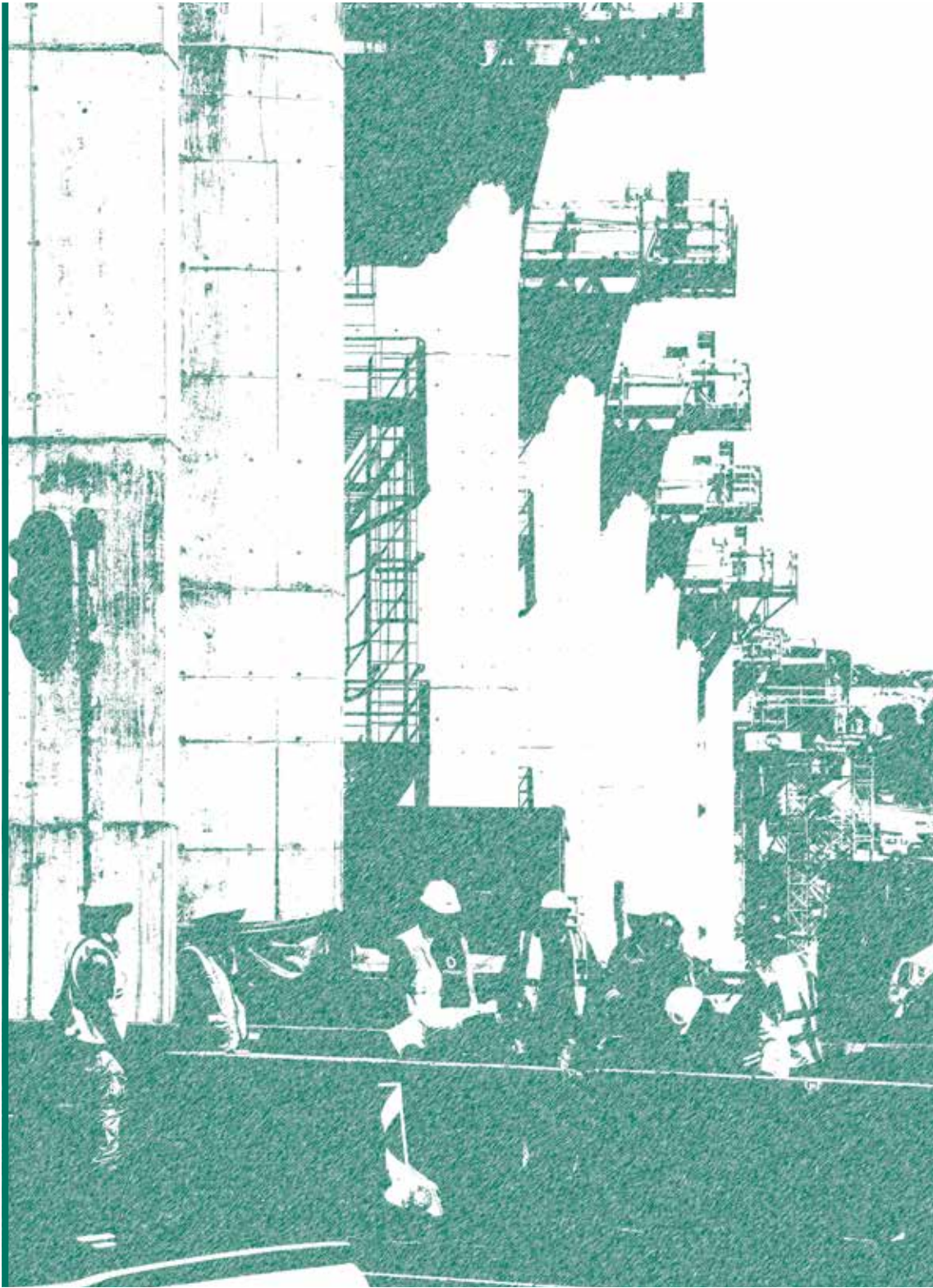
Liaison with regulatory authorities

SANRAL continued to liaise with the DMR about appropriate ways to make financial provision for borrow pits and quarries, as the memorandum of understanding between the agency and the department which previously dealt with this was nullified by regulations under the NEMA.

Concessionaires' environmental initiatives

TRAC	N3TC	Bakwena
<p>Supply of energy efficient Mashsha stoves to schools and communities.</p> <p>Participation in roadkill reduction programme of EWT through monitoring by route patrollers.</p> <p>Maintenance of Berg and Dal Monument through SMME contract.</p> <p>Support for Lowveld and Escarpment Fire Protection Agency's alien vegetation eradication.</p> <p>Support for Houtboschloop project to remove animal snares.</p>	<p>Use of vetiver grasses for erosion stabilisation.</p> <p>Introduction of disc ploughing as a fire break intervention.</p> <p>Birdlife conservation in conjunction with Birdlife SA, EWT, Wildlands Conservation Trust and KZN Crane Foundation.</p> <p>Continued participation in EWT's project to prevent wildlife/vehicle collisions. A further 410 incidents of roadkill were recorded, bringing the total to 1 386 since 2011.</p>	<p>Support of Eco Schools Project at 20 schools. This promotes environmental awareness among teachers and learners.</p> <p>Participation in Magaliesburg Biosphere at board and administrative level and through support for leopard protection.</p> <p>Participation in roadkill reduction programme of EWT through monitoring by route patrollers.</p> <p>Support of provincial environmental and heritage initiatives in Gauteng, Limpopo and North West.</p> <p>Support to Limpopo guard dog training project which protects leopards and other predators by preventing farmer/predator conflict.</p>







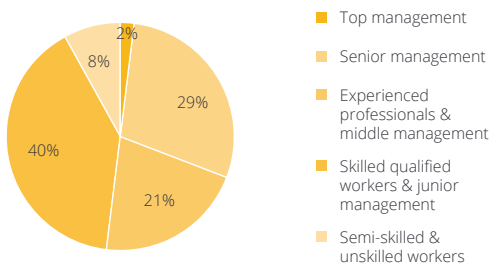
6 Human Capital

The bulk of SANRAL's work falls into the realm of planning, specialised contracting and project management, all of which are informed by professional knowledge of road systems management, and road design and construction. Operational work is undertaken mainly by contracted engineering and construction companies.

6.1 Profile of employees

The above reality is reflected in the composition of the agency's staff establishment. Senior managers, experienced professionals and middle managers account for 50% of the total number of employees.

Employees by occupational category



In the face of fierce competition for engineering skills, SANRAL seeks to attract and retain talent through good working conditions, skilled human resources management, and growing its own talent. It does the last through a system of study grants at school and university level and its Technical Excellence Academy for young engineering graduates. (See pages 80 and 81.)

The approach has yielded results. Not only does SANRAL have a staff turnover rate of just 2.5% a year, but it has made progress towards diversity in a sector that was almost exclusively managed by white male engineering professionals just a decade or so ago.

In 2017/18, the quality of SANRAL's human resources management was affirmed by its recognition as a Top Employer for the third year running by the international Top Employers

Institute and its certification across all 13 standards by the South African Board of People Practices.

Growth and diversity

The staff establishment of SANRAL has increased substantially, with 13% growth in this reporting year and 11% in the previous year. The total number of employees as at 31 March 2018 was 396. Almost a quarter of employees are based at head office while the rest are dispersed across four regional offices, the largest being the Northern Region office.

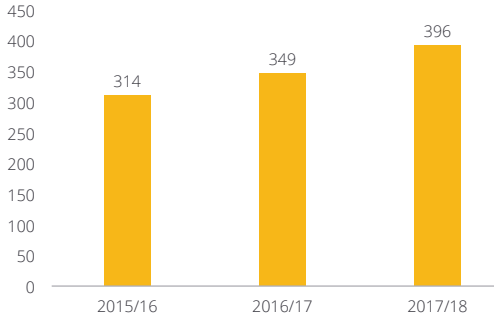
The creation of a more diverse body of employees has been facilitated by the growth of the organisation. Overall, appointments made during 2017/18 brought SANRAL closer to the goal of an establishment that approximates the composition of the general population.

- By the end of the year, 78% of employees were black, with African staff members comprising 54% of the total establishment.
- Male employees only fractionally outnumbered female employees.

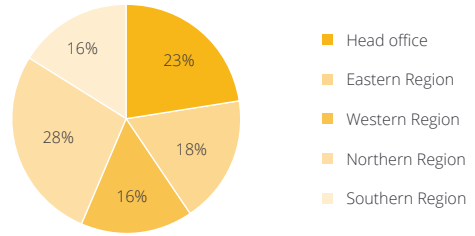
However, when the representation of women and black employees is analysed by occupational category, the under-representation of both these groups is evident at senior management level. Women have also not achieved parity in the experienced professional/middle management and skilled worker/junior management categories.

This situation is linked to the wider question of diversity among students in fields of study relevant to SANRAL and among professionals in the engineering and road transport sectors. Appropriate professional qualifications are non-negotiable for many positions within SANRAL and therefore the agency seeks to promote the entry of women and black students into these professions through its scholarship and bursary programmes. (See page 82.)

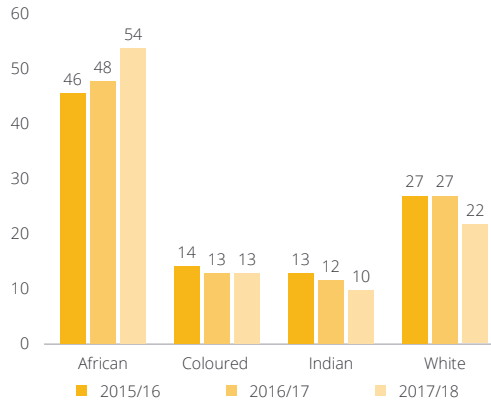
Growth in SANRAL staffing



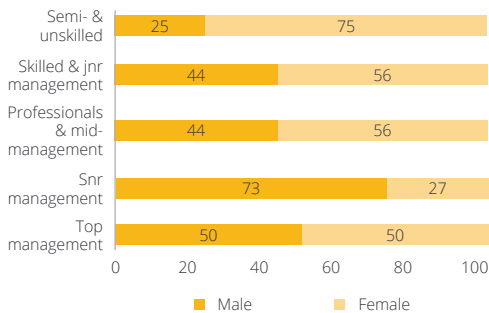
Distribution of employees



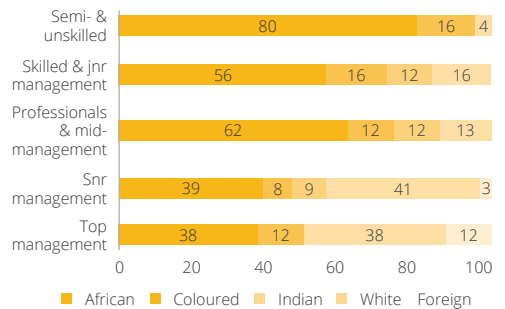
Distribution of employees by population group



Male: female ratio in main occupational categories



Breakdown of main occupational categories by population group



6.2 Employee development

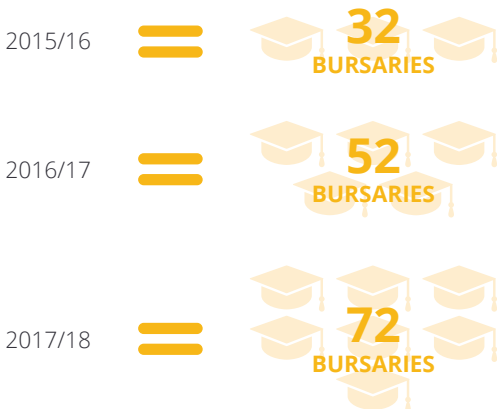
SANRAL encourages the development of knowledge and skills of employees at all levels throughout their careers. Avenues for personal growth range from on-the-job learning, to e-learning, participation in short courses and workshops, and study for diplomas and degrees at undergraduate and post-graduate levels.

A total of 135 managers participated in a leadership development programme during the course of 2017/18. The programme was designed and delivered by a service provider at a total cost of R2.1m.

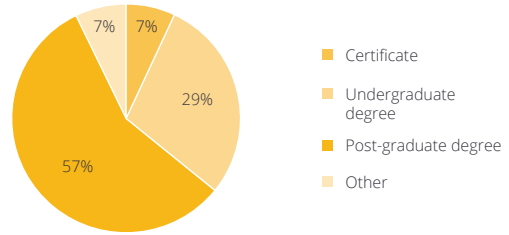
The agency also invested R1.4m in the training of 106 employees during the year in fields including accounting, human resources management and engineering.

A total of 72 employees, including 19 new applicants, were awarded bursaries for tertiary studies during 2017/18. More than half of internal bursary recipients (57%) were engaged in post-graduate studies. Black employees, and especially black women, constituted a high proportion of internal bursary recipients.

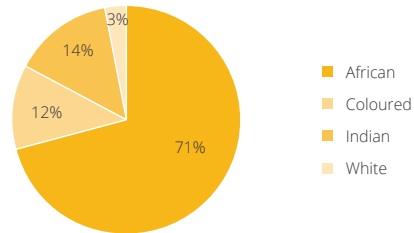
Growth in internal bursaries



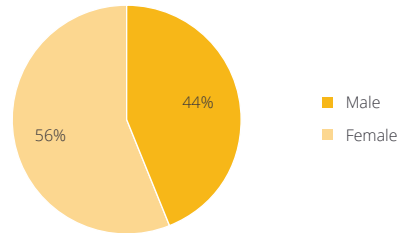
2017/18 internal bursary recipients by course of study



2017/18 internal bursary recipients by population group



2017/18 internal bursary recipients by gender



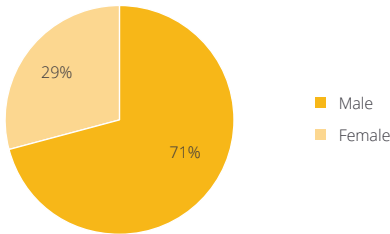
6.3 Technical Excellence Academy

Selection for SANRAL's Technical Excellence Academy (TEA) is arguably the most exciting way to join the agency. The TEA is a facility that assists engineering graduates fulfil the practical experience required for professional registration with the Engineering Council of South Africa (ECSA). The sheer range of work exposure open to TEA candidate engineers and access to all the tools necessary to learn the job – from specialised software to laboratory facilities – are what makes the TEA experience special. The aim is to enable young graduates to attain registration in the shortest possible time.

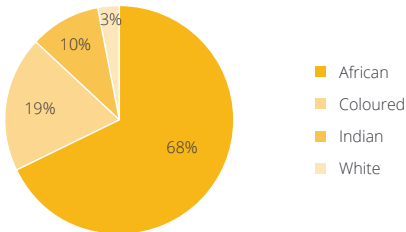
The academy is housed in SANRAL's Southern Region office in Port Elizabeth and 57 candidate engineers have passed through its doors since they opened in 2014.

In 2018, there were 31 candidate engineers at the TEA. The number included several who had held SANRAL bursaries for their university studies as well as some recipients of DOT bursaries.

Gender composition of 2018 candidate engineers at TEA



Composition of 2018 TEA candidate engineers by population group



6.4 Scholarships and external bursaries

It is in SANRAL's interests to support the development and renewal of the professions that are key to road design, construction and management. A strong pipeline of talent is not only critical to the staffing of the agency but also to the expertise available in the companies contracted to design and construct road infrastructure on SANRAL's behalf.

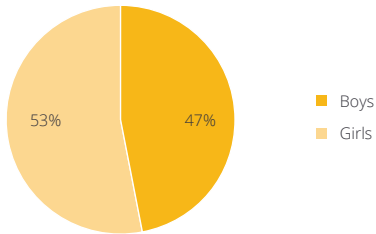
Because deficiencies in science and maths start at school level, SANRAL's support is directed both at promising learners at high schools and students studying relevant degrees at universities.

The agency's scholarship programme provides financial support to learners in grades 10 – 12 who show promise in maths, science and English. The drop-out rate in secondary schools is high and the thinking is that this intervention may prevent the loss of critical talent.

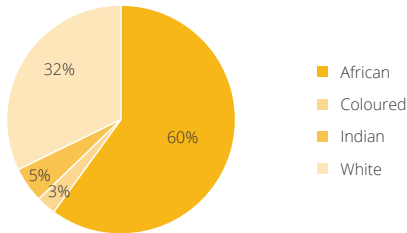
In 2017/18 scholarships were awarded to 203 learners, 53% of whom were girls. The annual number of scholarships has varied only slightly in recent years but the amount invested has increased considerably and amounted to R4.1m in 2017/18.



Scholarships awarded in 2017/18 by gender of recipients



Scholarships awarded in 2017/18 by population group of recipients



SANRAL's external bursaries are for tertiary study, at undergraduate and post-graduate levels, in engineering and other fields directly related to the agency's core business. The programme seeks not only to strengthen the pipeline of engineering talent but also to promote increased entry of women and black students into the profession.

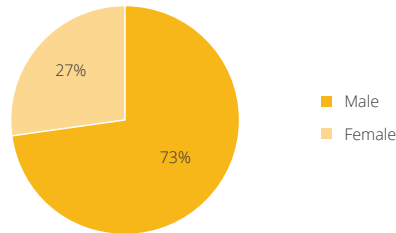
SANRAL recognises that it is insufficient to cover the university fees for students from disadvantaged circumstances. The #feesmustfall movement of 2016 highlighted the poverty that many students endure as they fight for an education. SANRAL ensures that its bursary recipients enjoy security by covering accommodation costs and a book- and living allowance, as well as providing access to the company's employee wellness programme.

Both the number of recipients and the monetary investment have grown in recent years. In 2017/18 a total of 161 students received bursaries. The proportion of black bursary holders was 80% and the percentage of women 27%. While the latter figure is far from ideal, it is gradually increasing.

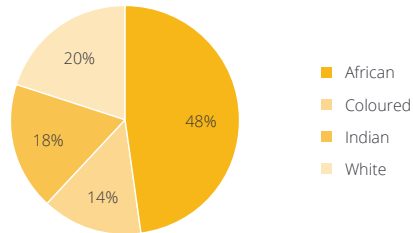
External bursaries – a growing investment



External bursaries awarded in 2017/18 by gender of recipients



External bursaries awarded in 2017/18 by population group of recipients



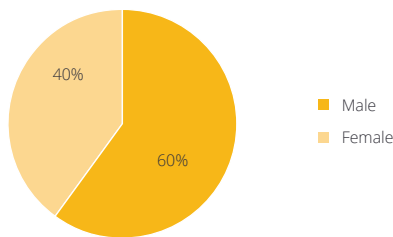
6.5 Internships

SANRAL's concern for alleviating youth unemployment is expressed through its requirement that construction contractors and other service providers incorporate internships into the staffing plans submitted as part of the tendering process. The objective is to enable students and new graduates fulfil their course requirements for practical work and increase their employment prospects.

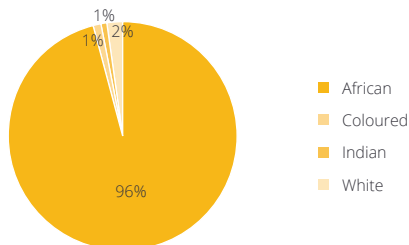
The majority of interns seeking work-integrated learning opportunities are enrolled for the

National Diploma in Civil Engineering but others are studying in diverse fields. While internships are available in all regions, the greatest number in 2017/18 were offered in the Eastern Region followed by the Southern Region. The powerfully affirmative nature of internships lies partly in the opportunities they offer outside the dominant economic centres of Gauteng and the Western Cape and also the doors they open for young African graduates, including a high proportion of women.

Gender ratio of interns working on SANRAL contracts in 2017/18



Interns working on SANRAL contracts in 2017/18 by population group



6.6 Employee wellness programme

SANRAL’s employee wellness programme – known as Ekhaya Wellness – is a comprehensive health and psychosocial service provided on a confidential basis by an independent service provider. The agency views it as a means of enhancing the wellbeing of employees and thereby improving their effectiveness in the workplace.

An individual telephone counselling and support service is available to employees and members of their direct families on a 24/7 basis. This is supplemented by individualised, face-to-face counselling and advice sessions with a suitably qualified professional. In addition, group wellness activities – such as company health days – are held from time to time in all regions.

The service is positively promoted in the company and a total of 29% of employees utilised Ekhaya Wellness during the course of 2017/18. The great majority – 26% of the staff establishment – took advantage of the individualised services available.

SANRAL has committed to supporting an HIV and TB prevention and treatment programme for road maintenance workers and their families. It includes health education, HIV testing and TB screening, plus referral of workers to relevant facilities for HIV treatment. The budget allocation for the period 2016 - 2019 is R30m. Effective treatment of HIV pays dividends not only in terms of the health of the individuals concerned but also in terms of reducing their transmission of the virus.

Occupational health and safety

SANRAL complies with occupational health and safety legislation in all respects and has trained safety officers in all its offices as well as an Occupational Health and Safety Cluster that convenes quarterly.

The Federation for Employers Mutual Assurance Company Ltd (FEMA) has been appointed to manage all injuries on duty. During the course of 2017/18, seven injuries were reported, three apiece at the Southern Region and Western Region offices and one at head office.



7 Enabling Value Creation: Communication and Information Systems

Road infrastructure touches daily on the lives of millions of people in all parts of South Africa and therefore effective communication to the public makes a critical difference to the way SANRAL fulfils its mandate of managing the national road system.

Communication is also an intrinsic element of SANRAL's road safety programme, raising awareness of behaviour that poses risks on the road and encouraging mutual responsibility among road users. In addition, the agency's social investment programmes, and its scholarship, bursary and internship initiatives, require marketing in order to reach the intended sections of the population.

Besides this broad public communication, SANRAL has a complex tapestry of stakeholders who not only require clear and relevant information but also have a need to be heard on those aspects of SANRAL's work that affect their businesses and their interests.

Communication, marketing and stakeholder outreach therefore play a substantial role in SANRAL's performance of its unique role in the economy and social life of the country.

Information systems fulfil a closely related enabling function, not only as a medium of communication but also, in the SANRAL context, for their role in planning and managing complex projects and monitoring performance.

7.1 Communication and marketing

Periods of change create a thirst for communication. In 2017/18, the adoption of SANRAL's new strategy, Horizon 2030, and its Transformation Policy called for extensive dialogue with affected stakeholders.

The agency's Heads of Transformation, Strategy and Stakeholder Relations devoted themselves to a nationwide roadshow, which visited every province and involved 40 intense dialogue

sessions with some 2 000 participants. This process is described in greater detail on page 85.

In the face of this special communication initiative, SANRAL's regular programme of communication and marketing activities was not only maintained but intensified:

- About R123m was invested in mass media advertising, advertorial and the distribution of newspaper inserts to keep communities informed about SANRAL and its work in their areas.
- Two 13-part radio dramas were developed for regional broadcast in order to support major road developments.
- There was regular interaction with journalists on issues related to the national road system: 110 media releases and 109 traffic advisories were distributed and 40 interviews conducted.
- SANRAL's publication facility worked fulltime to produce 16 supplements (for distribution as inserts in newspapers), 11 newsletters, and 10 booklets and special publications.
- Scores of community and stakeholder events, ranging from discussions with local and provincial governments to corporate functions and career exhibitions, were organised during the year.

Stakeholder relations management

Interpersonal communication is invaluable especially in situations where people are facing change, as in the building of new roads or the introduction of new procurement policies.

SANRAL creates multiple opportunities for specific groups of stakeholders and members of the public to engage with its representatives. It is impossible to document all of them but some are described below.

Consulting on strategy and transformation

A major activity in 2017/18 was to communicate SANRAL's new strategy, Horizon 2030, and its draft Transformation Policy to key external stakeholders and hear their concerns. Individual meetings were held with the most critical organisations – primarily business and industry bodies and labour organisations. In addition, 40 workshops were organised and addressed by SANRAL's Head of Strategy, Head of Transformation and other managers.

About 2 000 people attended the workshops and many more used the dedicated website that supported the consultation process. Representatives of construction companies, both established and emerging, were critical participants in this process. The interactions were invaluable in guiding the amendment of the draft Transformation Policy before its submission to the Minister of Transport.

Stakeholder activities

In addition to the above roadshow, more than forty (40) formal engagements / meetings with stakeholders occurred, including:

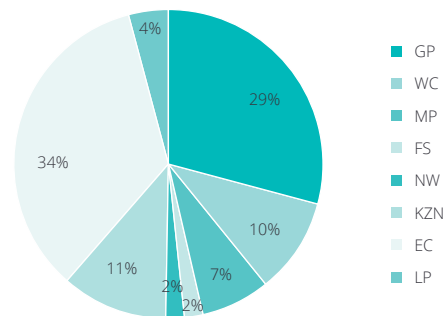
- Roundtable discussions with interest groups ranging from traditional leadership and political parties in various localities to a delegation from Cote d'Ivoire.
- Meetings with local and provincial governments.
- Sessions for dialogue and debate, often hosted in conjunction with major media, such as the Mail & Guardian, Business Day, Financial Mail and Power FM.

Outreach to the general public

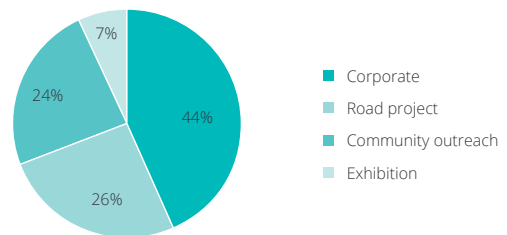
Activities that are organised to communicate with the general public vary in character. For example, some are organised specifically to engage communities that will be affected

by road projects and others to reach young people about to make career choices. A total of 164 events were organised during the year, with the largest number in the Eastern Cape and Gauteng. They included the launch of the Horizon 2030 strategy and new Transformation Policy and outreach to eight communities affected by the N2 Wild Coast project.

Provincial distribution of SANRAL public events 2017/18



Main categories of events organised 2017/18



Advertising campaigns

SANRAL ran 11 multimedia campaigns during 2017/18. These ranged from interventions in support of specific construction projects to road safety awareness campaigns. It also placed advertisements or advertorial articles on an ad hoc basis to mark particular developments or reach specific audiences.

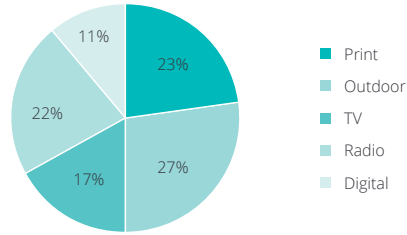
The agency's total media spend during the year was R122.9m and this was split almost equally between national/major regional media and community media. This amount includes payment for the distribution of selected

SANRAL newsletters as inserts in national and community newspapers.

In addition to radio, television, print media and digital platforms, SANRAL used cinemas and outdoor advertising quite extensively. Conventional short-format adverts on radio and TV were complemented by the production of two 13-part radio dramas created to explain and win support for the Moloto Road and N2 Wild Coast construction projects. A high proportion of paid space in print media was devoted to advertorials – that is, content-rich stories rather than marketing formats.

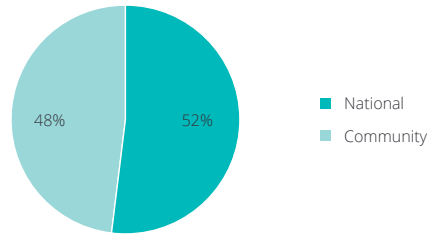
SANRAL has favoured print, outdoor and radio advertising because many of its campaigns are localised and these media can be targeted at local audiences. In addition, billboards and radio adverts reach road users in their vehicles.

Share of media spend by media type



Note: Cinema advertising comprised less than 1% of the total

Ratio of national to community media advertising spend



Summary of SANRAL multimedia interventions 2017/18

Campaign	Mass media	Purpose
SANRAL brand campaign	TV Radio Print Outdoor Airtime voucher	Marketing of SANRAL Audience: national – general public
Road safety campaign	TV Radio Print Outdoor Airtime voucher	Raising awareness of risks to road safety, influencing attitudes and behaviour Audience: national – drivers and pedestrians
Moloto Road upgrade campaign	TV (local) Radio Print Outdoor Airtime voucher	Informing and influencing attitudes Audience: road users and communities along road
Polokwane upgrade campaigns	Radio Print Airtime voucher	Informing and influencing attitudes Audience: road users and general public in province

Horizon 2030/ Transformation Policy	Radio Print	Informing public of SANRAL's strategy and transformation policy and inviting feedback Audience: national – general public
OR Tambo commemorative campaign	Print Outdoor	Raising awareness of the centenary of OR Tambo Audience: national – general public
Woman's Month campaign	Radio Print	Promoting gender equity Audience: national – general public
Youth Month campaign	Radio Print	Profiling SANRAL's bursary scheme as an investment in young people Audience: national - youth
Botlokwa presidential event	Print Radio	Marketing SANRAL, informing and influencing attitudes Audience: community around Botlokwa
Vuwani and Hlanganani road safety campaign	Print Radio	Raising awareness of road safety risks and influencing attitudes and behaviour Audience: community members in Vuwani and Hlanganani, Limpopo

**THE SOUTH AFRICAN NATIONAL
ROADS AGENCY**
EPPS
Reg. No. 1998/09584/00

Vul'indlela, KWII NDELELA EZIKUMGANGATHO OPHAKAMILEYO

Siniphathela indlela i N2
Wild Coast ekhuselekileyo
ngezobunjinelu nephambili
ngezo-buchwepheshe
balemihla kwingingqi yakho.

Iphulo lendlela iN2 Wild Coast
ngabakwa **SANRAL.**
I- Arhente yeSebe lezothutho.

www.sanral.co.za
 @sanral_za @sanral_za
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PRINT ADS



TOGETHER ON THE ROAD AHEAD.

Creating the economic engine driving the road ahead. Horizon 2020 is a strategy that will help SANRAL, as a corporation that better serves the needs of the South African people and economy. The aim is to improve our operating and safety efficiency, as well as ensuring that our Transformation Policy continues to deliver positive social, community, environmental, safety, energy, supply chain, and HR&E management and support in the construction and related industries. We are working together to enhance our work practices and drive greater efficiency.


For more information and to comment on our Horizon 2020 strategy email us at: SanR2020@sanral.co.za

To comment on our South Transformation Policy, email us at: transformation@sanral.co.za

You can also visit our website or write to us at P.O. Box 416, Pretoria, 0001. We also accept hand-delivered comments at our regional offices in: Pietermaritzburg, Port Elizabeth, Grahamstown, East London, Durban, and Cape Town (see website for addresses).

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

www.sanral.co.za
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Vul'indlela FOR FUTURE GENERATIONS.

The Eastern Cape's untamed natural beauty is South Africa's best kept secret. Out here, we have magnificent grasslands, indigenous trees, game, and adventures aplenty.

So, as we introduce the new N2 Wild Coast Road, bringing sustainable development for local communities, we work closely with the Eastern Cape Parks and Tourism Agency to minimise any negative impact on the environment.

For a self-sustaining region, Mtshobane, MtFikobane, and MtDabane.

N2 Wild Coast Road Project by SANRAL.
An agency of the Department of Transport.

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CELEBRATING 100 YEARS OF OLIVER REGINALD TAMBO.

On the 27th October 2017, we'll celebrate the centenary of the birth of Oliver Reginald Tambo. His ideas live on in our constitution and his vision for an inclusive, just and equitable society lives in our hearts. Join us as we reflect on our heritage and pay tribute to this revolutionary, thinker, humanist and mentor.

"Using the power you derive from the discovery of the truth about racism in South Africa, you will help us to remake our part of the world into a corner of the globe on which all - of which all of humanity can be proud."

Oliver Reginald Tambo. 1917 - 1993

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Reg. No. 1998/00584/30



Building a better South Africa through better roads.

BEYOND ROADS IS LOVE.

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

That's when you get onto our national road network, where we connect you with your favourite family members. There you'll get a really tight hug, a kiss, a good laugh and the time to tell those really long 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.

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FLORAH BLOSSOMS IN A MALE-DOMINATED INDUSTRY.



To us, Soabangane from Florah Mkhabela is the answer to the question: What can we do to empower women and inspire them to improve the lives of other women?

We give her all the support she needs as the only female Human Resources Practitioner at our Northern Region offices and an inspiration to young women who want to break down doors in all other industries that are currently considered 'boys' clubs. Take a bow, Florah.

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ROAD SAFETY IS ABOUT GOING BEYOND THE EXPECTED.

SANRAL is committed to delivering world-class roads in South Africa. This goes beyond just the concrete and bitumen, it is also about making sure that our road users are safe at all times.

Where possible, we retrofit the road environment to provide safe walkways and bridges for pedestrians and cyclists.

This is our commitment to road safety.

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WE ARE PROUD TO HELP DANIEL CROSS THE BRIDGE TO GREAT POSSIBILITIES.

As a young man, Daniel Cross was the first to graduate from the largest bridge in South Africa for young Daniel Cross. He was the first to graduate from the largest bridge in South Africa for young Daniel Cross. He was the first to graduate from the largest bridge in South Africa for young Daniel Cross.

After working in various roles, Daniel Cross is now a project manager for the largest bridge in South Africa. He is proud to be part of a team that is building a better South Africa.

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

www.sanral.co.za
[Facebook](https://www.facebook.com/sanralza) [Instagram](https://www.instagram.com/sanralza) [YouTube](https://www.youtube.com/sanralza)

Media engagement and editorial coverage

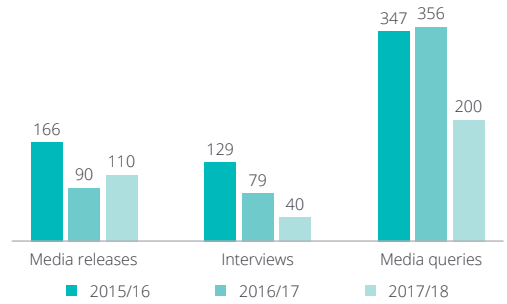
SANRAL recognises the value of news coverage of its work on radio and TV and in print and online media. The agency strives to engage journalists pro-actively and to respond promptly to all queries from the media.

In 2017/18 the total value of coverage devoted to SANRAL was R95.1m, when measured at advertising value equivalence. Coverage generated proactively by SANRAL amounted to R37.2m or 39% of all coverage on the agency. It was secured through the issuing of media releases and traffic advisories, generation of opinion pieces, and arrangement of interviews, as well as responding to media queries.

As the graphs indicate, media coverage on SANRAL was driven less by controversy than in previous years. The number of journalist queries was down and the number of print articles that

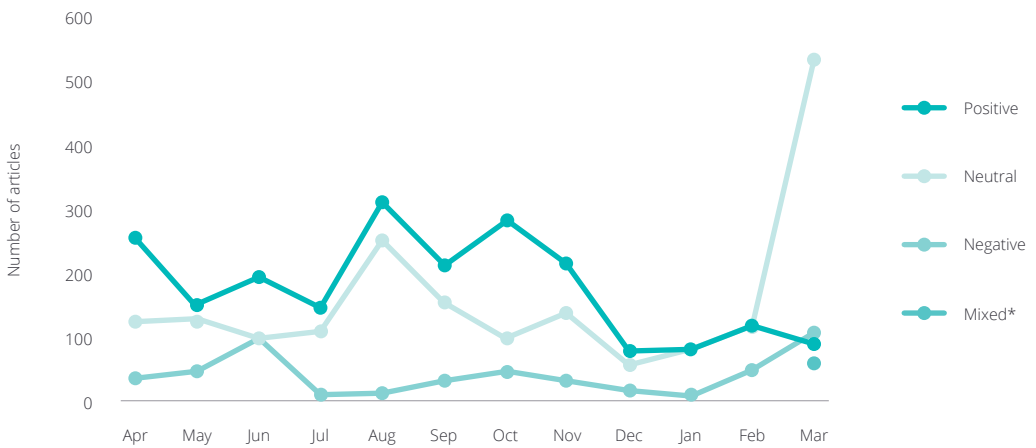
were neutral or positive in tone consistently exceeded those that expressed negative sentiment. Since positive media coverage included advertorials and supplements, the more revealing indicator of reporting sentiment is the low level of negative articles.

Measures of media engagement



Note: media releases exclude traffic advisories, 109 of which were issued in 2017/18

Sentiment of print articles on SANRAL in 2017/18



In-house publications

SANRAL produces a range of printed and digital publications for the general public, various stakeholders and its own staff members. Most of these are regular publications, distributed on a monthly, quarterly or annual basis.

There are three basic methods of distribution: as supplements inserted in community, regional and national newspapers, digital distribution, and direct distribution in selected communities and at toll plazas through the agency's regional offices.

Numerous leaflets and electronic mailers on diverse subjects are also produced and distributed.

Most publications are uploaded to SANRAL’s corporate website (www.nra.co.za). Live traffic information, including details of road construction and deviations, is available on a second SANRAL site, www.i-TRAFFIC.co.za

Details of regular SANRAL publications in 2017/18

	Audience	Frequency	Number printed/ distributed per edition
NATIONAL PUBLICATIONS			
By the Way A free lifestyle magazine	General public Distributed nationwide	Six/year	300 000 per edition Direct national distribution
People’s Guide Popular version of the annual integrated report	General public Distributed nationwide	Annual	1 500 000 Newspaper insert
Investing in . . . series Each edition focuses on a different pillar of delivery • Road Safety • Community • Environment	General public Distributed nationwide	Three/year	1 500 000* per edition Newspaper insert
PROVINCIAL PUBLICATIONS			
Hello . . . series A publication per province	General public per province	Nine/year	500 000** per edition Newspaper insert
PUBLICATIONS FOR INTERNAL AND EXTERNAL STAKEHOLDERS			
N-Route Regularly updates key external stakeholders	Stakeholders in government, finance, industry	Four/year	Digital Total page views: 519
Youth Month Digital Highlights of SANRAL’s interventions for young people	Stakeholders in government, finance, industry	Annual	Digital Total page views: 2 115
InRoads Content of interest to staff, including lifestyle features	SANRAL employees	11/year	Digital Distribution list: 360

QUARTERLY PUBLICATIONS

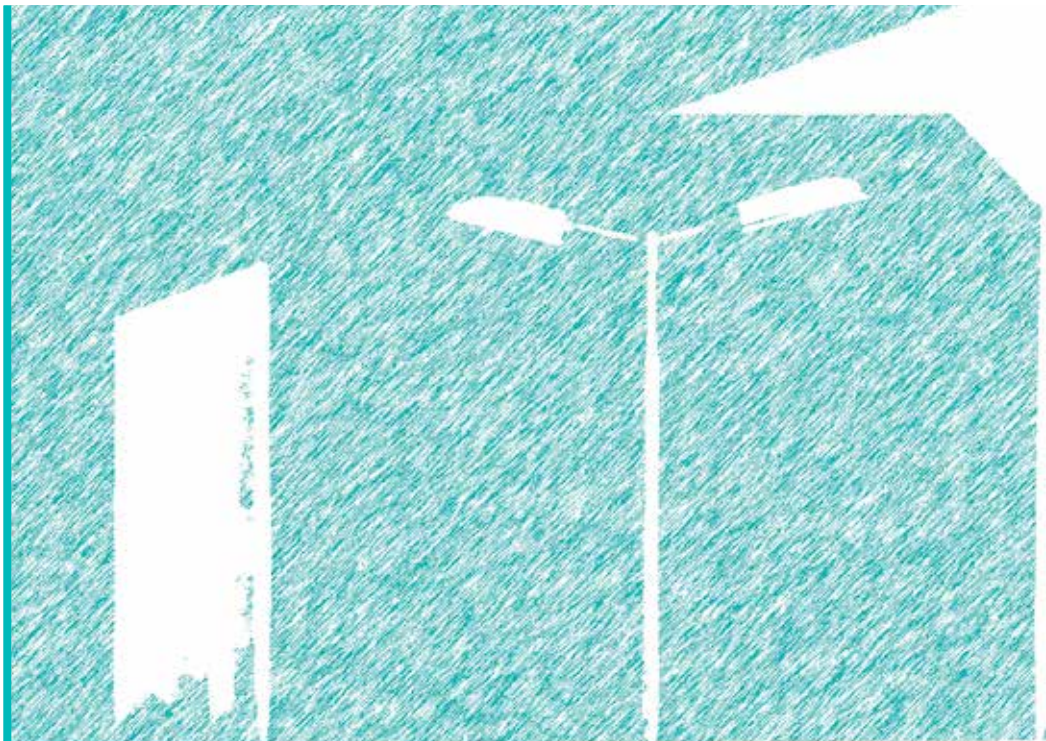
Booklets on Moloto Road and N2 Wild Coast Road projects	Communities in affected areas Booklets available in English, isiNdebele and Sepedi (Moloto Road) and English and isiXhosa (N2 Wild Coast)	Quarterly	Print run ranged from 3 000 to 5 000 copies per booklet Direct distribution to relevant communities
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OCCASIONAL PUBLICATIONS

Horizon 2030	High level SANRAL stakeholders	Copies were printed on request	11 800
Draft Transformation policy	High level SANRAL stakeholders	Copies were printed on request	7 850

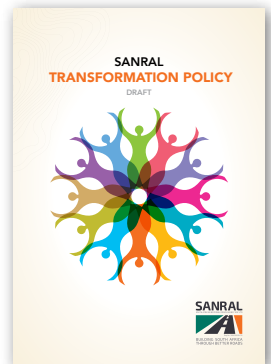
*Investing in the Environment had a smaller print run of 500 000.

**Hello Northern Cape had a smaller print run of 300 000.





PUBLICATIONS



Social media

SANRAL has a presence on multiple social media platforms and posted thousands of items – including traffic updates – during the course of the year. There was strong growth across all platforms in terms of followers and their level of engagement.

Although live traffic news may be the information that attracts people to SANRAL social media, the agency ensures that fresh posts on a wide range of its activities are always available.

Summary of SANRAL social media following and activity

Type of social media platform	Total followers/ fans/ subscribers 31 March 2018	Annual growth in followers/ fans/ subscribers	SANRAL posts/ tweets/ uploads	Engagement
Facebook	113 492	115%	1 772 posts	67 094 pageviews 850 conversations
Twitter	15 630	120%	4 405 tweets	10 451 retweets 4 650 replies 1 117 conversations
YouTube	388	31%	39 videos	273 likes
Instagram	1 895	35%	597 posts	3 155 likes 200 comments 595 conversations
LinkedIn	3 377	14%	102 posts	65 comments 103 conversations

7.2 Information Technology

The activities of the Information Technology Department in the past year have focused on enabling SANRAL employees with mobile apps and cloud-based capabilities that offer expanded options to work with consistent functionality from anywhere and on any device.

The department has undertaken major strategic IT projects at a total investment of R185m. They included the following:

- Completion of the data centre and network upgrade
- Managed cyber security services
- Office 365 deployment
- Wifi installation at head office and all regional offices

- Improvement of IT facilities at the Technical Excellence Academy.

Converged data centre systems

The planned upgrade of SANRAL's outdated data centre and the related modernisation of business processes were achieved during the course of 2017/18. The benefits of the new systems include:

- Improved operational cost, workload efficiency and ability to rapidly scale up new workloads.
- Enabling staff and business operations through high-performing business applications.
- Agile infrastructure that requires less staff time to deploy and support.

The complex data centre upgrade was successfully concluded without any downtime or data losses. This was a remarkable achievement and required close coordination between business and information technology stakeholders.

Management of cyber security

SANRAL is fully alert to the need to prioritise investment in cyber security. Its managed cyber security service recently undertook a complex upgrade and refresh of all information security hardware and tools within SANRAL. The service includes intrusion detection, mobile device management, replacement of perimeter and internal firewalls, vulnerability scanning and anti-virus services.

The decision to procure a managed cyber security service has been hugely beneficial in terms of ensuring that security receives dedicated attention from specialists while the in-house IT team supports SANRAL's general business requirements. In particular, the arrangement provides access to:

- Specialised, up-to-date security technology and teams of seasoned security experts who can respond in real-time to an attack.
- An advanced security operations centre, delivering cutting-edge threat detection, threat intelligence, incident response and security device management.
- Enhanced capacity to find, fix and remediate vulnerabilities, with more predictable and manageable security costs.

Office 365

The deployment of Office 365 has enabled SANRAL's employees to embrace new capabilities for working digitally and productively. Office 365 has:

- Streamlined knowledge-sharing through document management.
- Enhanced mobile access for anywhere, anytime productivity.

In short it has enabled all employees to accomplish tasks and work with files, co-workers and external stakeholders to move the business forward, remaining productive and effective regardless of geographical location.

The data centre upgrade, managed security service and introduction of Office 365 have been complemented by the successful incorporation of video conferencing practices and wide area network (WAN) deployments.

The video conferencing facility installed the previous year paid dividends in 2017/18 in terms of increased meeting productivity and a reduction in the cost and time expended on travel between regions and head office.

Governance

The IT Governance Steering Committee is mandated by the Board to ensure the ethical and effective management of IT resources. In addition, audits are periodically undertaken by Business Innovation Group (BIG) – a contracted service provider – which examines the following:

- IT general controls
- SAP basis controls
- Application system controls (ITIS)
- IT governance.

The 2017 audit yielded good ratings with zero findings.

The Steering Committee has identified the following strategic and information governance objectives:

- Develop a new five-year information technology strategy aligned with the strategic objectives of Horizon 2030.
- Develop a better integrated IT scorecard that incorporates in-house and outsourced projects.
- Continue to improve and maintain organisational structures, relationships and frameworks.

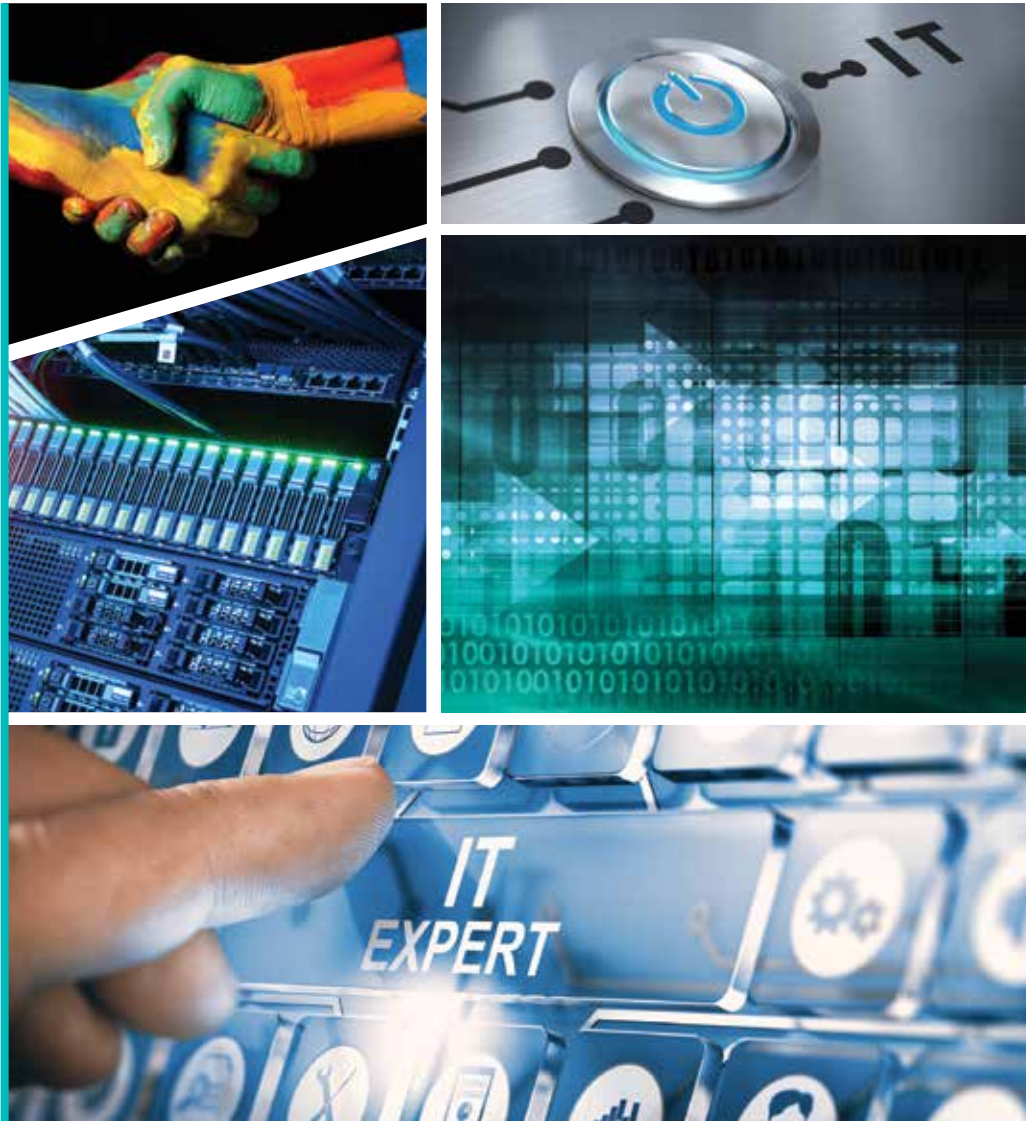
- Manage technology resources and assets, including information, in an efficient and effective manner in order to derive value from such assets.
- Establish performance criteria aligned with operational expectations of the business.

Focus areas in 2018/19

A priority for the coming year is a major upgrade of SAP systems in order to simplify and integrate SANRAL's IT infrastructure which is currently

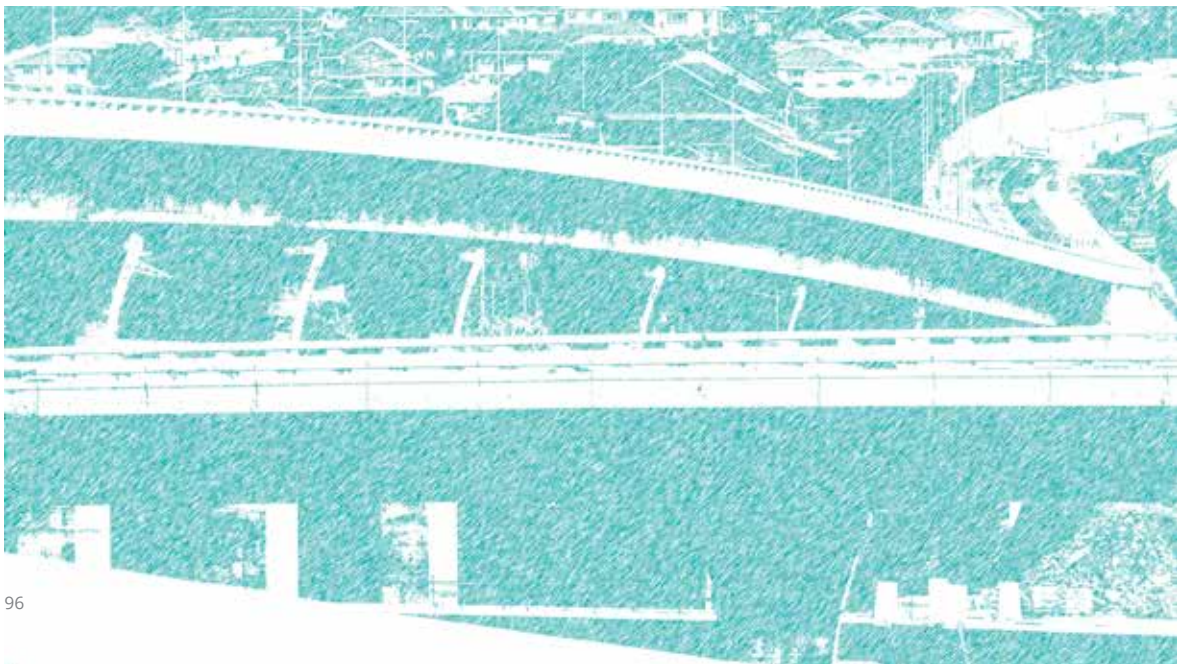
characterised by fragmentation that hampers efficiency.

The agency also intends to explore the possibility of building a private wide area network (WAN) that would connect the SANRAL offices, the toll plazas and traffic control centres. SANRAL has granted servitudes on its land to telecommunications service providers in order for them to roll out their fibre infrastructure. The agency will investigate whether it would be possible to utilise this fibre to develop its own WAN.



ACRONYMS AND ABBREVIATIONS

AVE	Advertising value equivalence
Bakwena	Bakwena Platinum Corridor Concessionaire
BBBEE	Broad-based black economic empowerment
CCTV	Closed circuit television cameras
CEO	Chief executive officer
cidb	Construction Industry Development Board
COTO	Committee of Transport Officials
CSIR	Council for Scientific and Industrial Research
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DOT	Department of Transport
DWS	Department of Water and Sanitation
EC	Eastern Cape
EWT	Endangered Wildlife Trust
FS	Free State
FMS	Freeway management system
FTE	Full-time equivalent
GDP	Gross domestic product
GFIP	Gauteng Freeway Improvement Project
GP	Gauteng
ICT	Information communication technology
IT	Information technology
Km	Kilometres
KZN	KwaZulu-Natal



LP	Limpopo
MP	Mpumalanga
NC	Northern Cape
NEMA	National Environmental Management Act
NMU	Nelson Mandela University
NW	North West
N3TC	N3 Toll Concession (RF) Proprietary Limited
OCI	Overall condition index
PFMA	Public Finance Management Act
PPP	Public-private partnerships
RRM	Routine Road Maintenance
SANRAL	South African National Roads Agency SOC Limited
SAQA	South African Qualifications Authority
SIP	Strategic Integrated Projects
SMME	Small, medium and micro enterprise
SOC	State-owned company
STEM PP	Science Technology Engineering and Mathematics Pipeline Project
SU	Stellenbosch University
TEA	Technical Excellence Academy
TRAC	Trans African Concessions
UCT	University of Cape Town
UFS	University of the Free State
UP	University of Pretoria
WIM	Weigh-in-motion





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