

SANRAL

SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD



BUILDING SOUTH AFRICA
THROUGH BETTER ROADS

**INVESTING IN THE FUTURE,
STRENGTHENING ROAD
INFRASTRUCTURE**

INTEGRATED REPORT 2021/22 | VOLUME ONE

The South African National Roads Agency SOC Limited Integrated Report 2022

The 2021/2022 Integrated Report of the South African National Roads Agency SOC Limited (SANRAL) covers the period 1 April 2021 to 31 March 2022 and describes how the Agency gave effect to its statutory mandate during this period.

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

- **Volume 1:** Integrated Report is a narrative and statistical description of major developments during the year and of value generated in various ways.
- **Volume 2:** Annual Financial Statements contain the corporate governance report in addition to the financial statements. In selecting qualitative and quantitative information for the report, the Agency has strived to be concise but reasonably comprehensive and has followed the principle of materiality – content that shows the Agency's value creation in the short, medium and long term.



CONTENTS

Chairperson's report	1
Acting CEO's report	5
SECTION 1	9
Vision, mission, core values, principal tasks and objectives	11
Business pillars	12
Business and strategy	13
Horizon 2030	13
Executive management	16
Regional management	21
SECTION 2	23
1 MANUFACTURED CAPITAL	24
1.1 Road development, improvement and rehabilitation	25
1.2 Road network management and maintenance	39
1.3 Combatting vehicle overloading	57
1.4 Transformation within the sector	59
2 FUNDING CAPITAL	85
2.1 Annual income	89
2.2 Toll roads under concession	94
2.3 Land portfolio management	95
3 INTELLECTUAL CAPITAL	97
3.1 Value-added services	98
3.2 Stages of progress	99
3.3 Account-based ticketing	100
3.4 The SANRAL mobile app	105
3.5 Average speed over distance	106
3.6 Parking	107
3.7 Automated electronic toll payment	107
3.8 Geotechnical solutions	108
3.9 Geometric design solutions	112
3.10 Innovative design	118



4	SOCIAL AND RELATIONSHIP CAPITAL	121
4.1	Social impact of construction and maintenance projects	123
4.2	Road safety programmes	125
4.3	Road safety on toll routes under concession	127
4.4	University partnerships	132
4.5	Science programmes for learners, parents and teachers	138
4.6	Concessionaire support for education, health and social development	153
5	NATURAL CAPITAL	159
5.1	Lighting solutions for the Huguenot Tunnel	160
5.2	Conservation on major projects	162
5.3	Environmental impact assessments	164
5.4	Environmental authorisations	164
5.5	Statutory developments	165
5.6	Route P166	166
5.7	Liaison with regulatory authorities	167
5.8	Sustainability summit 2021	168
5.9	Smarter mobility Africa summit	168
5.10	Sustainable roads forum (SuRF) rating tool	169
5.11	Concessionaires' environmental initiatives	170
6	HUMAN CAPITAL	173
6.1	Employee profile	177
6.2	Employee skills development	179
6.3	External educational investment programmes	182
6.4	Employee wellness	185
6.5	Occupational health and safety	187
6.6	Marketing and communications	188
6.7	Information technology	200
	ACRONYMS AND ABBREVIATIONS	211



THEMBA MHAMBI

Chairperson's Report

The term of this current Board of the South African National Roads Agency Limited (SANRAL) ended in August last year, but the Minister of Transport, Mr Fikile Mbalula, requested the members to continue with the governance function until the appointment of the Board's successor.

Our presiding over SANRAL during the year under review was a continuation of a process of corporate governance enhancement which began with our appointment onto the Board a little more than three years ago. This process entailed the establishment of a committee architecture empowered to exercise greater oversight in relation to SANRAL's operations. It included a review of our policy regime and an interrogation of our processes, particularly as they relate to broadening access to SANRAL and the resources at its disposal – given that SANRAL is, at its core, and in the final analysis, a public institution.

It is with some pride and humility, then, that we report the achievement of yet another unqualified audited opinion as determined by the Auditor-General of South Africa for the financial year 2021/22.

Both at the macro level of the Board and the micro level of the committees we have been guided by relevant legislation and the recommendations of the King IV Report on Corporate Governance, the standard by which corporate governance is judged within private and public sector organisations and companies in South Africa. The introduction to the King IV Report states:

"New global realities are testing the leadership of organisations on issues as diverse as inequality, globalised trade, social tensions, climate change, population growth, ecological overshoot, geopolitical tensions, radical transparency and rapid technological and scientific advancement."

The new realities referred to by the King IV Report, coupled with the recent interrogation of corporate governance in South Africa by the Zondo Commission, have placed a massive burden on Accounting Authorities as well as corporate managements in both the public and the private sectors. SANRAL has not been spared this challenge, as evidenced by the debates and disputations which accompanied its cancellation of five construction tenders, worth R17 billion, in the last financial year.

This decision was not an easy one to make, but it was necessary in the context of our quest for a procurement regime totally in step with the country's Constitution,

broadly, and the Public Finance Management Act (PFMA), in particular; notably with regard to the fairness of the evaluation of tenders. At the heart of this is the requirement for absolutely no conflict of interest on the part of all roleplayers and decision makers.

The cancellations were also occasioned by a critical Board resolution aimed at building into SANRAL's procurement processes the absolute integrity alluded to in the foregoing paragraph. Board resolutions require utmost reflection and rationality on the part of the Accounting Authority. For that reason they require absolute compliance on management's part, unless they are declared unlawful by competent bodies.

Non-compliance with legislatively-founded, and therefore lawful, resolutions can lead to a breakdown in governance, and can therefore not be countenanced as it poses a serious risk to the corporate health, wellbeing and performance of an organisation. It also exposes an organisation to the risk of costly litigation and disrepute, besides the obvious irregular - and fruitless and wasteful - expenditure.

It was therefore instructive, for all concerned, of National Treasury to subsequently validate the Board's decision, thereby underlining how sacrosanct good corporate governance is. That endorsement is particularly significant as it followed a comprehensive and intensive investigation of SANRAL's handling of the cancelled tenders - right from the Board's resolution through to the evaluation, the proactive assurance, and the adjudication processes.

To manage the potentially deleterious effects of the cancellations, including the strain on the industry because of the delays, we hastened the process of recovery by ensuring the speedy readvertisement of the tenders. The status of that process is currently in the public domain.

SANRAL, as an Agency of the Department of Transport, has a mandate to "finance, improve, manage and maintain the national road network." It has an obligation to pursue that mandate within the framework of national legislation, related regulations, relevant policies, and requisite processes. Central to this is the use of public resources to produce quality infrastructure, in the process economically empowering designated groups and creating job opportunities for the unemployed, especially the youth.

Our capacity, quantitatively, to create jobs in our sector has been boosted even further by government's

designation of SANRAL as the implementation agent for programmes such as Vala Zonke - the potholes project - and the KZN Flood Disaster recovery project. These exemplify the expansion of SANRAL's mandate beyond national roads - and we welcome them as they accord us the opportunity to share our knowledge, skills and systems with other road agencies in the country as well as the local and provincial spheres of government. Of course all of this can only be possible if we are concomitantly empowered with the legislative, regulatory, policy, financial and human resources required because we are statutorily limited with regard to using our own budget outside our own roads.

The overarching objective of both our own interventions and the additional, ad hoc, responsibilities entrusted to us is to contribute to the national mission of eradicating the historical inequalities which continue to plague our country. This quest for socio-economic transformation is in the nation's best interests as it is the only intervention with the potential to reduce the social unrest which is disturbingly becoming endemic in the country.

Accordingly, during the year under review SANRAL provided 1,684 SMMEs with work on construction, rehabilitation and maintenance projects. The total amount earned by the SMMEs from these contracts is R2,3 billion. The majority of Black-owned SMMEs derived significant benefit from this, as they accounted for 88.05% of the contracts awarded and 89.6% of the value of the work performed. Of the 9,129 jobs created in the reporting period, 6,647 were for men and 2,482 for women. A breakdown based on age reveals that 3,096 young men and 1,339 young women were beneficiaries. From a disability perspective, 62 people with disabilities were employed.

In terms of SANRAL's contract participation goals, the aim for targeted enterprises is 30%, which includes women- and youth-owned businesses at 5% each, the target for military veterans and people with disabilities being 0,5% for each of those groups. On the N3 project in the Eastern Region alone, this meant that R64,304,246.53 went towards youth-owned businesses, with the same amount going towards women-owned businesses. On the same project, women and youth each earned R30,866,038.33 of the total R103 million spent on local labour.

These achievements are particularly pleasing in a context where South Africa and the world are slowly trying to regain some level of 'normality' after two years of the economic and health chaos and confusion caused by the COVID-19 pandemic. We are not out of the woods yet, but at least we now know that there are ways in which we can keep the infection rates low and save the lives of people who would otherwise be in grave danger.

In this regard we are particularly happy that our own internal interventions and mitigation efforts contributed quite significantly to the wellness and wellbeing of our own staff.

Of course, with every crisis comes opportunity, and for SANRAL the opportunity was to learn how to operate in 'abnormal' situations and use these lessons during 'normal' times. We are pleased at how our executive management responded to the challenges posed by the pandemic, and how they are managing the return to 'normality', including making greater use of technology on the communications front.

We are also cognisant of the fact that our economy was already suffering before the advent of COVID-19, and the pandemic exacerbated the situation - forcing, in some cases, entire industries to close. We are therefore mindful of our obligation to work together with government, through infrastructural development, to rebuild the economic edifice of our country via projects relevant to our organisation. SANRAL will therefore be embarking on an aggressive tender invitation drive to create even more business opportunities for the industry and many more job opportunities for the general South African public. This is in line with the President's clarion call for economic stimulus projects to accelerate national economic recovery.

We have both the Minister of Transport and the Minister of Finance to acknowledge for our continued ability to discharge our mandate and contribute to the nation's economic development and recovery. Both the Department of Transport and National Treasury continue to evolve strategies to keep SANRAL liquid, and as a going concern, despite the well-documented financial challenges occasioned by the erratic payment of toll fees related to the Gauteng Freeway Improvement Project (GFIP), commonly known as e-tolls. As the Board we appreciate the complexity of the issue and are acutely aware of the sleepless nights the President, the Minister of Finance, the Minister of Transport and their Cabinet colleagues and officials are subjected to as they work out possible algorithms to address the funding of road infrastructure, generally, and GFIP, in particular. We therefore look forward to government's forthcoming announcement on GFIP as this will create greater certainty as far as SANRAL's books are concerned.

With greater certainty will come even greater investment, by SANRAL, in the community upliftment which accompanies our projects, especially in the rural parts of our country. This effectively gives effect to our Horizon 2030 Strategy and our Transformation Policy, both of which are intended to leave a legacy that goes beyond

roads and impacts on local economies in a palpable and tangible way.

This is enhanced in no small measure, for instance, by our ring-fencing of at least 30% on each project for local empowerment, mainly through subcontracting SMMEs for their development and empowerment. This is an ongoing journey of transformation in recognition of the fact that small businesses the world over have proven to be catalysts for job creation.

We are also proud of our bursary and scholarship programme, which has brought relief to students in many poor families and in rural areas of our country. This investment is founded on the hope that the students will, in an adaptation of the famous Cuban slogan, 'each one teach one', each one help one in contributing to the development of their own families and communities.

All the work referred to in the paragraphs above is a culmination of contributions by an eclectic group of individuals and structures both inside and outside SANRAL, including the former CEO, Mr Skhumbuzo Macozoma, whose contract with the Agency ended in November last year, which means that he was with us for roughly half of the financial year under review. As our achievements show, despite some hiccups in places, he made a huge impact on the organisation and helped the Board discharge its fiduciary duties in line with relevant prescripts. The support and contribution of the executive and other levels of management, together with the general staff, must also be acknowledged and applauded. We must refer, in particular to the courageous and competent leadership demonstrated by the Acting CEO, Ms Lehlohonolo Memeza, who together with her management colleagues have been keeping the home fires burning while the search for the next CEO has been going on.

We therefore thank Mr Macozoma, Ms Memeza, our executive management, the general management, and our staff for their contribution to and execution of SANRAL's operations during the year under review. The organisation would not be able to deliver on its mandate without the hard work of these men and women.

In the same breath I would like to pay tribute to and thank my fellow Board members, who have continued to diligently serve this organisation and the people of South Africa despite the uncertainty surrounding our continued tenure. As chairperson of the Board, I can attest to their good faith and commitment to the best interests of SANRAL irrespective of whatever limitations they are exposed to.

As already intimated, SANRAL has continued to be exemplary as a direct result of the political and

executive leadership under which it falls. The Minister of Transport, Mr Fikile Mbalula, and his Deputy, Ms Sindisiwe Chikunga, have been lodestars and pillars of support even under trying times for this Board and this organisation. Without in any way taking their support for granted, we must thank them for it and express our recognition of the lapses they have drawn our attention to, and indeed our commitment to addressing them while we are still entrusted with the custodianship of this national asset. Our gratitude accordingly goes, as well, to their officers, including the Chief of Staff, the head of the Deputy Minister's Office, and the Minister's advisors. As we do so, we must not forget the Minister of Finance, whose centrality to SANRAL is legislated, and who, with his Department, has paid particular attention to SANRAL's liquidity.

In thanking the Ministers, we are ipso facto thanking their departments, especially the DGs and DDGs, and their own officials, without whom we would not be able to carry out both our operations and governance as SANRAL. While SANRAL reports to the Department of Transport, oversight by Parliament and the Portfolio Committee on Transport and other committees is critical in our fulfilment of our accountability to the people of South Africa. That accountability is critically but constructively annually reported upon by the Auditor-General of South Africa.

All these structures have enhanced our accountability, thereby adding value to our work, during the year under review. We have accordingly learned from them, even though we have continued to demonstrate lapses from which they are striving to drag us. We are grateful to them and wish to explicitly acknowledge their robust interrogation of our praxis as a public institution and state-owned company.

Finally, I would like to thank all South Africans who use our national roads and who continue to provide us with feedback, both positive and negative. Our service to them is a privilege and an honour we never, even for a second, forget because if we forgot that we would have forgotten the very rationale for SANRAL's existence and our responsibility as the organisation's Accounting Authority.



THEMBA MHAMBI
Chairperson



LEHLOHONOLO MEMEZA

Acting Chief Executive Officer's Report

When I was appointed as Acting CEO last year, I was charged with making sure that the South African National Roads Agency (SANRAL) remains on the path to fulfil its mandate of financing, improving, managing and maintaining the national roads network.

The work of SANRAL is informed by our Horizon 2030 strategy, our guiding document that articulates our vision and the strategic and tactical interventions needed to deliver on our mandate.

At SANRAL, we have four pillars that help to guide our work: Roads, Road Safety, Stakeholders and Mobility.

In terms of the Roads pillar, SANRAL is mandated to look after the national roads in South Africa. We have to deliver infrastructure that will enable the movement of people and freight, investigate tolling options where feasible and deliver high socio-economic projects. We have several of these projects currently under construction, including the N2 Wild Coast Road in the Eastern Cape, the N2/N3 upgrades in KwaZulu-Natal, and the Moloto Road R573 in three of South Africa's northern inland provinces – Gauteng, Mpumalanga and Limpopo – which has also been transferred into our custodianship.

The Stakeholders pillar has taken on increased significance in SANRAL as we try to reach out more to the communities impacted by our roads projects. We endeavour to make sure that all stakeholders, especially in poor and rural communities, benefit from the work we do. We are implementing a stakeholder engagement strategy and plan, which includes face-to-face interactions, strengthened media relations, effective marketing and advertising, and extending our research to understand and better respond to the needs of all our stakeholders.

A noteworthy example is the upgrading of the lighting in the Huguenot Tunnel which necessitated extensive engagement with various stakeholders, to ensure that they planned their travel

accordingly. Effective stakeholder engagement ensured that partial tunnel closures were implemented smoothly, with the majority of users adjusting their travel plans.

In terms of our Mobility pillar, we seek to develop road infrastructure that enables public transport and the movement of freight. We are involved in efforts to promote integrated ticketing and public user information. Mobility also means implementing congestion management programmes, optimising the mobility and accessibility needs of strategic roads, promoting efficient and integrated urban mobility planning and ensuring route optimisation of capacity through cost-effective measures.

During 2021/22, the adoption of the electronic payment option by many road users has reduced congestion at toll plazas during busy periods, especially along toll routes and at plazas in KwaZulu-Natal.

On the Road Safety pillar, we go beyond just building safely engineered roads. The pillar also focuses on implementing programmes to improve attitudes and behaviour, extend education and awareness programmes, strengthen partnerships for law enforcement and regulation, and implement technology and innovation solutions that influence road user attitudes and behaviour. We also constantly explore improved road management systems, and lead and participate in road safety research and development programmes.

SANRAL now manages more than 22 200km of roads, of which 84% are non-tolled and only 16% are tolled.

Our network continues to grow, not only as SANRAL builds new roads, but also as we take over roads previously managed by provincial authorities. Our roads have a net asset value of around R450 billion, making the national road network one of South Africa's biggest assets.

South Africa has just emerged from an intensely challenging period as a result of the COVID-19 pandemic, which began in March 2020. On 22 March

this year, towards the end of our financial reporting period, President Cyril Ramaphosa announced that the government would lift the National State of Disaster, under which lockdown regulations had been promulgated, and would transfer the management of the COVID-19 pandemic to the Department of Health. This allowed South Africans to finally get on with the job of rebuilding the economy while still being mindful of applying some of the measures that had been introduced to combat the coronavirus. These include washing hands or sanitising, wearing face masks properly and social distancing, especially in indoor venues.

At SANRAL, we are prepared to play our role, as a state-owned entity and a responsible corporate citizen, in rebuilding our country's economy. In this we will be guided by our Transformation Policy which directs us to actively uplift local communities throughout the country where we operate. We insist on setting aside 30% of project spend for local community development, prioritising women and youth. For instance on the N3 project in the Eastern Region, R64,304,246.53 went towards youth-owned businesses, with the same amount going towards women-owned businesses. On the same project, women and youth each earned R30,866,038.33 of the total R103 million spend on local labour. While we are making steady strides with transformation, we know much more is needed to ensure more people participate in growing the economy.

Unfortunately, some of our projects were stalled after the National Treasury issued a ruling on local beneficiation. It took 18 months of negotiation with the National Treasury to gain clarity on the 30% subcontracting clause and the term 'local'. This led to the stalling of 64 of our projects, which had suffered community disruptions.

We also had to comply with the supply chain management regulations, issued under the Public Finance Management Act by the National Treasury, as well as changes to tender procedures brought about by the COVID-19 lockdown. All of the above created a significant backlog, which resulted in 258 projects (to the value of R31.7 billion), planned to be awarded in 2020/21, being rolled over to the current annual procurement plan of 2021/22.

Our 2021/2022 plan includes a further 312 projects (R30 billion), which were due to commence with the procurement process in this financial year.

More than 4,000 tender submissions had to be checked for compliance in terms of eligibility criteria

and regulations before they could be evaluated for functionality, price and preference.

The delay was not due to a lack of funding, because no SANRAL projects are planned until funding is secured.

Between April 1, 2021 and February 28, 2022, we awarded 267 contracts, which represented work to the value of R33 billion. The delay in the majority of the project is between closing of advertisements and completion of the evaluations.

In terms of our Transformation Policy, it is important for us to uplift poor communities, but we cannot do this if we go against the National Treasury regulations on procurement. We work with project liaison committees and project liaison officers in ensuring that we involve the community completely in our projects.

One of the issues that continues to impact on our revenue is the unresolved situation regarding e-tolls, as it pertains to the Gauteng Freeway Improvement Project. We look forward to government's forthcoming announcement on GFIP as this will provide greater clarity on the way forward.

I am pleased to report that SANRAL is making good progress on some of the major initiatives that we have embarked on throughout the country.

Our road asset infrastructure management programme is on track, with most of the roads under our jurisdiction being maintained properly. In the third quarter, when things began to normalise after the COVID-19 pandemic, this programme created over 9,000 jobs.

With regard to education, skills and health, we have exceeded the number of internships (practical experience for undergraduate studies) and have placed 239 interns against an annual target of 150, because the roll-out of projects was accelerated and, as a result, there were opportunities for more placements.

In terms of social cohesion and safer communities, 11 road safety audits were completed, and road safety educational and awareness programmes were conducted at 30 educational sites near our projects.

In the third quarter alone, approximately 111 roundtable discussions were held with key stakeholders around the country. This was against an annual target of 60 such discussions.

We are making good progress in our attempts to become a capable, ethical and developmental organisation. In the third quarter, 85% of reported incidents of corruption were



resolved and we are establishing a structure dedicated to ethical management within SANRAL.

In the past financial year, we have made good progress on several of our major projects, including the N2 Wild Coast Road, with the Msikaba and Mtentu bridges as its mainstay; the N2/N3 upgrades in KwaZulu-Natal, which will cost more than R28 billion and are expected to be completed in five to eight years; the upgrades to the southbore of the Huguenot Tunnel were completed, and the design of the commissioning of the northbore which cost in the region of R2.5 billion was in final design last year; the Karino Exchange on the N4 between Gauteng and Mozambique, which is almost complete; and the Moloto Road Project straddling Gauteng, Mpumalanga and Limpopo, which is worth about R8 billion and is expected to be completed in 2028.

President Cyril Ramaphosa visited the site of the Msikaba Bridge in September last year and expressed excitement at the job-creation potential of this project, as well as the impact that it could have on the Eastern Cape and KwaZulu-Natal economies, among others.

Work on the N2 Wild Coast Road Project will lead to the creation of 8,000 direct full-time jobs and between 21,000 and 28,000 indirect jobs during the construction phase. This translates to a wage bill of around R750 million. Both skilled and semi-skilled people have already been employed on this project.

At SANRAL, we do more than building and maintaining roads. The Agency has made a significant contribution to the lives of underprivileged students through its bursary and scholarship programmes.

We are proud of our Technical Excellence Academy, where students who studied engineering can get additional training before being absorbed into the organisation.

In his State of the Nation Address in February 2022, President Ramaphosa reiterated that the government, in partnership with business and civil society, will continue to

build on the foundation of the Economic Reconstruction and Recovery Plan (ERRP), which is our common programme to rebuild the economy.

As SANRAL we play our role best by spending properly on projects, ensuring that we can make the most impact on the community and the economy.

I wish to express my gratitude to the Minister of Transport, Mr Fikile Mbalula, and Deputy Minister, Ms Sindisiwe Chikunga, for the support they have given me and the Agency. I am also grateful for the guidance that I have received from the Chairperson, Mr Themba Mhambi, and the Board of SANRAL. They are always prepared to go the extra mile in fulfilling their governance duties at SANRAL.

I also wish to acknowledge the contribution made to SANRAL by the former CEO, Mr Skhumbuzo Macozoma.

The progress that you will read about in this Integrated Report would not have been possible without the wonderfully gifted professionals who work at SANRAL. Thank you to our executive management, general management team and staff members; you have come through the COVID-19 pandemic with flying colours and are no doubt more prepared than ever to tackle the challenges that may be presented in future. Thank you to all the users of our roads; we appreciate all your feedback and engagement and as an Agency we will do our best to provide you with safe and efficient roads.

Finally, I extend my deepest condolences to colleagues, and South Africans in general, who lost their loved ones during the COVID-19 pandemic. We hope that the worst is now behind us.

LEHLOHONOLO MEMEZA
Acting Chief Executive Officer



SECTION 1

COMPANY OVERVIEW

Vision, mission, core values, principal tasks and objectives	11
Business pillars	12
Business and strategy	13
Horizon 2030	13
Executive management	16
Regional management	21



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.



PRINCIPAL TASKS AND OBJECTIVES

Plan, design, construct, operate, maintain and rehabilitate South Africa's national roads.

PLAN

Generate revenue from the development and management of assets.

GENERATE

Undertake research and development to advance knowledge in the design and construction of roads and related fields.

UNDERTAKE

Advise the Minister of Transport on matters relating to South Africa's roads.

ADVISE

BUSINESS PILLARS
SANRAL's long-term strategy, Horizon 2030, defines four business pillars that serve to integrate its operations and activities across the Agency and deliver different forms of value, as set out in the graphic representation below.



This consolidates all functions pertaining to the financing, planning, development, improvement and maintenance of national roads.

This area of business includes the management of toll roads and the road engineering and maintenance aspects of road safety.

There is an emphasis on road solutions that embrace innovative technology.

ROADS PILLAR



This embraces a holistic approach to road safety, including research and data collection on collisions, public awareness and road safety education, improved road incident management systems, development of engineering standards for safe roads and strengthening of partnerships for law enforcement.

ROADS SAFETY PILLAR



This pillar focuses on communication activities to build partnerships, manage community expectations of major road projects and influence public opinion in relation to SANRAL.

The pillar lays the foundation for economic participation of small businesses and rural communities in construction projects.

STAKEHOLDERS PILLAR



The focal point is on road infrastructure to enable public transport and intermodal transport solutions, increase access to strategic locations, integrate regions, facilitate seamless cross-border movement and enhance urban planning.

MOBILITY PILLAR

BUSINESS AND STRATEGY

SANRAL’s long-term strategy, also known as Horizon 2030, has formally seen its fourth-year anniversary in the public domain since its launch on 29 September 2017. The growth and development path for SANRAL articulated in Horizon 2030 seeks to build on the Agency’s core strengths and successes, and to dynamically respond to an ever-changing environment. It is therefore not an easy exercise to pinpoint formally when implementation began, though significant processes unfolded from 1 April 2018.

This year also marked the second year of implementation of the new Strategic Plan 2020–2025, which was informed by government’s Seven Apex priorities, the National Development Plan, and the Medium-Term Strategic Framework.

It also incorporates relevant elements of the Department of Transport’s strategic thrusts.



**HORIZON 2030:
IMPLEMENTATION STATUS AND PLANS**

SANRAL continues to implement its long-term strategy – Horizon 2030 – albeit under extremely challenging conditions and continuous headwinds both locally and globally. Horizon 2030 has formally seen its fourth-year anniversary in the public domain and continues to assist the organisation by articulating its long-term growth trajectory.

Among the realities SANRAL needs to confront is that the operating environment has significantly changed, along with fresh challenges exacerbated by the escalating demands placed on the Agency. The demands stem from a variety of adverse events that include the civil unrest experienced in KwaZulu-Natal and Gauteng. Peace, stability and a conducive operating environment are no longer imperatives that can be assumed. The truck blockades on key corridors have seen the normalisation of economic disruptions as a method to draw attention to societal concerns.

SANRAL also needs to adjust to a future that includes the rapid expansion of the national road network through incorporation.





The growth of the SANRAL network should ideally be undertaken in a sustainable manner given the various resource constraints.

However, given the demands and prevailing challenges, such an expansion path may not be entirely possible.

The transport sector as a whole also faces some turbulent headwinds, with adverse events significantly changing modal choice and reducing options for users.

The rising prevalence of heavy vehicles on the network also coincides with the growing need for efficient rail transport. Along with poor driver behaviour and a deterioration in road condition, this is a detrimental combination that compromises road safety. This is why ensuring the integrity of the network is a key priority for SANRAL, as evidenced by the overall condition index (OCI) of our roads, among other indicators.

The global economy also faces significant challenges. These include the negative impacts of Russia's war in Ukraine and the tightening of monetary policy as central banks worldwide respond to inflationary pressures.

The risk of stagflation is becoming more pronounced, with economies around the globe experiencing contraction. South Africa has not escaped these impacts and we are seeing rising interest rates and costs of living, concerns around energy security, rising unemployment and declining real household incomes.

In light of these various challenges and internal constraints, implementation of Horizon 2030 has not been progressing at the desired pace, though it continues as multi-year programmes unfold. The difficult local and global situation also highlights the importance of forging strategic partnerships, maximising efficiency, building on strengths, value creation and adapting to a dynamic environment.

Horizon 2030: Initiatives and taking stock

- In terms of **business development**, the timing of the revision of commercial terms, pro-forma and contracts has not been optimal. However, there have been noteworthy achievements in stabilising these alternative revenue streams.
- Initial work has started in developing the next five-year **information and communication technology (ICT)** strategy as the current strategy will see its conclusion in 2023.
- Progress on the **account-based ticketing pilot** to support government's plans to reconfigure public transport continues. Financial terms have been finalised with one of the municipalities in the pilot.
- **The rollout of flagship infrastructure projects** such as the N2, N3 and N2 Wild Coast has seen solid progress even in the face of various risks on the ground, which have needed constant management.
- The harsh realities of **climate change** mean that SANRAL's infrastructure increasingly needs to adapt to become more robust and resilient. The Agency needs to adopt proactive mitigation measures as far as possible.
- **Partnerships are being explored** in the area of electrical and autonomous vehicle technology to leverage institutional knowledge and strategic positioning.



THEMBA MHAMBI

Chairperson

- Teachers' Certificate (English, History, Guidance)
- BA (English, Education, History)
- BA Honours (English)
- MA (English, Creative Writing concentration)

ROB HASWELL

- BA
- BA Honours (Geography)
- MSc (Geography)

LUNGILE MADLALA

- NDip (Civil Engineering)
- BTech (Civil Engineering)
- BSc Honours (Applied Science)
- Honours (Civil Engineering and Transportation Engineering)

BOARD OF DIRECTORS - NON-EXECUTIVE DIRECTORS



**THAMSANQA
PIET MATOSA**

- Executive Leadership Development Programme – Certificate in Municipal Management



ERROL MAKHUBELA

- Master in Business Leadership (MBL) UNISA School of Business Leadership
- Post Graduate Diploma in the Law of Banking and Financial Markets University of the Witwatersrand
- BCom Hons (Finance and Economics) University of South Africa (UNISA)
- Director 1 to 5 (IODSA)



CHRIS HLABISA

- BTech (Civil) MDP Pr Tech Eng MSAICE

BOARD OF DIRECTORS - NON-EXECUTIVE DIRECTORS



LEHLOHONOLO MEMEZA
Acting CEO

- BCom (Financial Accounting)
- BCom (Hons) (Internal Audit)
- CIA Internal Auditors
- MPhil Internal Auditing



ALICE MATHEW
Company Secretary

- BSc
- MBA
- FCIS

ACTING CEO | COMPANY SECRETARY



LOUW KANNEMEYER
Engineering Executive

- BEng (Civil)
- MEng (Transportation)
Cum Laude
- PrEng
- PrCPM



INGE MULDER
Chief Financial Officer

- BCompt (Honours)
- CA (SA) SAICA
- CFO (SA) SAIBA



ADOLPH TOMES
Acting Business
Operations
Executive

- Diploma (Information
Technology)
- ITIL 4
- MBA

EXECUTIVE MANAGEMENT





MBULELO PETERSON

Southern Region

- BSc (Maths and Applied Maths)
- BSc (Civil Engineering)
- MSc (Strategic Planning)
- MBA
- PrEng
- MSAICE



RANDALL CABLE

Western Region

- BSc (Civil Engineering)
- MEng (Civil)
- PrEng



PROGRESS HLAHLA

Northern Region

- PrEng
- BSc Hons (Civil - Cum Laude)
- MSc (Civil)
- MBA (Cum Laude)



DUMISANI NKABINDE

Eastern Region

- BSc (Civil Engineering)
- PrEng
- Diploma in Project Management
- MEng (Civil)
- MBA
- MSAICE

REGIONAL MANAGEMENT



SECTION 2

CAPITALS AND PERFORMANCE

1 MANUFACTURED CAPITAL

1.1 Road development, improvement and rehabilitation	25
1.2 Road network management and maintenance	39
1.3 Combatting vehicle overloading	57
1.4 Transformation within the sector	59

MANUFACTURED CAPITAL

SANRAL is responsible for the financing, construction, maintenance and management of South Africa's national road infrastructure, which consists of all the national (N) routes and some provincial (R) routes. SANRAL's road network is more than 22,200km and is growing as the Agency takes over more provincial roads, often when requested to by provinces. One example is Moloto Road, which passes through Gauteng, Mpumalanga and Limpopo.

SANRAL's road network is currently valued at around R450 billion, making it one of South Africa's largest infrastructural assets.

About 87% of SANRAL's roads are non-toll roads, which are funded by the National Treasury through grants. Only about 13% being toll roads. Half of the toll roads are managed by SANRAL directly, while the other half are managed by private companies that have been granted concessions for the construction and management of these roads.

Constant and proper maintenance is required to ensure that roads remain in good condition and will survive longer without needing upgrades.

Road maintenance involves regular inspection of roads, bridges and slopes, and being aware of the needs and habits of road users. In recent years, SANRAL has updated its technology on a regular basis to ensure that it can manage and maintain roads much more effectively.

Manufactured capital cuts across the four pillars of SANRAL's business, which are Roads, Road Safety, Stakeholders and Mobility. The four pillars mean that SANRAL has to take responsibility for developing and maintaining the roads, improving road safety and reducing urban congestion, among other responsibilities. This must be done while continuously engaging with affected stakeholders. Part of SANRAL's mandate is to create jobs and uplift communities in the areas surrounding its projects. This is done through the contracts awarded for the construction and maintenance of roads.

1.1 ROAD DEVELOPMENT, IMPROVEMENT AND REHABILITATION

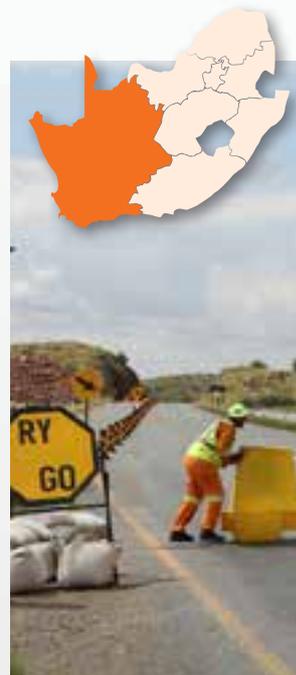
During 2021/22, SANRAL undertook a total of 49 projects nationally to build new roads, improve existing roads and rehabilitate roads in sub-optimal condition. Only 32 of the projects spanning the length of 92.609km of roadway were new constructions, of which 88.6km were non-toll and 4.009km were toll roads.



In the Eastern Region (KwaZulu-Natal and Free State), there were **12 projects** involving a total of **47.85km of roadway**.



In the Northern Region (Gauteng, North West, Limpopo and Mpumalanga), there were **13 projects** involving a total of **209.3km of roadway**.



In the Western Region (Western Cape and Northern Cape), there were **7 projects** involving a total of **205.53km of roadway**.



In the Southern Region (Eastern Cape), there were **17 projects** to build new roads, improve existing roads and rehabilitate roads in sub-optimal condition. This involved a total of **575.48km of roadway** to a value of **R7.9 billion**.

1.1.1 Capital projects and length of road benefited 2021/22

Eastern Region				
Type of capital project	Non-toll roads		Toll roads	
	Projects	Km benefited	Projects	Km benefited
Strengthening and improvement	7	44.5	1	1.35
New facilities	4	2	0	0
Total	11	46.5	1	1.35

Four new capital contracts were awarded during the year.



1.1.1 Capital projects and length of road benefited 2021/22 (continued)

Northern Region				
Type of capital project	Non-toll roads		Toll roads	
	Projects	Km benefited	Projects	Km benefited
Strengthening and improvement	R.511-030-2016/1	25.6		
	R.037-020-2014/1	10.0		
	R.081-010-2013/1	9.9		
	R.037-020-2005/1	25.9		
	R.510-020-2016/1	27.4		
	R.504-030-2018/1	28.9		
	R.510-012-2016/1	26.8		
New facilities	R.033-140-2016/1	Bridges and culverts	N.001-290-2005/1	8.0
	R.573-020-2019/4	11.5		
	R.573-030-2016/1	24.5		
	R.573-030-2019/1	6.8		
	R.023-020-2020/1	4.0		
Total	12	201.3	1	8

Southern Region				
Type of capital project	Non-toll roads		Toll roads	
	Projects	Km benefited	Projects	Km benefited
Strengthening and improvement	5	78.59	0	0
New facilities	1	4.0	0	0
Total	6	82.59	0	0

Western Region				
Type of capital project	Non-toll roads		Toll roads	
	Projects	Km benefited	Projects	Km benefited
Design				
Strengthening and improvement	3	83.53	0	0
New facilities	1	96.0	0	0
Construction				
Strengthening and improvement	2	9.0		
New facilities	1	17.0		
Total	7	205.53km	0	0

1.1.2 Major contracts awarded in 2021/22 (continued)

Major projects on non-toll roads

Eastern Region				
Section of road (located by town, village or I/C, etc.)	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
N3 section 2 between Cato Ridge I/C and Dardanelles I/C	23%	R250,358,723.00	Upgrade of the N3 from 4 lanes to 8 lanes (including a median barrier wall, lighting and lengthening of a rail underpass)	Raubex Construction (Pty) Ltd
N3 section 2 between Dardanelles I/C and Lynnfield Park I/C	25%	R397,917,849.00	Upgrade of the N3 from 4 lanes to 8 lanes (including a median barrier wall, lighting and lengthening of a rail underpass)	Raubex Construction (Pty) Ltd
N3 sections 2 and 3 from Lynnfield to Ashburton I/C	23%	R202,075,579.00	Upgrade of the N3, widening of the main carriageway from the current 2 lanes northbound and 3 lanes southbound to 4 lanes and 5 lanes respectively	Rumdel Construction Cape (Pty) Ltd
R22 section 5 through Kwangwanase Town*	40%	R75,838,299.26	Upgrade of the R22, widening of the main carriageway by addition of a parking lane on both sides, new pedestrian facilities and lighting	Leomat Construction (Pty) Ltd
N3 section 3 from Sanctuary Road to Link Road*	80%	R126,840,391.00	Slow lane reconstruction	Raubex KZN (Pty) Ltd
eThekweni pedestrian facilities on N2 section 25	100%	R16,366,506.00	Construction of pedestrian walkways on N2 section 25, between km 4.0 and km 19.5	GnS Civils (Pty) Ltd
N2 from KwaMashu I/C, section 25 to Umdloti River Bridge, section 26*	2%	R71,231,238.00	Upgrading of N2 from KwaMashu I/C, section 25 (km 28.6) to Umdloti River Bridge, section 26 (km 14.0)	Raubex Construction (Pty) Ltd
N2/N3 New Jersey barrier supply*	20%	R47,485,746.00	Manufacture of precast concrete barriers to be used as a temporary vehicle restraint system for the upgrading of National Routes 2 and 3 in the Eastern Region	Martin & East (Pty) Ltd
N3 materials provision*	1%	R26,010,986.00	Provision of crush material for the N3 upgrades	Trench and Bulk Blasting
New Kokstad I/C and TCC*	30%	R94,745,274.00	Construction of a new Interchange	H&I Construction
Freeway Management system – KZN	36.1%	R207,752,622.13	Freeway Management System	Netronix (Pty) Ltd

*Time and cost overrun due to COVID-19 and extension of time claims due to claims submitted by the relevant contractors



1.1.2 Major contracts awarded in 2021/22 (continued)

Major projects on non-toll roads

Northern Region						
Project number	Project description	Section of road (located by town, village or I/C, etc.)	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
R.511-030-2016/1	Road D2720 to Beestekraal	R511 section 3 from Road D2720 to Beestekraal	100%	R25,335,705.76	Strengthening	NZK FootPrint Engineering CC
R.037-020-2014/1	R37 section 2 km 50.0 to km 60.0	Lydenburg	75%	R0.00	Strengthening	WTW Civil
R.081-010-2013/1	Munnik (km 61.19) to Ga-Sekgopo (km 71.12)	Ga-Sekgopo	99%	R85,327,961.39	Improvement	Lonerock Construction
R.037-020-2005/1	Modikwa Mine (km 117.00) to Burgersfort (km 142.87)	Burgerfort to Ka-Ribe	41%	R254,135,097.00	Improvement	Edwin Construction (Pty) Ltd
R.510-020-2016/1	Bierspruit (km 6.4) to Thabazimbi (km 33.8)	R510 section 6 from km 6.3 to km 33.8	25%	R93,400,000.00	Improvement	Raubex
R.033-140-2016/1	Merriespruit bridges between Vaalwater and Lephalale	R33 section 14 – Vaalwater	45%	R41,500,000.00	New bridges	G4 Civils
R.573-020-2019/4	Upgrading of National Road R573 section 2: Work Package A from km 24.70 to km 36.20	R573 section 2 from km 24.70 to km 36.20	11%	R73,753,729.99	Upgrade	King Civil Engineering Contractors
R.573-030-2016/1	Mathys Zyn Loop to Marble Hall, km 19.2 to km 43.7	Siyabuswa (km 19.2) to Marble Hall (km 43.7)	67%	R0.00	Upgrade	KPMM/CBE JV (contract terminated)
R.573-030-2019/1	Km 6.5 to km 13.3	Slovo (km 6.5) to Siyabuswa (km 13.3)	38%	R74,831,236.09	Upgrade	Raubex Construction (Pty) Ltd
R.037-020-2019/1	Burgersfort km 0.0 to km 14.0.	Burgersfort to km 14.0	89%	R39,393,534.62	Resurfacing	Actophambili
N.012-120-2018/1	Beefmaster (km 12.6) to Matlabanestad (km 35.0)	Christiana (Lekwa Teemane Municipality)	99%	R62,723,693.37	Resurfacing	Actophambili/ Mafoko JJ JV

1.1.2 Major contracts awarded in 2021/22 (continued)

Major projects on non-toll roads

Northern Region						
Project number	Project description	Section of road (located by town, village or I/C, etc.)	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
N.012-120-2018/2	Matlabanestad (km 35.0) to Bloemhof (km 55.2)	Bloemhof (Lekwa Teemane Municipality)	99%	R62,986,325.89	Resurfacing	Actophambili/ Mafoko JJ JV
N.012-140-2019/1	Rietpan (km 40.0) to Wolmaranstad (km 63.1)	Wolmaranstad (Maquassi Hills Municipality)	12%	R7,261,669.95	Resurfacing	Roadmac (Pty) Ltd
R.572-020-2019/1	Monte Christo (km 0.0) to Rooigrond (km 24.0)	Lephalale-Ga-Seleka	98%	R50,902,971.80	Resurfacing	Roadspan Surfaces (Pty) Ltd
R.572-020-2019/2	Rooigrond (km 24.0) to Tom Burke (km 47.95)	Lephalale-Ga-Seleka	98%	R56,665,944.53	Resurfacing	Roadspan Surfaces (Pty) Ltd
R.578-010-2019/4	N1 (km 0.0) to Maholisi (km 16.0)	Makhado to Elim	66%	R31,035,925.04	Resurfacing	Roadmac (Pty) Ltd
R.578-010-2019/6	Mahodlogwa (km 35.8) to Nwamata (km 56.0)	Mahodlogwa to Nwamatatani	85%	R53,623,339.40	Resurfacing	Imvula Roads & Civil
R.033-060-2019/1	Mkhondo (km 0.0) to Amsterdam (km 36.0)	Piet Retief (Mkhondo) to Amsterdam	90%	R86,039,444.15	Resurfacing	Roadmac (Pty) Ltd
R.033-070-2019/1	Amsterdam (km 0.0) to N17 intersection (km 52.5)	Amsterdam to N17 intersection	57.7%	R54,509,242.09	Resurfacing	Roadmac (Pty) Ltd
R.023-020-2020/1	Completion of 6 bridges and km 0-4	Lekwa (Standerton to Greylingstad)	23.3%	R104,097,410.78	New facilities	Raubex Enza JV
N.017-050-2009/2 N.017-050-2021/1	Chrissiesmeer (km 37.0) to km 85	Msukaligwa (Chrissiesmeer)	16%	R35,337,574.00	Special maintenance	Roadspan Edwin JV
R.504-030-2018/1	Wolmaranstad to Leeuwdongstad	km 0 to km 28.9	3%	R6,542,330.85	Strengthening	Tau Pele

1.1.2 Major contracts awarded in 2021/22 (continued)

Major projects on non-toll roads

Northern Region						
Project number	Project description	Section of road (located by town, village or I/C, etc.)	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
X.002-063-2018/1	Structural/ drainage services – Bloemhof Dam bridge repairs	Bridge B2762 A and B in Bloemhof on R34 section 2	69%	R4,304,837.87	Repair of the existing culvert	Dwellers Trading and Projects cc
N.004-112-2017/1	Rebecca Street to Pelindaba	N4 Sections 11 and 12, Pretoria (Atteridgeville)	19%	R3,844,550.51	Resurfacing	Phagama Civils and Maintenance cc
R.524-010-2021/1	Repair of the existing culvert on R524 section 1 at km 66.6	Thohoyandou	99%	R16,803,566.54	Repair of the existing culvert	Jodan Construction (Pty) Ltd
R.555-030-2021/1	Repair of the existing pipe culvert on R555 section 3 at km 6.88	Laersdrif	95%	R9,183,966.41	Repair of the existing culvert	WK Construction SA (Pty) Ltd
R.036-060-2019/2	Manchabeni to Tzaneen (28.8km)	km 4.75 to km 34.1	3%	R9,339,073.51	Resurfacing	Roadmac (Pty) Ltd
R.579-020-2019/2	Morwaneng to Maleetsi	km 0 to km 26.1	2%	R8,939,310.75	Resurfacing	Roadmac (Pty) Ltd
R.510-012-2016/1	NW/LP Border to Bierspruit	Sections 1 and 2 from North West/ Limpopo border (km 72.0) to Bierspruit (km 6.3)	0%	R0.00	Improvement	Lonerock Jodan JV

Western Region				
Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
N7/2: Rooikraal to Morreesburg	2%	R23.54 million	Improvement	Martin & East
N2/7: Gwainsbridge	60%	R32.29 million	New facilities	Mamlambo Construction

1.1.2 Major projects completed during 2021/22

Eastern Region				
Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
eThekweni pedestrian facilities on N2 section 25 (between km 4.0 and km 19.5)*	100%	R16,366,506.00	Construction of pedestrian walkways on N2 section 25, between km 4.0 and km 19.5	GnS Civils (Pty) Ltd
N2 North Coast at Umhlali River Bridge and Umvoti River Bridge*	100%	R81,767,823.00	Realignment of N2 section 27 at Umhlali River Bridge (km 15.37) to km 15.98 and at Umvoti River Bridge (km 26.4) to km 27.14	Raubex KZN (Pty) Ltd

*Time overrun due to COVID-19 and extension of time claims

Northern Region				
Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
N1 section 27, Polokwane Ring Road	100%	R7,436,261.77	Improvement and upgrading of Polokwane Ring Road	Edwin Construction
R511 section 3 from Road D2720 to Beestekraal	100%	R25,335,705.76	Strengthening	NZK FootPrint Engineering CC



Western Region				
Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
N2/3: Caledon to Riviersonderend	100%	R28.84 million	Improvement	H&I

1.1.2 Major projects completed during 2021/22 (continued)

Southern Region				
Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
Kareedouw to Humansdorp	100%	R60.2 million	Special maintenance of 25.62km along the N2 sections 9 and 10 between Kareedouw and Humansdorp	Roadmac Surfacing Cape (Pty) Ltd
Wolverfontein to Jansenville	100%	R33.4 million	Special maintenance of 17.5km along the R75 between Wolverfontein and Jansenville	Roadmac Surfacing (Pty) Ltd
Jansenville to R63 Intersection	100%	R57.3 million	Special maintenance of 16km along the R75 between Jansenville and the R63 intersection	Tau Pele Construction (Pty) Ltd

1.1.3 Major projects on toll roads managed by SANRAL

Eastern Region				
Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
N2 North Coast at Umhlali River Bridge and Umvoti River Bridge*	100%	R81,767,823.00	Realignment of the N2 section 27 at Umhlali River Bridge (km 15.37) to km 15.98 and at Umvoti River Bridge (km 26.4) to km 27.14	Raubex KZN (Pty) Ltd

*Time overrun due to COVID-19 and extension of time claims



Northern Region						
Project number	Project description	Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
N.001-290-2005/1	Musina Ring Road	Just south of Musina to just north of Musina	83%	R195,410,792.00	New facilities	Raubex Construction (Pty) Ltd





1.1.4 Toll road projects managed by concessionaires

SANRAL continues to monitor the quality and adequacy of roads managed by its concessionaires, similarly to those roads managed by SANRAL. Concessionaires continue with capital projects to strengthen and improve the roads that fall within their responsibility. The total value of construction and rehabilitation work performed during 2021/22 on toll routes under concession was R2.291bn.

New construction and rehabilitation contracts on toll concessions awarded in 2021/22

Project	Start and end date	Value of contract	Scope of work	Main contractor
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TRAC



Upgrading of Montrose Intersection to split-level I/C	10 January 2022	R248.66 million	New grade-separated I/C	WBHO/Motheo JV
Rehabilitation of MDC section 5a between Wonderfontein and Belfast	28 February 2022	R244.10 million	Rehabilitation	Actophambili Roads
Upgrading of the Nelspruit bypass to 4-lane undivided between P154 and Karino I/C	14 January 2022	R104.68 million	Rehabilitation and upgrading to 4 lanes	Raubex Construction

N3TC



RR-2021-001: Rehabilitation of N3-10 NB	April 2022 to December 2023	R268 million	Repair and resealing of N3 between Vaaldraai I/C and Malanskraal	Roadspan WBHO JV
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Bakwena



Rehab N4/9 km 0.0-20.8	18 October 2021 to 17 July 2023	R187,977,285.02	Rehabilitation of slow lane including the R80 and Kameeldrift I/Cs	G4 Civils (Pty) Ltd
N4/9 km 0.0-2.8 third lane westbound	01 May 2022 to 31 July 2022	R9,796,410.06	Third lane westbound	G4 Civils (Pty) Ltd

Ongoing construction and rehabilitation projects on concessioned toll roads in 2021/22

Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
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TRAC

N4 between Belfast and Machadodorp, MP	98%	R128.68 million	Upgrade – lane additions	WBHO/Motheo JV
N4 Upgrading of Karino I/C	99%	R66.15 million	New grade-separated interchange	Raubex Construction
N4 between Witbank and Middelburg	99%	R203.3 million	Rehabilitation and lane additions	Raubex Construction



N3TC

RR-2018-002A N3 – 8 & 9 Warden to R34	80%	R372 million	Rehabilitation and overlay of N3 between Warden and the R34	Roadmac Surfacing (Pty) Ltd
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Completed construction and rehabilitation projects on toll routes under concession

Section of road	Percent complete	Value of work done 2021/22	Scope of work	Main contractor
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N3TC

RR-2018-002B N3-9 R34 to Villiers	100%	R203 million	Rehabilitation and overlay of N3 between the R34 and Villiers	Hillary Construction (Pty) Ltd
RR-2019-001 N3-5 Estcourt South I/C to Frere I/C	100%	R168 million	Repair and resealing of N3 between Estcourt south I/C and Frere I/C	Roadmac Surfacing (Pty) Ltd
RR-2019-001 SA N3-4 Mooi River to Hidcote	100%	R36 million	Special maintenance of N3 between Mooi River and Hidcote	Roadmac Surfacing (Pty) Ltd



Bakwena

N4/9 km 24.3 to N4/10 km 19.3	100%	R50,994,606.03	Construction of new eastbound carriageway	Raubex/Enza JV
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1.2 ROAD NETWORK MANAGEMENT AND MAINTENANCE

- 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.

As indicated in the table below, a high percentage of the national road network complies with or exceeds the international benchmarks.



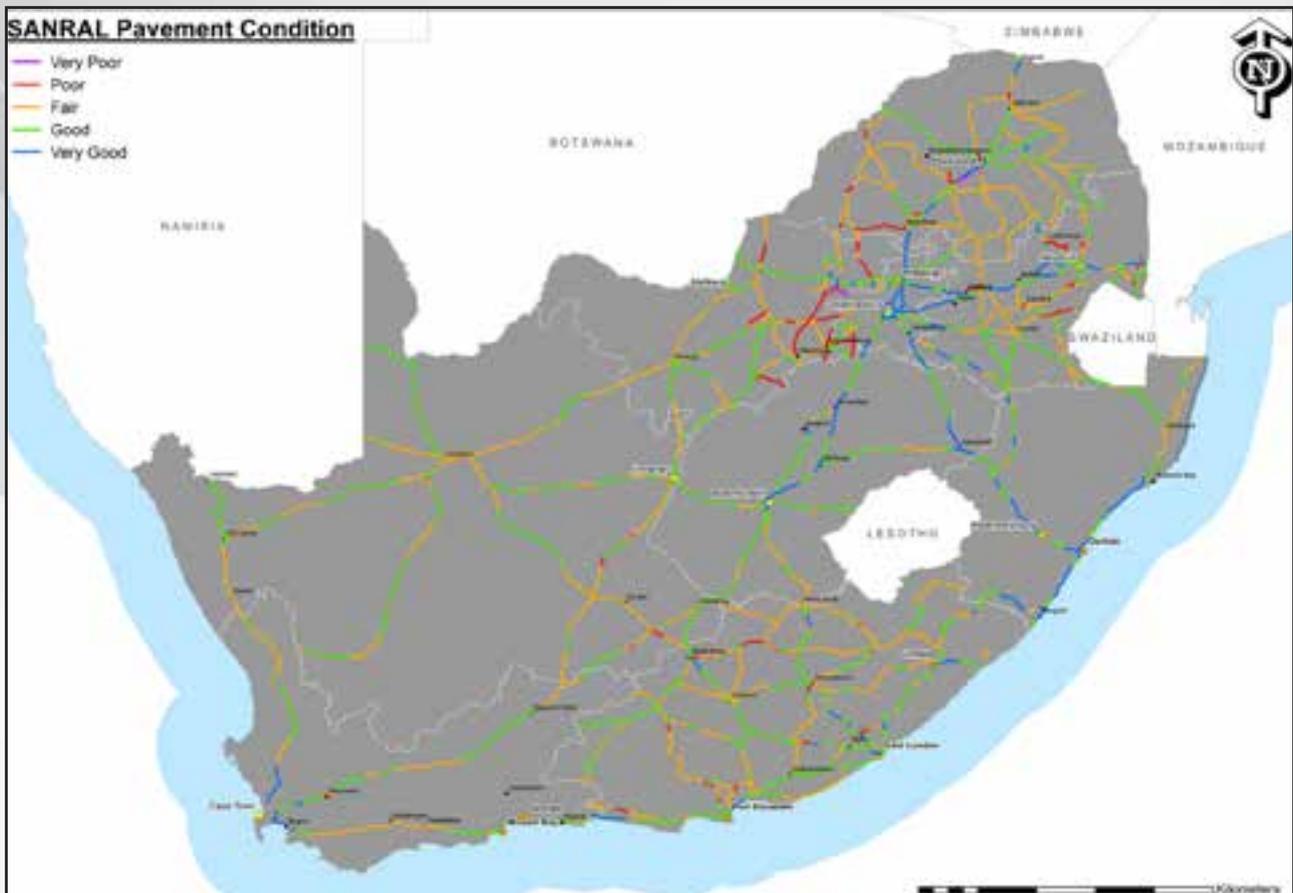
Pavement condition in 2021/22



Road condition / financial year	2017/18	2018/19	2019/20	2020/21	2021/22
Very good	15.0%	14.8%	14.5%	14.22%	11.8%
Good	46.7%	45.0%	43.9%	41.13%	40.1%
Fair	34.8%	36.2%	35.2%	37.74%	39.8 %
Poor	3.4%	4.0%	6.1%	6.64%	8.0 %
Very poor	0.1%	0.1%	0.3%	0.27%	0.4 %

1.2.1 Pavement condition

In 2021/22, the pavement condition of about 52% of national roads was in good to very good condition and about 40% in fair condition. Just 8% was rated poor to very poor. There have been small fluctuations in pavement condition over the last three years. Compared to 2019/20, the pavement condition in 2020/21 shows a slight downward drift, with marginally lower percentages in the good and very good categories and a small increase in fair ratings. However, the differences are so small that they could be normal fluctuations and do not necessarily indicate deterioration.



1.2.2 Bridge management

In 2021/22, the national road network included 10,142 bridges and major culverts (bridges comprised 3,884 of this figure). These require inspection every five years by accredited inspectors from the Structures Sub-committee of the Committee of Transport Officials (COTO).

The above figure includes 959 bridges and major culverts on routes managed by concessionaires. For 2021/22, the bridge condition exposure score achieved was 94% of travel over or under, which comprised bridges with an overall condition index (OCI) greater than 70%.

Bridge condition exposure measurements			
Description	2019/20 actual	2020/21 actual	2021/22 actual
Percentage of travel over or under bridges on national roads with OCI higher than 70%	93%	93%	94%



1.2.3 Slope management

Eastern Region

The region undertakes proactive management of unstable slopes. The routine road maintenance (RRM) teams continuously monitor and report on any serious incidents or maintenance requirements. From the regional annual assessments, no serious slope-related incidents and maintenance requirements were recorded during the reporting period under review.

The recently completed new TMH 21 Manual for the Visual Assessment of Road Slopes will be used in future as a guideline for the assessment and risk classification methodology for slope hazards. The Eastern Region will be procuring consulting engineering services for undertaking the proactive management of slopes in the 2022/23 financial year, where the principles of the Draft TMH 21 Manual will be applied.

Northern Region

SANRAL undertakes proactive management of unstable slopes. Two slope failures occurred, on National Road R36 section 8 and on National Road R518 section 1. Both of these slopes are being closely monitored by our RRM team, and remain stable. Engineering consultants responsible for these sections of the road are busy with concept designs compilation for a permanent solution to the slope failures.

Western Region

The regional slopes database consists of 945 sites, which are visually assessed every five years. The next assessment is due in 2022/23. No serious incidents were reported for the 2021/22 period, and the slopes are mostly considered to be in a fair to good condition.

Southern Region

The regional slopes database consists of 3,961 slopes which are visually assessed every 5 years. The next assessment is due in 2022/23. The slope management system database is updated on an annual basis and as such was completed in November 2021. Quarterly status update reports were completed in May 2021, August 2021, November 2021 as well as in February 2022.

Slope incidents during 2021/22 led to three slopes being elevated to construction sites. Another 9 slope sites have been elevated to detailed design sites that will be raised to construction sites in the MTEF period.



1.2.4 Contracts for routine road maintenance

In 2021/22, SANRAL's four regional offices spent R2,697.575 million on RRM contracts. These contracts covered both non-toll and toll roads, excluding those under concession.

The cost of maintaining a section of road through its life cycle can be broken down as follows:

- **Routine maintenance (Opex)** This includes day-to-day routine activities such as cleaning drains and culverts, vegetation control, line marking, guardrail repair, road sign repair, crack sealing, patching, edge repair, shoulder spot regravelling and shoulder blading. The cost is R0.121 million per km per year.
- **Periodic maintenance (Opex)** This includes periodically scheduled activities to waterproof surfaces, through surface seals and functional asphalt overlays < 50 mm in thickness. The cost is R2 million to R3 million per km every 8 to 12 years.
- **Strengthening (Capex)** This includes increasing the structural capacity of an existing pavement through the recycling of existing layers and/or the addition of new granular layers or structural asphalt overlays >80mm thick. The cost is R12 million to R18 million per km every 20 to 25 years.
- **Improvements (Capex)** This comprises works that improve the quality of service on roads with an unacceptable quality of service, such as increasing the width in selected areas (i.e. the addition of climbing/passing lanes) and increasing the width over the total length of the project (i.e. the addition of paved shoulders and localised geometric and intersection improvements).

These activities could, in some instances, include the complete rehabilitation of the existing pavement structure. The cost is R20 million to R40 million per km every 20 to 25 years.
- **New facilities (Capex)** This comprises works to improve network capacity and includes the upgrading of a single carriageway road to a 4-lane or dual-carriageway road, as well as the construction of new surfaced road where previously no road existed (brown/greenfields construction), and the construction of new bridges to replace existing bridges or new interchanges to replace intersections. The cost is R25 million to R140 million per km every 20 to 25 years.



Value of RRM contracts 2021/22

Road area	Contract value (R million)	
Northern Region (Gauteng, Mpumalanga, Limpopo and North West)	Non-Toll	R1,259.164
	Toll	R309.983
Eastern Region (Free State and KwaZulu-Natal)	Non-Toll	R204.0
	Toll	R97.0
Southern Region (Eastern Cape)	Non-toll	R353.705
	Toll	R0.759
Western Region (Northern Cape and Western Cape)	Non-toll	R466.671
	Toll	R6.293
Total for SANRAL-managed roads		R2,697.575

**Toll roads under concession (RRM)**

TRAC collectively spent
R37.23 million (excl. VAT)
on RRM.



The responsible companies
collectively spent
R77 million on RRM.



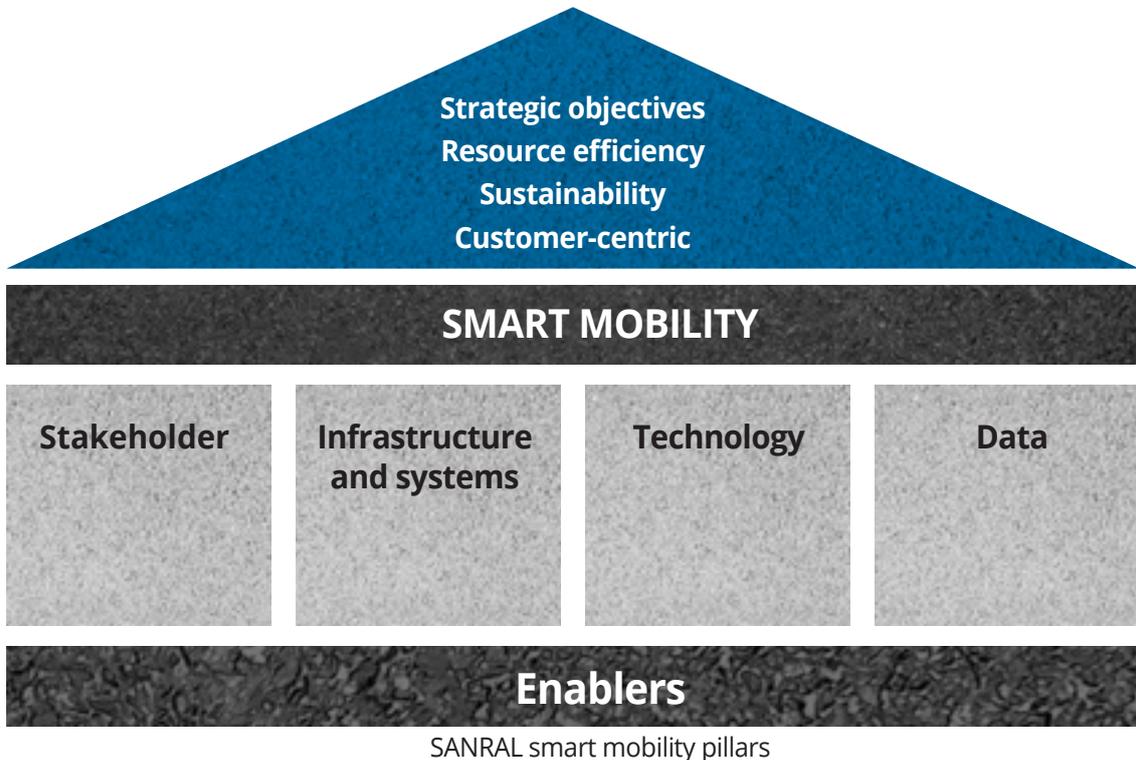
The responsible companies
collectively spent
R42 million on RRM.

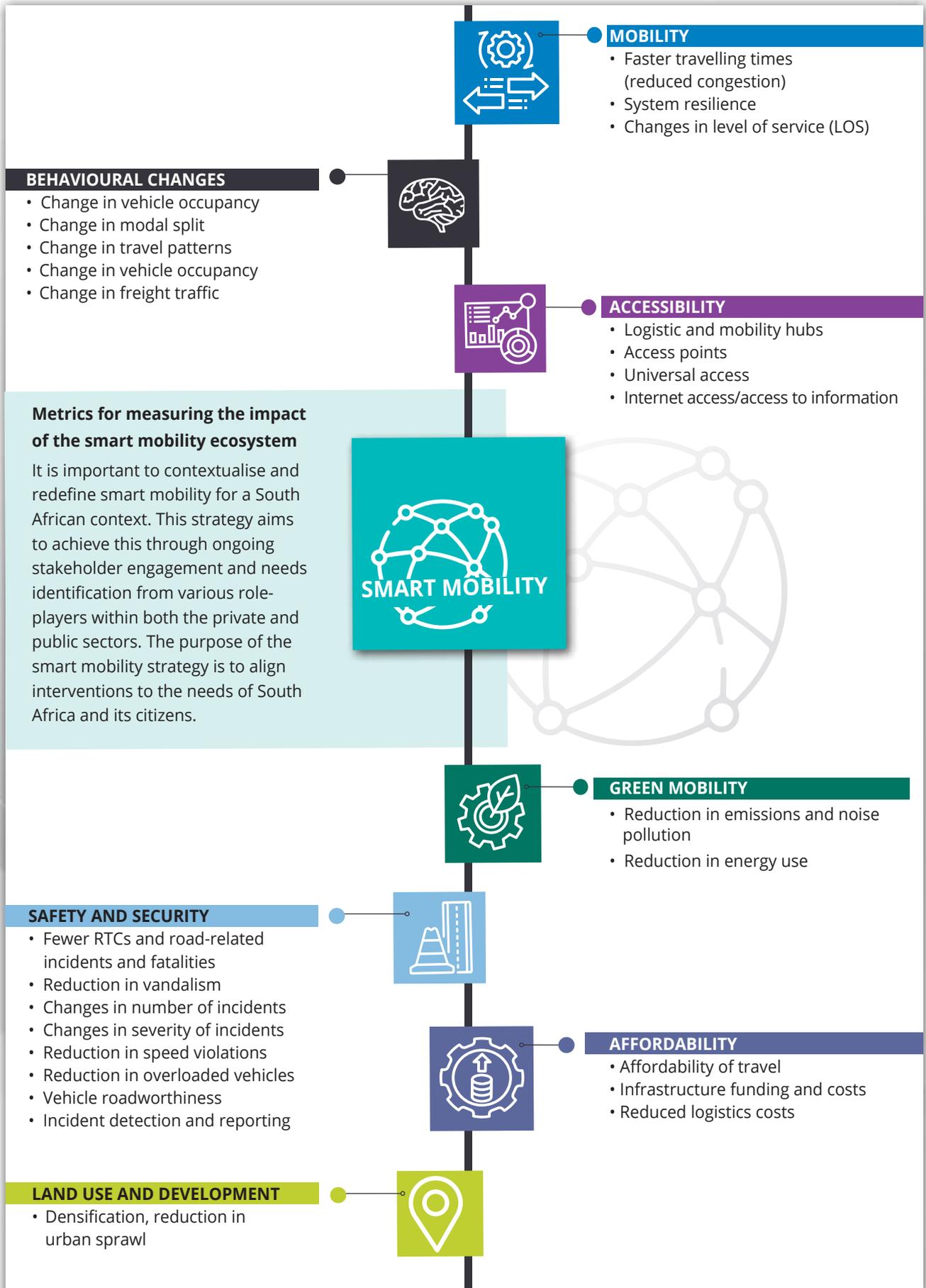
1.2.5 Smart Road Systems

To address current and future mobility needs in a sustainable fashion, a new paradigm needs to be adopted. This paradigm, called ‘smart mobility’, seeks to maximise the use of available resources to create a transport system that caters to road user needs in a manner that is resource efficient and sustainable. The transition to a transport system that embraces this paradigm is illustrated in the diagram below.

It should be noted that smart mobility has various components and cuts across many sectors (both public and private). This strategy aims to look specifically at the part that SANRAL must play to bring smart mobility to fruition. The strategy also aims to identify the areas where SANRAL can promote smart mobility in other spheres of government (municipalities, Department of Transport and other state-owned entities) and in the private sector. In this way, SANRAL wishes to promote and facilitate the transition to smart mobility within the scope of its own mandate.

SANRAL acknowledges the changing environment (technology, policies and needs, etc.) and the need to be agile in response to change. Therefore, this strategy will be reviewed on an annual basis to ensure it stays relevant. The outcomes of the SANRAL Research Panel’s foresight into future trends and changes in the road transport sector will also be used to refine the strategy as new information becomes available.







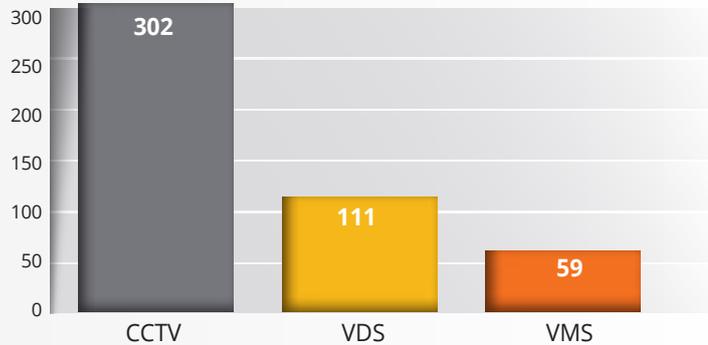
The Freeway Management Systems

The Gauteng FMS

The Gauteng freeway management system infrastructure consists of 302 CCTV cameras, 111 vehicle detection stations (VDSs) and 59 variable message signs (VMSs).

- CCTV = closed-circuit television
- VDS = vehicle detection stations
- VMS = variable message signs

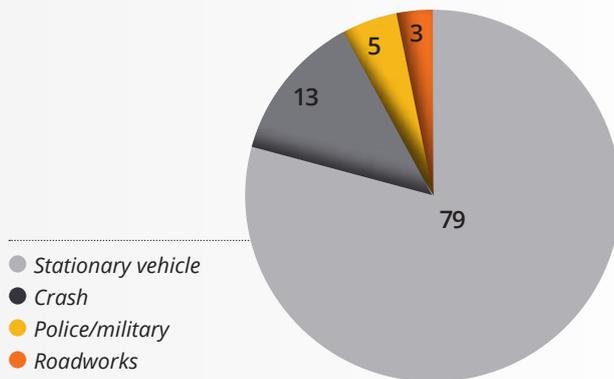
GP - FMS Infrastructure by device type



Incident information

In 2021/22, the GP FMS network recorded a total of ~41,206 incidents (of which 36,335 were visually confirmed using CCTV infrastructure) through its Traffic Management Centre (TMC). The chart below provides an annual percentage breakdown of the visually confirmed incidents by type.

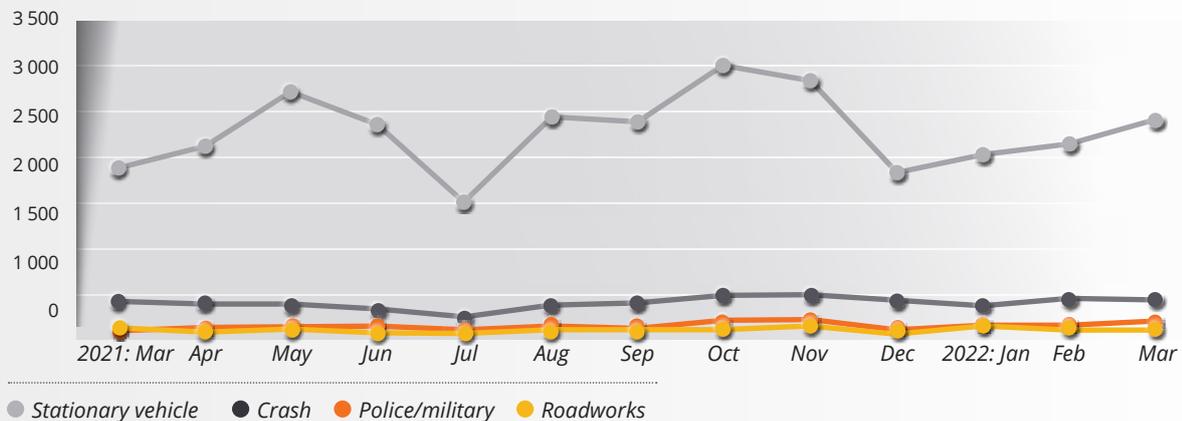
Percentage of confirmed incidents by type



An average of 2,930 incidents were recorded per month. This includes an average of 2,319 stationary vehicles and an average of 395 crashes.

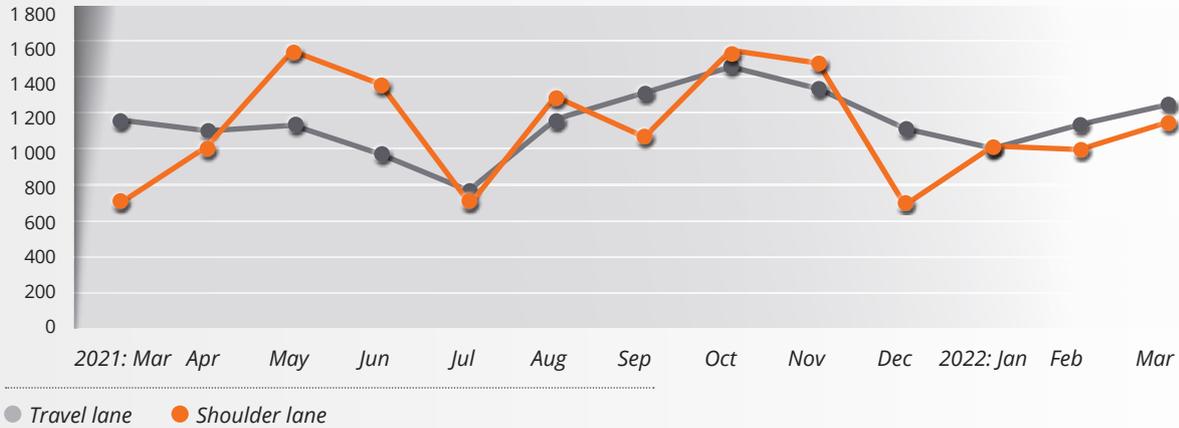
A further month-to-month incident breakdown by type is provided in the graph below:

GP - Monthly incidents by type



The graph clearly shows that most recorded incidents were due to stationary vehicles. The following graph distinguishes between stationary vehicles in the travel lane and stationary vehicles in the shoulder lane:

Stationary vehicles in the travel lane vs shoulder lane



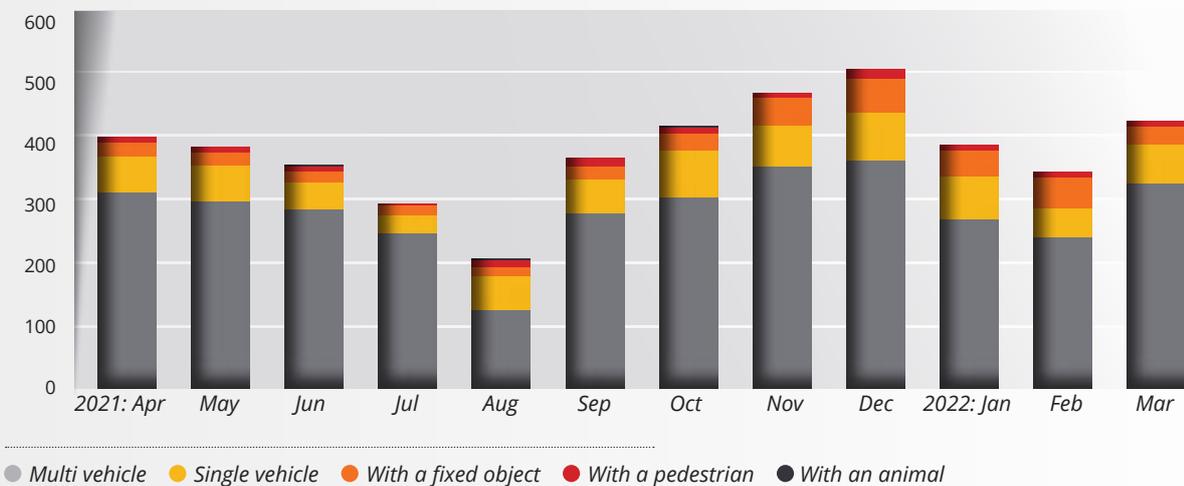
This is a very important variable to trace, as there is a direct correlation between the number of stationary vehicles and the number of crashes occurring in a typical month. This is due to the increased risk of secondary incidents (mostly crashes) caused by stationary vehicles, especially when they are located in a travel lane.

Of the incidents recorded in 2021/22, 4,565 (12,5%) were crashes:

- 75% involved multiple vehicles
- 15% were single-vehicle crashes
- 8% were crashes with fixed objects
- 2% involved pedestrians crossing in the freeway network
- Only three incidents involved animals

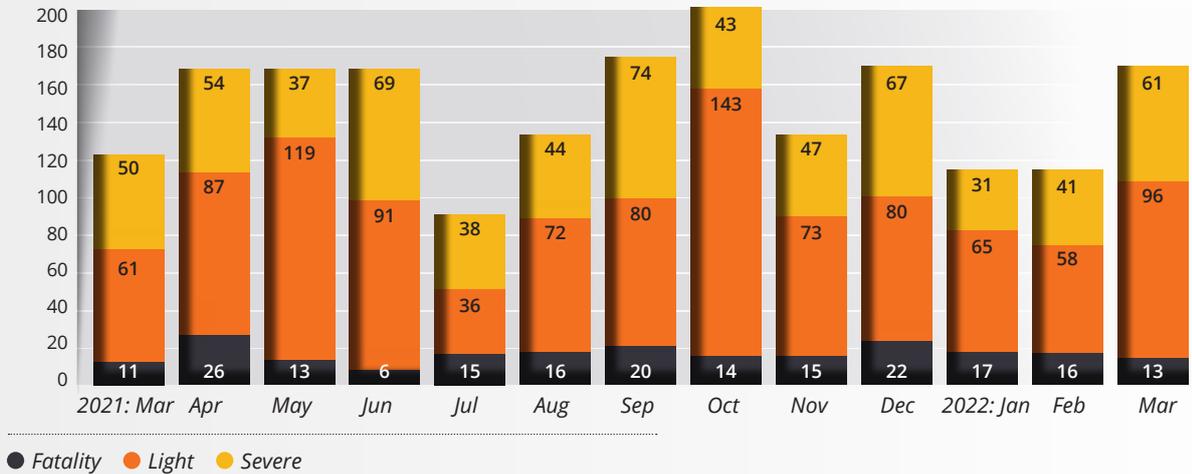
The following graph provides a monthly breakdown of crash types:

Types of crashes



The following graph shows the monthly breakdown of injury severity caused by these crashes:

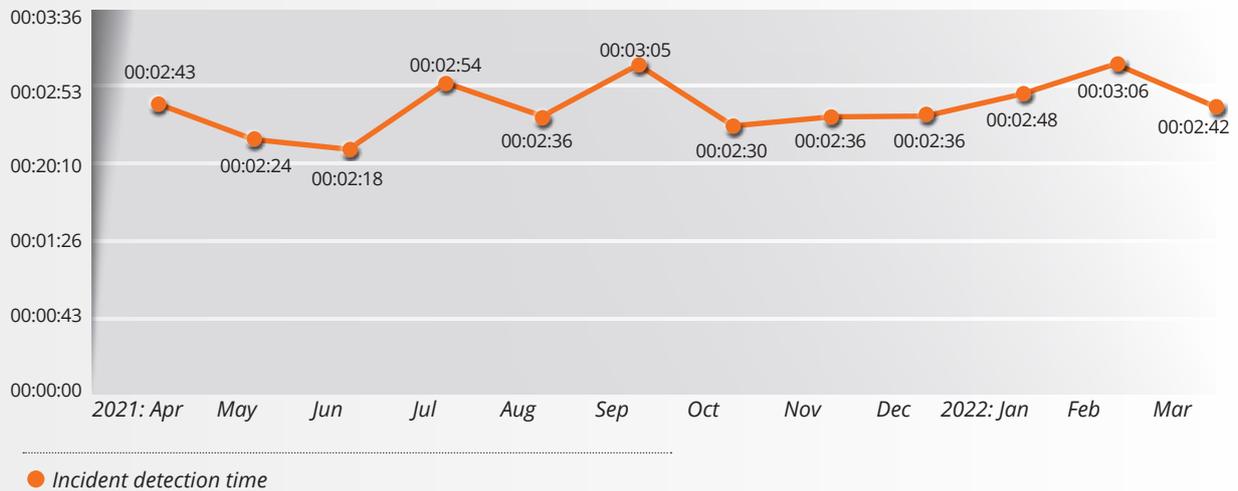
Injuries per month



Incident detection and response

The yearly average detection time for all incidents was 2 minutes and 41 seconds. The monthly average detection time for all incidents is depicted in the graph below:

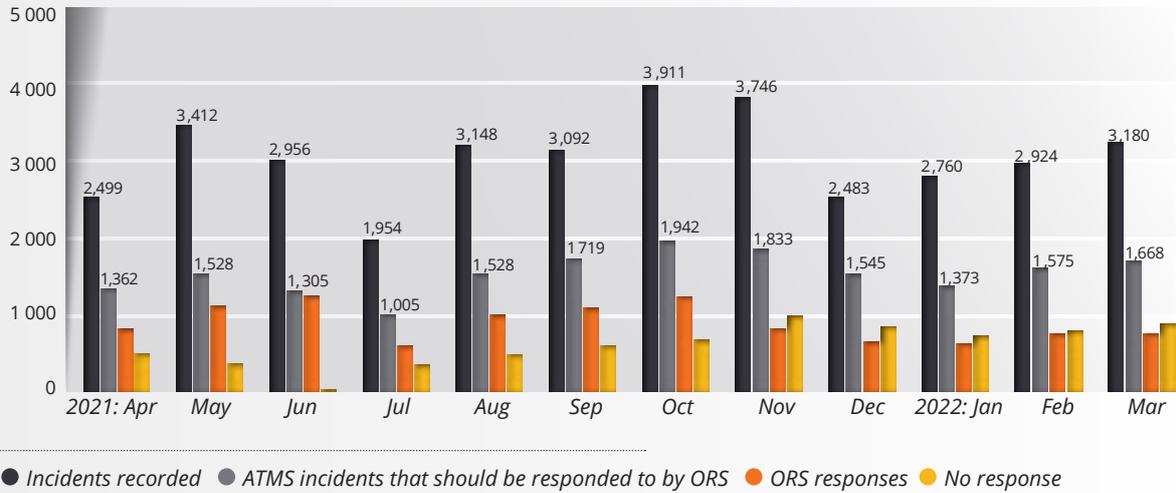
GP – Incident detention time (IM-3)



During 2021/22, four CCTV cameras were commissioned into service, thus increasing the number of CCTV cameras to 302 from 298.

Of all incidents recorded in 2021/22, 51% required response by on-road services (ORS). Due to a lack of available vehicles, only 31% of these were attended to by the ORS.

Recorded incidents vs ORS incidents



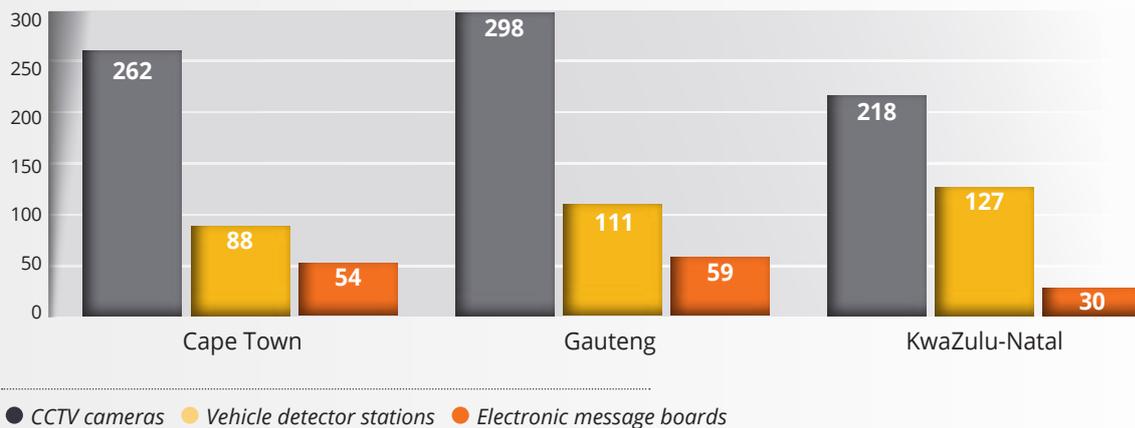
The ORS service currently consists of:

- 5 out of 10 IRU vehicles
- 4 out of 6 MRU vehicles
- 8 out of 10 LTRU vehicles
- 7 out of 8 HTRU vehicles

The remainder have been decommissioned due to uneconomical repair costs. Plans have been put in place to increase this fleet to better the service in the next financial year.

The FMS infrastructure in the Western Cape, KwaZulu-Natal and Gauteng

FMS infrastructure



SECTION 2: CAPITALS AND PERFORMANCE

In the Western Cape, the average incident detection time in 2021/22 was 2 minutes, 54 seconds.

There was a significant increase in incidents and crashes in the Western Cape and Gauteng, with an 87% increase in the Western Cape and a 113% in Gauteng. Similarly, there was an increase in crashes of 45% and 42% in the Western Cape and Gauteng respectively. This was largely due to the COVID-19 pandemic and the lockdown periods of restricted movement during 2020/21, which significantly reduced traffic volumes.

	Western Cape		Gauteng		KwaZulu-Natal	
	2020/21	2021/22	2020/21	2021/22	2020/21	2021/22
CCTV	262	262	298	298	238	218
VDS	88	88	111	111	88	127
VMS	54	54	59	59	38	30
ESS	10	10	0	0	0	0
Average incident detection	00:02:50	00:02:54	00:08:23	00:02:43	00:02:10	00:03:18
Incidents	21,253	39,823	17,119	364,019	10,348	9,813
Year-on-year comparison	87%		+113%		-5%	
Crashes	1,919	2,789	3,269	4,639	1,823	1,774
Year-on-year comparison	+45%		+42%		-3%	

VDS = vehicle detector stations; VMS = variable message signs; ESS = environmental sensor stations





Incidents and comments from the public

Crime remains an issue on the network, and the FMS remains an integral part of the fight against crime. A traffic management officer (TMO) detected a tanker offloading petrol in Du Toitskloof Pass, which led to a successful arrest. Vigilant surveillance and cooperation with security services have led to numerous suspect vehicles being identified, tracked and apprehended.

The FMS has also played a role in the management of numerous protest actions that occurred on the network. With early detection and dispatch of services, the impact and risk to the travelling public was minimised.

With remote workstations deployment, the FMS was able to stay 100% operational during the COVID-19 pandemic, playing a pivotal part in strategic deployment

of enforcement services during lockdown and providing visuals for the regulating authorities.

In KwaZulu-Natal, the average incident detection time in 2021/22 was 3 minutes, 6 seconds.

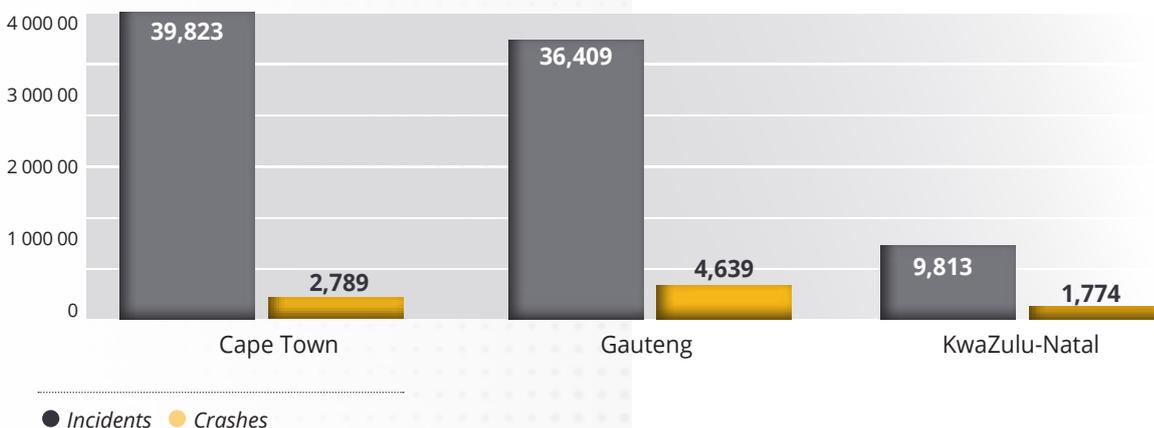
KwaZulu-Natal recorded a total number of 9,813 incidents between April 2021 and March 2022. The number of incidents recorded in the previous financial year was 9,663.

Road fatalities increased to 102 in 2021/22, up from 71 in the previous period.

Enhancements or extensions of the FMS include:

- New Avigilon cameras with enhanced analytics
- Security cameras to protect the infrastructure with enhanced analytics

Incidents and crashes 2021/22





Road Incident Management (RIMS)

SANRAL has been designated as the RIMS implementing authority by the Minister of Transport. 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 South African Qualifications Authority (SAQA) was developed by SANRAL and is offered through the Transport SETA.

SANRAL is assisting the Department of Transport to expand the RIMS into the Southern African Development Community (SADC) region, working through the relevant committees.

During the COVID-19 pandemic, RIMS continued to play a critical role in coordinating responses to incident management and road crashes.

The programme's effectiveness is determined by five pillars:	
Pillar 1	Structures, programme development and protocols review
Pillar 2	Resource allocation and management
Pillar 3	Communication and communication technology enhancement
Pillar 4	Training, capacity building and public outreach
Pillar 5	Reporting, monitoring and evaluation
The five pillars all play a critical role in the success of this programme.	

The National Technical Committee on RIMS is one of the sub-committees of COTO the Committee of Transport Officials (COTO). It sets national standards for the effective deployment of RIMS in the country and the roll-out of RIMS to SADC member states.

Despite the constraints put in place by lockdown regulations to minimise the impact of COVID-19, RIMS managed to hold a successful hybrid sitting in the Western Cape, with representation of over 80 sectors interested in and affected by RIMS business. This allowed SANRAL to evaluate historic best practices and set an agenda for new programme normalcy for future engagements. The future of RIMS is relevant to a technologically advanced transport model.

Safe use of transport infrastructure and reduction of fatalities is important to RIMS.



Crime-related incidents

The TMO detected a petrol tanker that had pulled over onto the shoulder in Du Toitskloof Pass. Soon after, a bakkie pulled up next to the tanker and the occupants started tapping petrol from the tanker into a container on the back of the bakkie. The TMO obtained the registration number of the tanker and found the contact number of the tanker company with help from traffic services. After it was established that the company was not aware of the offload, a police case was opened against the driver of the tanker. Subsequently, the police collected the footage, which included the incident, facials of the drivers, the registration numbers and pictures showing where the driver changed the numbers in his logbook.

Another incident involved the theft of sandbags from the roadworks on the N2 at Mowbray Main Road. The TMO tracked the tow truck drivers responsible to Philip Kgosana Drive, where they began spreading the sand on the roadway in an attempt to cause crashes. All footage was handed over to the metro police, with facials and registration numbers of the tow trucks, and the parties concerned were arrested.







1.3 COMBATTING VEHICLE OVERLOADING

Overloading of heavy vehicles is a major problem on South African roads and takes a toll in terms of road damage and risks to 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 2021/22, there was an approximate increase of 15% in freight traffic due to the easing of COVID-19 lockdown regulations, resulting in improved economic activity.

Approximately 7.3 million vehicles were screened using weigh-in-motion devices at weighbridges. A total of 1.73 million vehicles that were possibly overloaded were directed for weighing on the static scale.

Value of fines imposed:	R69.5 million
Value of fines paid:	R10.3 million
Number of arrests:	7,380
Overloading percentage:	30% (of all vehicles statically weighed)
Number of drivers arrested:	7,380
Number of drivers warned:	499,421
Number of drivers charged:	31,847

1.3.1 Overloading countermeasures by concession holders

The three toll-road concession holders all have facilities to weigh vehicles, as well as relationships with relevant traffic authorities to impose sanctions where required. Data on overloading is collected and analysed.

Bakwena weighbridges

Value of fines imposed:	R13.85 million
Value of fines collected:	R2.45 million

TRAC weighbridges

Value of fines imposed:	R11.6 million
Value of fines collected:	R1.08 million

N3TC weighbridges

Value of fines imposed:	R6.2 million
Value of fines collected:	R1.21 million

1.3.2 Vehicle safety inspections

A total of 10,016 vehicles were tested at vehicle inspection facilities and 6,451 failed one or more vehicle fitness tests. A total of 642 vehicles were deemed unroadworthy and issued with discontinue notices.

Number of vehicles weighed and number overloaded

	TRAC	N3TC	Bakwena
Total number of vehicles weighed	698,691	188,078	382,265
Overloaded but within grace limit	486,149	62,501	134,230
Overloaded	9,668	4,192	8,609

Vehicle safety inspections

A total of 10,016 vehicles were tested at vehicle inspection facilities, and 6,541 failed one or more vehicle fitness tests. A total of 642 vehicles were deemed to be unroadworthy and issued with discontinue notices.

Traffic monitoring

There are currently five active traffic monitoring contracts, of which 80% have been awarded to Level 1 BEE companies and 20% to Level 2 BEE companies. The 30% subcontracting to targeted enterprises (TEs) has not been part of traffic monitoring contracts historically, but was introduced last year as a mandatory requirement. The traffic monitoring industry is very small and has limited role players. Efforts have been made to attract new entrants into this field. One of the contracts has been specifically structured to include mentoring/managing service providers that will subcontract 100% of the work (18 manageable contracts across South Africa) to TEs. This will hopefully give more service providers the chance to enter the field.

There has also been a drive to assist students who are undergoing their experiential training at traffic monitoring companies, as well as to provide funding for students who are busy with their civil engineering diplomas and BTech degrees. Since 2018, R5.6 million has been spent in this regard and 20 students have been assisted.





1.4 TRANSFORMATION WITHIN THE SECTOR

Transformation is an important requirement in the economy of South Africa, and is not only the imperative of government, but of all fair-minded South Africans and especially of the business sector in general. The construction and engineering sector is lagging in the transformation space.

Some reasonable strides have been made in SANRAL's RRM projects. The efforts of the past and some recent interventions are paying off. On both the contracting and construction side, the majority of current service providers are transformed, with Black ownership generally exceeding 51% and reasonable representation by Black management within senior and executive teams.

In the other categories of maintenance projects, such as ad-hoc projects, the service providers are also well transformed in terms of ownership and management. The areas of preventative and special management projects require further intervention to increase the pace of transformation, these being the resurfacing, light rehabilitation and resealing projects. These projects require materials such as bitumen and aggregates, which are expensive and have limited independent suppliers. Decisive and bold interventions are required in this type of work to level the playing fields. Special equipment and highly skilled, knowledgeable and experienced personnel are also required.

The 'projects' construction category is not well transformed. Here the requirement is well-qualified, knowledgeable, experienced people. Access to the right type of equipment and materials at competitive prices is necessary in order to submit competitive tenders. A great deal of effort is required in accelerated training and experience. This can be achieved by setting up contractor development programmes at Construction Industry Development Board (CIDB) grades 4 to 9. Programme participants have to undergo a rigorous selection process to be given the opportunity to construct sections of a project under the guidance, mentorship and coaching of experienced construction managers for a period of at least three years.

The operations projects in the comprehensive toll road operations and maintenance (CTROM) category are well transformed (majority Black-owned and managed). However, there are too few entities currently active, and there is room for at least two more players. The traffic control centre (TCC) operations, the Open Road Tolling (ORT) and open road services (ORS) are transforming steadily. The workload is limited in these categories currently for too many players to be active.

Overall there is progress, but certain categories require further interventions to increase the pace of transformation.

1.4.1 Competency certification of Black-owned companies

The Construction Industry Development Board (CIDB) operates a mandatory grading system. SANRAL had contracts with 77 CIDB-graded companies with a majority of Black shareholders. As can be seen in the table below, most of these 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 a prerequisite for companies to compete for SANRAL-issued construction and consulting 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	0	0	0	0	0	5	22	16	34	77
Percent	0	0	0	0	0	6.5%	28.6%	20.8%	44.1%	100%



SOUTHERN REGION

There is a road construction project in the Amatole District Municipality and the Raymond Mhlaba Local Municipality (RMLM) in the Eastern Cape.

The project is located on the existing National Route R63 section 13, starting at km 35.77 before Fort Beaufort and ending at km 58.86 at the Galloway Bridge in Alice. The road is part of the National Route R63 running in an easterly direction from the Western Cape border north of Graaff Reinet to the N2 near Komga, where it joins the N2. The approximate construction duration is 39 months, with a CIDB contractor grading designation of 9CE.

The project route is an undivided, surfaced, single-carriageway road in a rural and urban area.

The section of road under consideration was originally constructed in the 1960s by the former Cape Provincial Administration (CPA).

The road is upgraded from a 6.0m-wide cross-section to 13.4m wide, with passing lanes to improve the safety of the travelling public.

The contractor was awarded the project for the amount of R714,000,000.00 inclusive of VAT, excluding CPA and contingencies.

The project is currently in the construction phase, with 55% of the works completed.

The approximate TE package values are inclusive of the P&Gs.

Description of work No. of packages	No. of TEs appointed	Subcontracts awarded value	Approximate combined total of subcontract spent	EME CIDB grading designation
81	62	R103,704,656.23	R68,729,774.72	
	39			1CE & 2CE
	13			N/A
	2			3CE
	4			4CE
	3			5CE
	1			6CE

46	TEs from Fort Beaufort area and from Alice area
57	TEs from RMLM
5	TEs from outside RMLM, but in the Eastern Cape
23	Women-owned
17	Youth-owned
1	Military-owned
1	Disabled-owned
The evaluation of the seventh round has been completed, approved by SANRAL and acknowledged by the project liaison committee.	
The eighth round (T8) of TE tenders is in the process of advertising.	
Round T7 also includes tenders for concrete side drains (x2), pedestrian walkways (x2), down chutes (x2), cement supply (x4), landscaping, guardrails, supply of block pavers and supply of fuel.	

Value earned by SMMEs	
Description	Amount (incl. VAT)
TE tenders awarded	R103,213,014.63
TE expenditure to date	R72,838,923.35
Labour expenditure to date	R19,511,483.39
The estimated completion date for the project is 1 October 2023.	





WESTERN REGION

There is a road improvement project on the National Route 7 (N7), section 2 between Malmesbury and Moorreesburg. This will involve the widening of the road cross-section and structures and the addition of climbing lanes. The contract value is R569 million.

The project is at construction stage. Mobilisation started in September 2021 to December 2021, and construction commenced in January 2022.

Three SMMEs have been appointed. The estimated value earned to date by SMMEs is R328,898.07.

The project is estimated to be completed in December 2024.





EASTERN REGION

Project N.003-023-2017/9 is for the upgrade of National Route N3 between Lynnfield Park (N3/2 km 30.6) and Ashburton (N3/3 km 0.8), within the Mgungundlovu District Municipality in the province of KwaZulu-Natal.

The scope of work entails widening of the N3 from the current three lanes southbound and two lanes northbound, to five lanes southbound and four lanes northbound side. The north bound will also make provision for a future fifth lane, which will be triggered by traffic demands, the construction of a new bridge at the Lynnfield Park interchange, construction of four major culverts, retaining walls and rehabilitation of the R103 route within project limits.

The project aims to increase capacity of the already congested portion of the N3. This will reduce travel times between Durban and Pietermaritzburg and will also provide much relief for traffic transporting goods between Durban, which has the busiest port (harbour) in the country, and Gauteng, the economic hub of South Africa.

Currently the project is 16 months into construction. The total investment allocated to this contract is R1.24 billion, of which R372 million (i.e., 30% subcontracting) is for works meant for execution by small, medium and micro-sized enterprises (SMMEs) through various subcontracting packages. To date, with the time elapsed being 34%, the total value of subcontracting packages awarded to the 33 SMMEs involved in the contract is R75 million. Of the 33 SMMEs, 48% are women-owned subcontractors.

The subcontracting involvement in the contracts cuts across various CIDB gradings, as per the table.

CIDB grading	No. of SMMEs
1CE	10
2CE	1
3CE and 3SC	2 + 1
4CE	5
5CE	3
6CE	3
7CE	1
Non-CIDB-graded subcontracts (i.e., plant hire, fuel supply, security, steel reinforcement supply)	7
Total	33

In order to ensure meaningful empowerment of SMMEs, SANRAL has made provision for construction mentors responsible for offering on-the-job training and mentorship to SMMEs. This is over and above the SANRAL classroom training provided to SMMEs, which includes managing cashflows on site, programming and managing the production site.

Structured on-job-training for future engineers, technicians and artisans in the contract has also been beneficial. So far, the following personnel are receiving training:

Type of training	No. of candidates
Trainee engineers/technicians (university and university of technology)	8
Artisans (TVET)	5
General training for site employees (general labour – on-the-job training)	360

The project is due for completion by 14 May 2024.



NORTHERN REGION

The SANRAL NRA X.002-081-2019/1 project, awarded on 20 April 2022, is in the Gert Sibande District Municipality in Mpumalanga.

The aim of this project is to provide RRM for National Routes R33 from Msukaligwa municipal boundary near Warburton over Carolina to Belfast, R38 from Steve Tshwete municipal boundary over Carolina to Mbombela municipal boundary, and N17 from Msukaligwa municipal boundary near Warburton to Oshoek border post.

The total cost for this project is R70,955,968.88 including VAT but excluding contingencies and CPA. Total cost, including VAT, contingencies and CPA is R99,338,356.43.

The project is due to start during the month of May 2022.

A minimum of 10% and a maximum of 15% of the works will be sublet to TEs who are registered as CIDB 1CE to 2CE.

A minimum of 25% of the works shall be sublet to targeted enterprises that are registered as CIDB 3CE, 4CE and 5CE.

The value earned by SMMEs will only be available at a later stage.

The contract period is 36 months, from May 2022 to May 2025.





1.4.2 Share of 2021/22 contracts and contract value by ownership of contractors

Contracts awarded to B-BBEE levels 1-4

No.	Preferential procurement requirement	No. of awards	Total value of contracts awarded
1	Contracts awarded to B-BBEE Level 1 entities	330	R18,899,684,953.04
2	Contracts awarded to B-BBEE Level 2 entities	40	R1,990,378,592.04
3	Contracts awarded to B-BBEE Level 3 entities	4	R979,042,202.33
4	Contracts awarded to B-BBEE Level 4 entities	3	R5,217,451.79
Total		377	R21,874,323,199.20

Contracts awarded by size of entities

No.	Preferential procurement requirement	No. of awards	Total value of contracts awarded
1	Total contracts awarded to exempted micro enterprises (EME)	91	R1,441, 585,740.97
2	Total contracts awarded to qualifying micro enterprises (QSE)	110	R3,321,454,296.63
3	Total contracts awarded to large / generic entities	160	R15,552,865,618.94
4	**No B-BBEE size	16	R1,558,417,542.66
Total		377	R21,874,323,199.20

**Un-incorporated Joint Ventures

Contracts awarded according to Black ownership

No.	Preferential procurement requirement	No. of awards	Total value of contracts awarded
1	Total contracts awarded to service providers that are ≥ 51% Black-owned	321	R17,497,131,269.90
2	Total contracts awarded to service providers that are less than 51% Black- owned	56	R4,377,191,929.30
Total		377	R21,874,323,199.20

Contracts awarded according to Black women ownership

No.	Preferential procurement requirement	No. of awards	Total value of contracts awarded
1	Total contracts awarded to service providers where Black women hold at least 30% of the exercisable voting rights	120	R5,716,709,120.65
2	Total contracts awarded to service providers where Black women hold at least 51% of the exercisable voting rights	67	R2,324,784,745.91
Total		187	R8,041,493,866.56



UPGRADES ON THE N3 BETWEEN DARDANELLES AND LYNNFIELD PARK

This project entails upgrading the existing four-lane dual carriageway to an eight-lane dual carriageway by widening the median and outer shoulders over a distance of 4km, as well as installing lighting over this entire stretch. Also included is the upgrade of the Dardanelles interchange and connecting roads to improve traffic movement, as well as lengthening four underpass structures.

The existing pavement on the N3/2 will be totally reconstructed. Existing asphalt pavement layers will be removed by milling to reclaim the material for re-use in new asphalt layers. Granular layers will be removed by excavator and stockpiled for re-use in the selected layer and subbase of the new pavement. The new pavement will also be widened to accommodate the four lanes in each direction. Geometric improvements are included to improve safety by regrading at selected positions.

The project is situated within the Msunduzi and Mkhambathini local municipality areas, but its impact

will be felt across a much broader region due to the importance of the N3.

The freeway between Pietermaritzburg and Durban currently operates at a level of service exceeding the SANRAL density triggers for peak hours and has the 30th highest hourly volume. As the N3 is the major economic route between the Durban harbour and the South African interior, this project affects all travellers between Durban, Pietermaritzburg and ultimately the rest of the country.

The contract commenced on 22 October 2020, with a three-month mobilisation period and will last for 47 months. Delays due to stoppages, unrest and access could impact the final duration.

The project value is R1,478,997,670 (including VAT). The engineering consulting firm appointed for the design and supervision of the contract is Gibb and the appointed main contractor is Raubex Construction.

Targeted enterprise utilisation

A total of R385 million is anticipated to be spent on Black-owned exempt micro enterprises (EMEs)/qualifying small enterprises (QSEs) over the contract duration.

Description of CPG category	TARGET	
	Tender target %	Tender amount
Targeted enterprise	30,00%	R385,825,479.17
Youth-owned	5,00%	R64,304,246.53
Women-owned	5,00%	R64,304,246.53
Military veterans-owned	0,50%	R6,430,424.65
Owned by people with disabilities	0,50%	R6,430,424.65
CIDB 1 or 2	0,60%	R7,716,509.58
CIDB 3 or 4	2,40%	R30,866,038.33

Job creation

The number of employees is expected to increase to 450 in 2022, with a total of R103 million to be spent on local labour.

Description of CPG category	TARGET	
	Tender target %	Tender amount
Targeted labour	8%	R102,886,794.45
Youth	30%	R30,866,038.33
Women	30%	R30,866,038.33
People with disabilities	0,50%	R514,433.97



One of the milestones so far has been the diversion of traffic to the southbound carriageway in March 2022 to enable the upgrade of the median and northbound carriageways.

The project will bring the following benefits:

- Reduced travel time and cost
- Development adjacent to the N3
- Employment and subcontracting opportunities



“Above all, we learnt that our people remain the key resource for the organisation and their welfare remains our priority.”

PROGRESS HLAHLA *Northern Regional Manager*

One of the biggest lessons from the COVID-19 pandemic is that SANRAL is an agile organisation that can adapt in a short period of time.

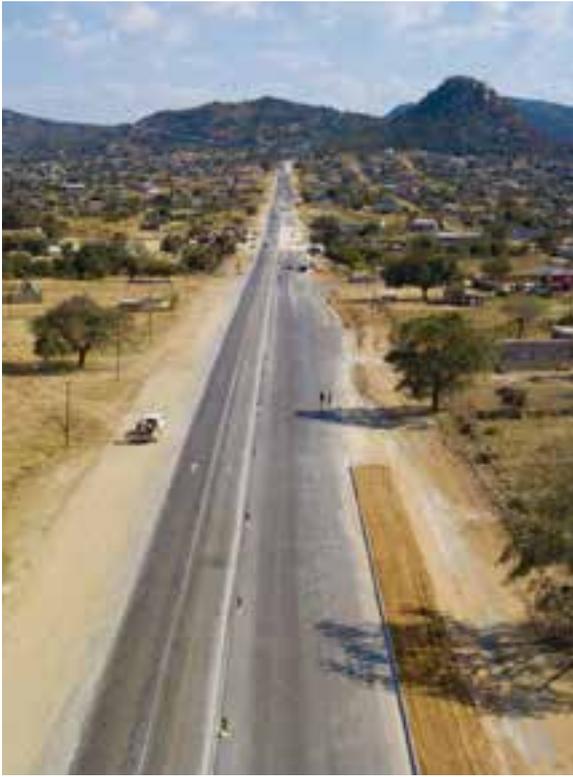
We also learnt about the need to always approach challenges with a positive mindset so that you can focus on generating solutions that allow you to mitigate the risk the organisation might face. Above all, we learnt that our people remain the key resource for the organisation and their welfare remains our priority.

COVID-19 affected a significant portion of our work, including the need to transition from face-to-face meetings to virtual meetings, for example. It also made it difficult for our teams to deliver as they were used to, due to the need to mitigate risks that it posed and the need to attend to loved ones who fell ill during the pandemic peak.

Some of our work still requires physical presence. For example, one may need to carry out a physical visit to a project site to assess progress or to scope a new project. But we have found a balance between virtual and physical presence and this has assisted us in our work.

The past financial year has seen the Northern Region putting in place mitigatory measures to allow colleagues to continue being productive while working from home. The region covers Gauteng, North West, Limpopo and Mpumalanga.

We have managed to carry out some important projects in the region that have contributed to SMME training, sub-contract opportunities and



job creation. We have been able to implement construction work on the R510 in Thabazimbi, R81 in Tzaneen, R37 in Burgersfort, R23 in Standerton and, of course, on the R573 Moloto Road, to name a few. We have also implemented reseals on a major portion of our on national road network. The rest of the projects are captured in other parts of the report.

These highlights of the past financial year demonstrate our agility as an organisation in adapting to external forces such as COVID-19. They also demonstrate our commitment to assist in creating opportunities for SMMEs and in maximising job creation on our contracts.

The biggest challenge was to address some stakeholder demands on our network, especially from business forums, as some of the requests are not aligned with legislation.

Site stoppages are another challenge we have been dealing with. We also note the constitutional matter regarding the Preferential Procurement Policy Framework Act (PPPFA), which has affected our ability to roll out some projects. The outstanding decision on the future of e-tolling is another concern as it affects the future of the entire toll portfolio.



The way to overcome these challenges is to continue to engage and explain the legislative requirements to our stakeholders so that they are able to distinguish between what can be implemented within the current legislation and what requires legislative changes.

These engagements have been met with varied success. The e-toll matter has been escalated to Cabinet and we await their decision on what needs to be done.

The biggest programme in the region remains the R573 (Moloto Road) project, though other major projects are also in the works.





THE KARINO INTERCHANGE PROJECT

This Mbombela-based project, valued at R375 million, is now completed. It started on 10 November 2019 and was completed on 31 May 2022.

This was a technical response to the previous at-grade intersection, which had been exposed to high traffic volumes on both the N4 and R538, especially during peak hours. Vehicle numbers had increased from 383 in 2008 to 975 in 2014, an increase of 155%.

Constructed by Raubex Construction under the auspices of Trans African Concessions (TRAC), a SANRAL concessionaire, the project saw the Karino intersection transformed into a grade-separated interchange, with on- and off-ramps and a bridge that will separate cross-traffic from through-traffic and thus ease traffic flow at this extremely busy intersection.

This project has brought positive economic benefits for the Mbombela communities, particularly for SMMEs. Many SMMEs benefited by learning new skills and growing their companies. For skills and transformation initiatives, Raubex introduced labour-intensive training

(LIT) to capacitate locals by giving them practical work experience before formal training from an accredited training institution. This enabled them to understand their scope of work better before moving to the practical construction environment. Forty-four emerging contractors benefitted from the project and 278 local people benefitted through employment.

Improved and safer access roads and reduced travel times will also stimulate further economic growth through this project, particularly in the area north of the Crocodile River. TRAC manages the N4 Toll Route, which starts at the Solomon Mahlangu off-ramp in Gauteng and ends in Maputo, Mozambique. The N4 Toll Route is a build-operate-transfer (BOT) funding investment scheme. TRAC became the custodian of this road in 1997 when it signed a 30-year concession contract with SANRAL and Mozambique's National Roads Administration (ANE).

Defined as the Maputo Development Corridor (MDC) at the start of the concession contract, the N4 Toll Route

is the catalyst for trade and investment between three South African landlocked provinces – Gauteng, Limpopo and Mpumalanga – as well as neighbouring countries. These provinces are rich in natural resources and the corridor links them directly to international markets through the Maputo port. The N4 Toll Route also links Johannesburg and the Ekurhuleni Metropolitan Municipality to the port. This makes it a prestigious route among transport operators because of the connection to the N12 near Emalahleni.

As the concessionaire of this corridor, TRAC develops, manages and maintains the road's infrastructure and related services to achieve the desired economic development. Given this responsibility, construction, upgrades and routine maintenance projects along the route are ongoing and ensure that the South African and Mozambican governments, as well as the road users, can benefit from modernised road infrastructure at the end of the concession period.

In line with the user-pays principle, the initial construction, rehabilitation, upgrades, maintenance and operations of the N4 were made possible through funds generated from toll fees charged by the concessionaire at its six mainline plazas, including four ramp plazas along the route. These plazas are located at Diamond Hill, Middelburg, Machado, Nkomazi, Moamba and Maputo. Four ramp plazas are also in use at Diamond Hill, applicable to road users entering and existing the highway. Four toll plazas are located in South Africa and two are located in Mozambique.



QUICK PROJECT FACTS

- Main client : **SANRAL** (the implementing authority)
- Concessionaire: **Trans African Concessions** (TRAC)
- Appointed main contractor: **Raubex Construction**
- Project period: **10 November 2019 to 31 May 2022.**
- Project value: **R375 million** (excluding VAT)
- The project is earmarked for official opening in May 2022 (the interchange is already operational to accommodate traffic and allow finishing to be completed)
- The Minister of Transport visited the project on 23 April 2021.
- A total of **44 local subcontractors** were employed.
- **Total spend on labour:**
 - R116.24 million (excluding VAT) on local subcontractors
 - R22.34 million on local labour
 - This is 46.6% (target 30%) and 9% (target 6%) respectively spent to date of contract participation goal (CPG)
- Economic impact on designated groups, including women, youth and people with disabilities:
- **Total local employment:**

- Total:	278
- Male:	236 (100% PDI)
- Female:	42 (100% PDI)
- Youth:	143
- Adult:	134
- People with disabilities:	1



“The main lesson we learned from the pandemic is that SANRAL has a resilient team of professionals. Our people are our most important asset.”

RANDALL CABLE
Western Regional Manager

The biggest challenge for the past financial year for the Western Region was to maintain a highly motivated team of professionals committed to performing at their best. The region covers the Western Cape and the Northern Cape.

The best way to motivate the team was to show them the fruits of their labour and the meaningful contribution they make to all South Africans – particularly the users of our national road network. It was also important to acknowledge and thank them for their contribution and the real positive difference they make in so many lives.

There were many highlights in the 2021/22 financial year that make me very proud to be part of the SANRAL Western Region team.

Some of these highlights include the upgrading of the lighting in the Huguenot Tunnel and the letting and commencement of works on various slope stabilisation projects across our Northern and

Western Cape road network. I am also particularly proud of the steady progress we are making in the finalisation of detail designs on major upgrades of the N1 and N2 freeways in Cape Town.

SANRAL has a very proud history of safely operating the Huguenot Tunnel for over 33 years. The tunnel sees no fewer than 110 million vehicles passing through since its opening in 1988. The existing lighting had served us well and had come to the end of its lifespan. The upgrade of the lighting had to be carefully planned, with partial night-time closures to ensure minimal impact on traffic flow. The closures necessitated extensive engagement with various stakeholders to ensure they could plan their travel accordingly.

The partial tunnel closures were implemented smoothly, with the majority of users adjusting their travel patterns. The tunnel lighting was successfully replaced with state-of-the-art, efficient and environmentally friendly lighting on 31 September 2021.

Another significant highlight was the identification, detail design and letting of various slope stabilisation projects.

This included securing various slopes: N1/12 Riemhoogte, N12/7 Strydenburg, N2/2 Sir Lowry's Pass, N2/6 Grootbrak, N2/7 Hartenbos, N2/8 Keurboom, N7/3 Piekenierskloof and N7/7 Garies.

These works typically included removing loose boulders, anchoring other boulders onto the rock face, drilling drainage holes, constructing retaining gabion baskets and shotcreting selected areas in the rock face.

These projects demonstrate our ability to implement our Slope Management System proactively, before

any failures occur that could compromise the safety of road users.

While COVID-19 restricted our ability to engage with all our stakeholders, it also taught us new ways of engaging efficiently and effectively.



A look into the future

The region has commenced with the detail design of major infrastructure projects.

Once implemented, these projects will have a direct economic benefit. They will also reduce the cost of travel and unlock development potential along various corridors and nodes.

Project	Professional engineering service providers	Construction commencement	Total estimate
N001-010-2021/1 Old Oak to Brighton I/O	Awarded	September 2023 (duration: 3 years)	R950 million
N001-010-2021/2 Brighton I/O to Koelenhof I/O	Awarded	September 2023 (duration: 3 years)	R500 million
R300 (Stellenberg I/O)	(Partnership with Western Cape Government)	Not available yet	R600 million
N002-010-2020/1 Swartklip to Baden Powell Drive I/O	Awarded	June 2023 (duration: 3 years)	R1,200 million
N002-010-2021/1F De Beers to Broadlands I/O	Awarded	October 2024 (duration: 3 years)	R1,500 million
N002-012-2021/1F Broadlands to Sir Lowry's Pass	Awarded	October 2024 (duration: 3 years)	R1,200 million
N001-010-2020/1F Huguenot Tunnel (North Bore and South Bore)	Awarded	October 2024 (duration: 3 years)	R2,480 million
TOTAL NEW PROJECTS			R8,430 million



HUGUENOT TUNNEL UPGRADE

Huguenot Tunnel upgrades to the south bore completed during 2021

The Huguenot Tunnel upgrades progressed well, with no major spike in traffic volumes in the Du Toitskloof Pass during the night-time closures (Monday to Thursday 10pm to 6am). These were in place between July and September 2021.

The potential increase of heavy vehicles going over the pass at night has always been a concern, particularly as incident response in the narrow pass poses multiple challenges and causes significant delays and congestion, which has a direct impact on the economy.

Traffic monitoring reports, however, showed a slight decrease in traffic volumes (both heavy and light motor vehicles) during the night-time closures, compared to the period prior to the commencement of the closures. This suggests that road users adjusted their travel times or used alternative routes, pointing to the effectiveness of proactive communications about the closures to the public.

The asphalt overlay of the eastern approach road was carried out as part of the upgrade and was completed on schedule by 30 September 2021.

With regard to lighting, the old fluorescent and

high-pressure sodium luminaires were replaced with new, energy-efficient LED fittings, while additional adaptation luminaires were installed at both portals to ensure compliance with international best practice for the entrance zone lighting.

During the night-time closures, SANRAL also took the opportunity to replace the outdated fire-detection systems in the tunnel with modern alternatives that comply with local and international standards and best practice. The works included the detail design, manufacture, supply, delivery, installation, testing and commissioning of these systems.

Alternative routes during the night-time closures

A number of alternative routes were communicated to road users, including:

- Paarl – DuToitskloof Pass – Worcester (±62km)
- Paarl – Gouda – Tulbagh – Worcester (±121km)
- Wellington – Tulbagh – Ceres (± 74km.)

Depending on origin and destination, the N2 Grabouw to Villiersdorp (41km) was also an option for those travelling Monday to Thursday between 10pm and 6am.

DEEP DIVE INTO THE LIGHTING UPGRADE

Scope of work

The scope of work was to replace and improve the existing installation to comply with international best practice – CIE 88-1990: Guide for the lighting of road tunnels and underpasses.

This included replacing more than 6,000 fluorescent strip lights with LED light fittings and upgrading the adaptation lighting and control systems. More than 30km of electrical cable and 10km of bus cable was installed.

To limit the impact on tunnel operations, a strict programme had to be followed. This required the replacement of light fittings to be done during night closures. After every night shift, the tunnel lighting had to be reinstated.

Status

The system was successfully commissioned at the end of September 2021 and is currently in its defects liability period. Towards the end of 2021, some operational problems were observed, but these have been resolved as part of the defects liability process. The system is fully operational.

Additional highlights

By default, the system operates in automatic control where the output lighting level is a function of the ambient luminance seen by a driver approaching the entrance. This is measured by a special camera calibrated to local conditions and installed outside each tunnel entrance.

During ‘day mode’, the tunnel entrance lighting (adaptation lighting) is sufficient for an approaching driver to see into the tunnel. The luminance then steps down systematically to allow the eyes of the driver sufficient time to adapt. This prevents a common problem known as the ‘black hole effect’, which occurs when a person moves relatively quickly from a very bright area to a dark one. This is in line with the requirements of CIE88.

Under various emergency conditions, the system will automatically switch a section or the whole tunnel to maximum light output (depending on the type of emergency).

The system status is monitored remotely from the control centre. If necessary, an operator can override automatic control and manually switch to a different lighting scenario as required.

KEY STATS

Role	Company
Employer	SANRAL
Engineer	ITS / Nadeson JV
Contractor	Lead Engineering & Projects (Pty) Ltd
Luminaire supplier	BEKA Schröder
Control system supplier	Phoenix Contact
Huguenot Toll Tunnel Operator	Tolcon (Pty) Ltd
Systems Integrator	Quantum Design & Engineering

KEY MILESTONES

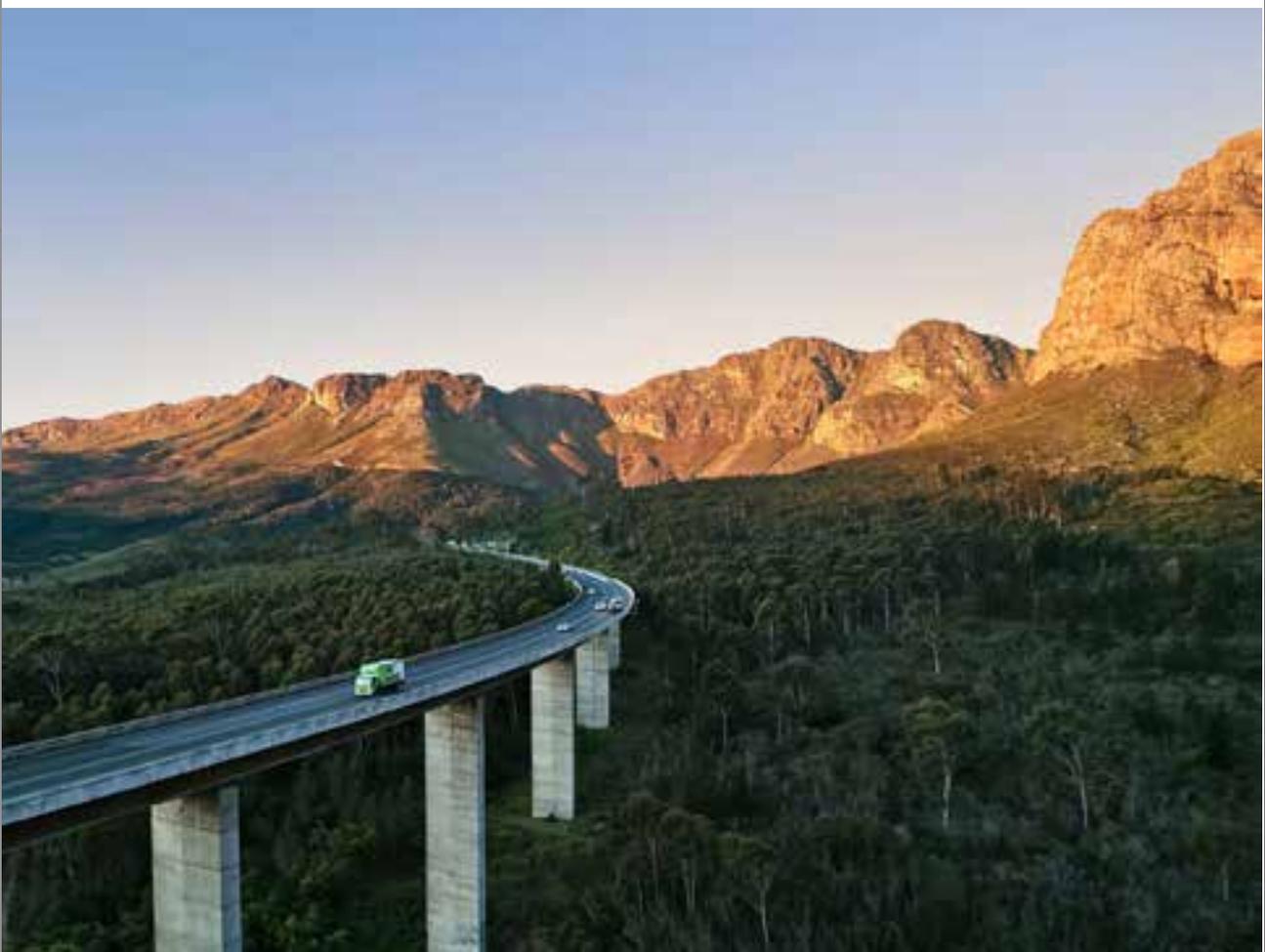
	Start	Finish	Duration [days]	Months
Contract duration	19 January 2021	30 September 2021	254	8.5
Construction period and night closures	14 June 2021	30 September 2021	108	3.6
System commissioning	7 September 2021	30 September 2021	23	0.8

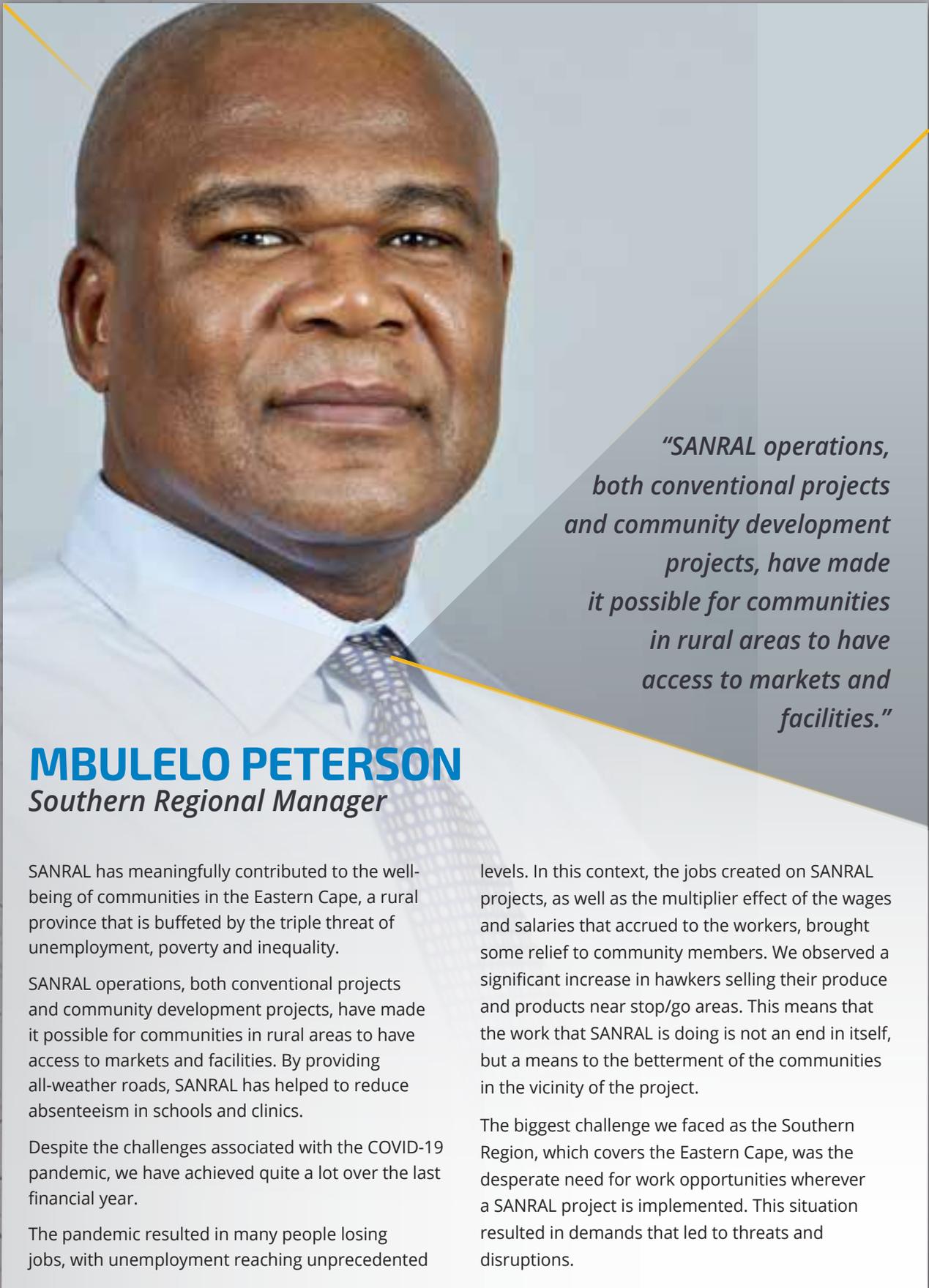


Budget and expenditure	
Contract value (excl. VAT & CPA)	R97,269,908.87
Total expenditure (excl. VAT & CPA)	R88,497,005.43
Value spent on TE / revised feasible	R2,650,000.00
Value spent on TL / revised feasible	R1,900,000.00

Material installed	
Strip lights	6,010
Adaptation luminaires	208
Electrical cable	30,000 metres
Control cable	10,000 metres
Programmable logic controllers (PLCs)	15

Energy and environment	
Average energy savings achieved	25%
Weight of fluorescent tubes disposed	1,000 kg





“SANRAL operations, both conventional projects and community development projects, have made it possible for communities in rural areas to have access to markets and facilities.”

MBULELO PETERSON
Southern Regional Manager

SANRAL has meaningfully contributed to the well-being of communities in the Eastern Cape, a rural province that is buffeted by the triple threat of unemployment, poverty and inequality.

SANRAL operations, both conventional projects and community development projects, have made it possible for communities in rural areas to have access to markets and facilities. By providing all-weather roads, SANRAL has helped to reduce absenteeism in schools and clinics.

Despite the challenges associated with the COVID-19 pandemic, we have achieved quite a lot over the last financial year.

The pandemic resulted in many people losing jobs, with unemployment reaching unprecedented

levels. In this context, the jobs created on SANRAL projects, as well as the multiplier effect of the wages and salaries that accrued to the workers, brought some relief to community members. We observed a significant increase in hawkers selling their produce and products near stop/go areas. This means that the work that SANRAL is doing is not an end in itself, but a means to the betterment of the communities in the vicinity of the project.

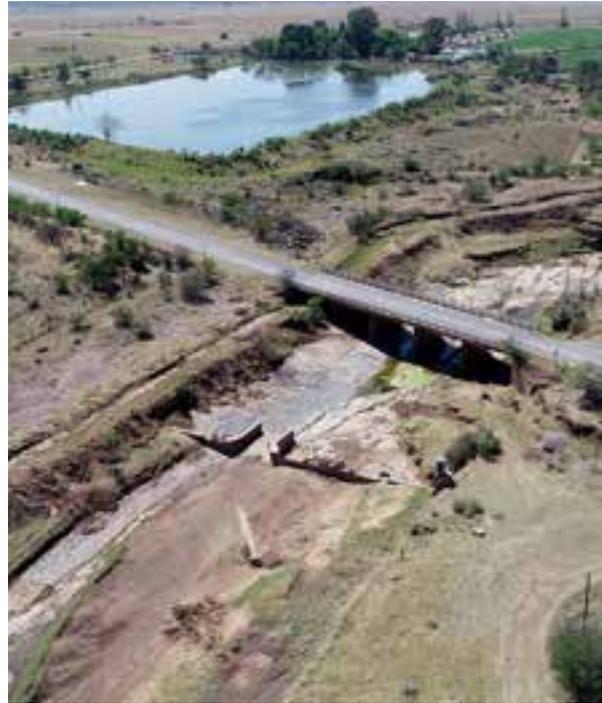
The biggest challenge we faced as the Southern Region, which covers the Eastern Cape, was the desperate need for work opportunities wherever a SANRAL project is implemented. This situation resulted in demands that led to threats and disruptions.

SANRAL has overcome these challenges through continuous engagement with stakeholders and communities.

Another key lesson to take from the pandemic is that general health and safety should always be maintained or enforced on site.

While three sites suspended operations for a week as a result of the COVID-19 outbreak, over 95% of sites did not. The screening on these sites was effective and individuals who failed temperature tests were sent home. Fortunately, this did not affect operations too much.

Given the evidence for the effectiveness of sanitisers and masks, particularly the latter, it is imperative that they become a perennial feature on construction sites.



Major projects

There are several major projects in the Southern Region. The Msikaba River Bridge project stands out, but other noteworthy projects include:

PROJECTS	VALUE
N2 Nqadu to Mbokotwana River	R816 million
R63 Fort Beaufort to Alice	R714 million
N2 Green River to Qonce	R500 million
R67 Black Kei River to Komani	R468 million
R56 Indwe to Nqanqarhu (Maclear)	R464 million
N2 Breidbach & Belstone Interchanges	R438 million
R58 Lady Grey to Barkley East	R425 million

At least 12 other projects are estimated at over R100 million.

SOUTHERN REGION



FORT BEAUFORT TO ALICE UPGRADE

The upgrading of the National Route R63 Section 13 between Fort Beaufort (km 35.77) and Alice (km 59.86) is located in the Amathole District Municipality and the Raymond Mhlaba Local Municipality of the Eastern Cape.

The project commenced on 2 July 2020 and the expected completion date is 1 October 2023.

The upgrade and improvements include:

- Strengthening the existing road
- Construction of deviations
- Construction of a new carriageway, including passing lanes
- Major cuts and fills
- Blasting of hard cuttings and new fencing
- Replacing culverts and construction of additional culverts
- Widening two river bridges and construction of three new bridges
- Upgrading water, sewer and storm water services and roadworks in Fort Beaufort main road (Campbell Street)

The stakeholders are SANRAL – Southern Region (client), V3/KABE Construction Cape (professional team) and Rumdel Construction Cape (contractor). The Project Liaison Officer (PLO) is Bulelwa Coko.

Hard cuttings were utilised in high fills and crushed material from hard cuttings was utilised in layerworks. Tyhume quarry, a community quarry, was developed to crush subbase, base course, concrete stone, gabion stone and macadam aggregate for the project.

The project includes the widening of two river bridges and the construction of three new bridges (two road-over-rail bridges and one river bridge). Bridge structures will be widened on the Kat River Bridge and the Brak River Bridge. Road-over-rail bridges will be replaced at Kwatinidubu and Kwezana. A new bridge will be constructed over the Mxelo River.

Drainage improvements will include:

- Installation of pre-cast pipes and box culverts
- Construction of mass earthworks and new pavement layers
- Construction of concrete inlet and outlet structures
- Relocation of the water main and sewer system in Campbell Street
- Upgrading of the drainage system and parking facilities in Campbell Street

An environmental compliance and management programme will be adhered to throughout the construction period.

The upgrading of the R63 between Fort Beaufort and Alice has generated 480 permanent, full-time local jobs (data from consulting engineer's report, August 2021), with R22,466,222.52 in expenditure as of end-March 2022.

	Expenditure
Total labour	R22,466,222.52
Youth	R10,218,691.02
Women	R10,263,211.41



	Name of SMME	Activity	Rand value total
1	Mgcaleka Road Signs	Traffic accommodation – Flagman and temporal line marking	R999,670.00
2	Idike Construction and Transport	Traffic accommodation – Flagman and temporal line marking	R999,670.00
3	Zibusisiwe Iziseko General Trading	Traffic accommodation – Flagman and temporal line marking	R999,670.00
4	Chizama Trading	Traffic accommodation – Flagman and temporal line marking	R1,044,747.29
5	Noxys Hot Things And Catering	Traffic accommodation – Flagman and temporal line marking	R1,044,747.29
6	Idike Construction and Transport	Traffic accommodation – Flagman and temporal line marking	R1,044,747.29
7	Soft Hands Heal (Pty) Ltd	Office and general supply	R570,155.98
8	Centriquest Solutions	PPE supply	R2,590,896.00
9	SSb and Xhanti Security Services JV	Security services	R4,102,864.00
10	Mqanda Zondani Earthworks	Plant hire	R6,000,000.00
11	Nosokhumbuzo Trading	Toilet supply and servicing	R1,194,200.00
12	Maxhosandile Construction	Precast culverts	R4,512,914.60
13	Maphozana Trading	Precast culverts	R4,512,914.60
14	Route 17CVE Trading Projects	Precast culverts	R4,512,914.60

	Name of SMME	Activity	Rand value total
15	Zoot Civils	Fence installation	R448,554.17
16	Gwayi Construction and General Trading	Fence installation	R448,554.17
17	Tingoo Construction and General Trading	Fence installation	R448,554.17
18	Liyema Civils	Fort Beaufort water main	R5,488,575.00
19	Imvu Construction Group	Fort Beaufort sewer	R3,112,575.83
		Fort Beaufort sewer	R2,724,908.68
20	Trademark Enterprise	Haulage of earthworks materials and roadworks materials	R3,465,000.00
21	Thowamvu Trading	Haulage of earthworks materials and roadworks materials	R3,465,000.00
22	Ranoz Construction	Road patches	R527,033.90
23	Tyume Blocks	Traffic accommodation	R10,814,126.00
24	Sihlahla Wellness Centre (Pty) Ltd	Medical examination	R327,500.00
25	Ponie Trading	Kerbing and channelling	R800,736.00
26	Simyoli Trading	Kerbing and channelling	R800,736.00
27	Karibu Construction and General Trading	Removal of existing Road furniture	R257,262.50
28	K2015004832 (South Africa)	Removal of existing fence	R423,343.75
29	Mbombela General Traders	Bypass stabilisation and cement supply anspreading	R617,500.00
30	Rhaymond Mhlaba Co.Op	Transportation of labour	R5,499,995.00
31	Nema Distributers	Subsoil drain	R2,752,507.00
32	Real World Security	Subsoil drain	R2,752,507.00
33	Plant Hire 24.7	Plant hire	R2,577,000.00
34	Sodla-Sonke Agricultural and Multipurpose Co-Op	Gabion	R1,468,900.00
35	NMN General Dealers	Gabion	R1,468,900.00
36	Gxididi Projects	Gabion	R1,468,900.00
37	Thari Ya Pudi General Trading	Gabion	R1,468,900.00
38	Sindy and Bother	Gabion	R448,554.17
39	Vece Trading	Gabion	R448,554.17
40	Norongo and Sons Building and Civils	Gabion	R448,554.17
41	Noros Trading Company	Catering	R90,000.00
42	IBM Holding	Printing	R203,000.00
43	Siyo F Consulting	Training	R28,450.00
44	SED General Trading	Training	R123,120.00
45	Fierce Skills Development Facilitators	Training	R781,430.00
46	Lingomso Iona Enterprise	Weeding	R427,800.00
47	Uyeva Catering and General Services	Weeding	R427,800.00

	Name of SMME	Activity	Rand value total
48	Silulami Ciko Investments	Sidewalks	R1,111,633.75
49	Phumza Mkonto Construction	Sidewalks	R1,111,633.75
50	Entlazane Construction	Sidewalks	R1,111,633.75
51	Zamakhe Trading	Cement supply and spreading	R486,464.00
52	Nomvari Construction	Cement supply and spreading	R486,464.00
53	Ayema General Trading	Cement supply and spreading	R486,464.00
54	Thasina Trading and Transportation	Cement supply and spreading	R486,464.00
55	Altar Sunlight	Road patches	R537,963.88
56	Math Engineering cc JV Skeelo Investment	Fort Beaufort street lights	R6,299,719.68
57	SDM Trading	Kerbing and channelling	R717,696.00
58	NMC Civil and Construction	Kerbing and channelling	R717,696.00
59	Mvundlela and Sons Construction	Kerbing and channelling	R717,696.00
60	Mhlantendlovu Trading	Kerbing and channelling	R717,696.00



Quick project facts:	
Estimated construction duration:	Three years
CIDB contractor grading designation:	9CE
Contract expenditure:	R204,618,225.76 for professional services
	R620,000,000.00 for construction
Total expenditure at March 2022	R369,065,501.66 (58% of the total to be spent)
People trained by accredited training service providers	271
Training cost	R343,400.00
Non-employed locals received training	75
Local subcontractors employed	57
Expenditure	R75,644,737.30 (incl VAT) by the end of March 2022
Spent on youth by end March 2022	R11,653,497.70



SECTION 2

CAPITALS AND PERFORMANCE

2 FUNDING CAPITAL

2.1 Annual income	89
2.2 Toll roads under concession	94
2.3 Land portfolio management	95



INGE MULDER

Chief Financial Officer

Portfolio includes finance and supply chain management

One of the highlights of the past financial year was the increase of SANRAL's procurement.

We were able to roll out many of the construction projects that had been delayed over the past few years.

We are pleased to have made this progress with very few issues relating to the procurement processes. The Board had a strategic objective to get a clean audit and that meant not having any irregular expenditure of non-compliance with laws and regulations.

Another highlight was being able to raise just under R4 billion in new funding for the toll side of the business following pressure and struggle to get funding to refinance our debt. We are not able to collect sufficient revenue on the Gauteng Freeway Improvement Project (GFIP) and this puts additional strain on all the other toll roads. Despite this, we were able to raise about R3.737 billion (nominal) and refinance about R1.2 billion (nominal).

While SANRAL's chief mandate is to build and maintain national roads, job creation forms another big part of its mandate, too. However, from an infrastructure perspective, we cannot create jobs if we are not able to award projects. We also generate employment through maintaining our assets, the roads. Procurement is therefore crucial to achieving our mandate.

One of SANRAL's major challenges has been a backlog created, in part, by an 18-month stalemate with the National Treasury over the definition of 'local' in relation to production and subcontracting.

Unfortunately, towards the end of the 2022 financial year, on 16 February, the Constitutional Court rendered the Preferential Procurement Regulations of 2017 invalid, which put a stop to all new tender advertisements, preventing SANRAL from issuing any tenders.

Despite all these problems, SANRAL still managed to award more than 300 tenders to the value of more than R37 billion, which will be spent over multiple years.

The Agency also experienced a backlog due to the hard lockdown implemented in response to the COVID-19 pandemic.

A number of procedures had to be adjusted to deal with these challenges. This included ensuring that competitive bids could be submitted electronically given that bidders could not drop off tender documents at the office.

The pandemic also made SANRAL re-evaluate its operational procedures to make it less reliant on paper.

This was just one of a number of changes SANRAL made to introduce 'a new way of working' in a very short space of time.

These changes have brought about huge benefits, including cost reductions associated with not having to receive five sets of every tender. In the previous year, for example, about 3,000 tenders were submitted, most of these more than 100 pages each.

Overall, despite many challenges, SANRAL has been able to deliver beyond expectations.



Inge Mulder



FUNDING CAPITAL

The following summary outlines 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. The Accounting Authority and executives (chief decision-makers) regularly review the financial performance of the entity, disaggregated into toll and non-toll segments.

These two segments are funded differently, as follows:

- An annual grant from the national fiscus, under Transport Budget Vote, funds the development, upgrading, rehabilitation, operation and maintenance of national roads that are not subject to tolling (non-toll portfolio). These comprise 87% of the national road network managed by SANRAL.
- Toll levies and borrowings on commercial capital markets have been the main sources of finance for the development, upgrading, repair, maintenance and operation of national toll roads managed directly by SANRAL. These constitute some 7% of the national road network. However, due to the under-collection of e-tolls on the Gauteng Freeway Improvement Project (GFIP), government assistance has become a significant supplementary source of funding for the toll portfolio over the past three financial years. This is specifically for loss of revenue on the GFIP and is included in the Toll portfolio as a subsidy. The GFIP represents less than 1% of SANRAL roads.

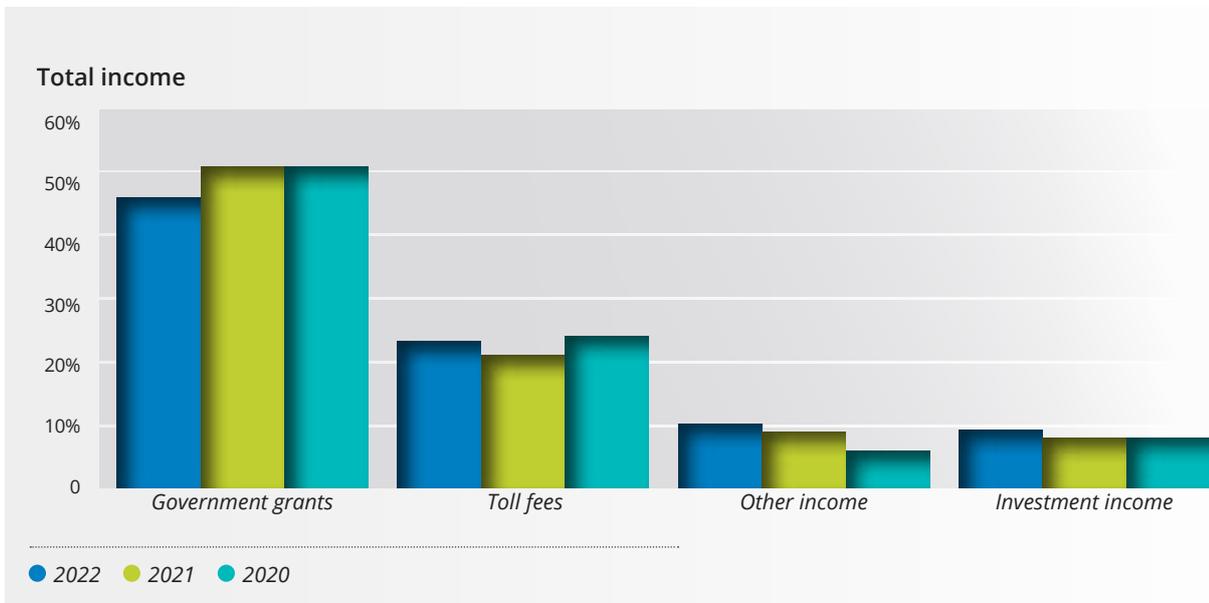
In addition to the above, there are toll roads – comprising the remaining 6% of the national SANRAL road network – for which 30-year concessions have been granted to private companies. These companies, TRAC, N3TC and Bakwena, have entered into public-private partnerships (PPPs) agreements with SANRAL for the construction, operation and maintenance of the designated routes. Under these concession arrangements, the concession holders are responsible for raising capital for road construction, servicing this debt and funding all upgrades, rehabilitation, maintenance and operational costs. Toll revenue on these toll routes accrues to the concession holders. At the end of the concession period, the roads will be handed back to SANRAL in good condition in accordance with the signed agreements.

2.1 ANNUAL INCOME

SANRAL recognised revenue of R14.805 billion, including government grants, in the 2021/22 financial year. Overall, across the non-toll and toll portfolios, government grants constitute the largest source of revenue for SANRAL, followed by toll fees collected from road users. In addition, SANRAL received finance income of R1.788 billion and other income of R1.985 billion, bringing total income to R18.578 billion. Other income comprises non-cash income from the previously deferred income, rental income from property management and implementation fees on non-SANRAL projects.

Interest on investment consists of interest earned on various investment holdings, on cash received from toll fees and from the Department of Transport as government grants. The cash is invested while waiting for planned utilisation.

Main sources of revenue 2021/22	2020/21 R'000	2021/22 R'000
Government grants: Non-toll	R6,175,693	R6,425,412
GFIP grant: Toll	R2,721,793	R3,857,101
Toll fee income	R3,706,876	R4,522,032
Sub total	R12,604,362	R14,804,545
Other income (sundry fees, deferred income and rental)	R1,580,559	R1,985,219
Investment/finance income	R1,420,419	R1,787,968
Total	R15,605,340	R18,577,732





2.1.1 Non-toll road revenue and expenditure

The annual grant made by the fiscus to SANRAL in respect of capital and operational expenditure on non-toll national roads amounted to R21.621 billion in 2021/22. Except for the 2021 financial year, this grant has increased steadily at an average of 8% over the past five years, which is above inflation.

SANRAL defers the unspent portion of the fiscus allocation to the following financial year. In the 2022 financial year, the deferred amount was R8.039 billion. This was mainly due to a decline in road maintenance expenditure and a slowdown in rehabilitation and upgrading projects. The underspending was exacerbated by the restrictions imposed by the national lockdown regulations. Of the total grant received, R5.107 billion was capitalised.

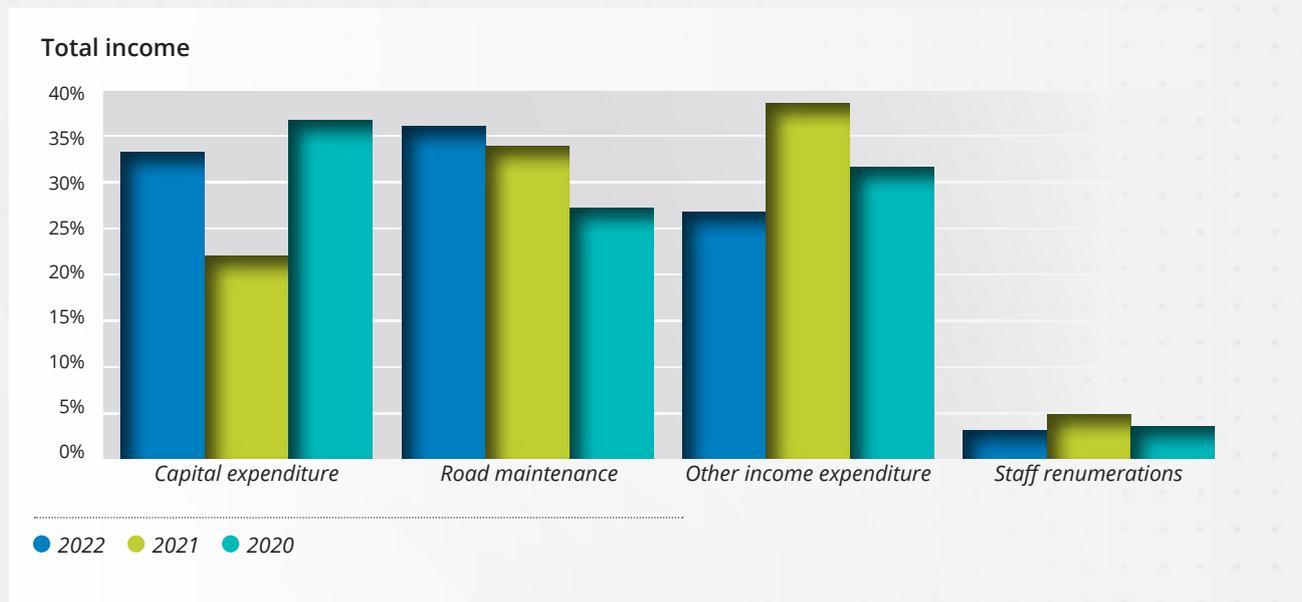
The remainder of the annual grant was spent on road maintenance and operational expenditure, of which R6.425 billion was recognised as revenue.

The previously deferred grants are realised to profit or loss systematically over the useful lives of the respective assets acquired. In the 2022 financial year, the previously deferred income recognised in profit or loss amounted to R2.385 billion.

Total capital expenditure on construction-related projects on non-toll roads amounted to R4.485 billion in 2021/22, while special and periodic maintenance projects amounted to R1.392 billion. The routine maintenance projects in operation on the SANRAL non-toll road network amounted to a total expenditure of R2.385 billion in the 2021/22 financial year.

The increase was due to improvements made in tender awards and the relaxation of COVID-19 lockdown restrictions. Delays on procurement processes have been improved.

The main categories of expenditure on non-toll roads were:



Non-toll roads	Number of projects	Length of road involved (km)	Cost ('000)
Routine & adhoc maintenance	182	10,995.88	R2,396,932
Periodic maintenance	81	645.80	R1,298,569
Special maintenance	47	3,353.02	R934,010
Total	310	14,994.70	R4,629,511

Non-toll roads capex	Number of projects	Length of road involved (km)	Cost ('000)
Strengthening	19	247.01	R282,377
Improvements	83	63.52	R2,922,613
New facilities & land	97	1,383.93	R1,277,457
Total	199	1,694.46	R4,482,447





2.1.2 Toll road revenue and expenditure

SANRAL's toll roads mainly comprise the following:

- Sections of the N1 in the Western Cape, Free State, Gauteng and Limpopo north of Bela Bela
- A section of the R30, R34 and R730 from the N1 South of Brandfort, past Theunissen, Virginia, Riebeeckstad, back to the N1 near Kroonstad in the Free State, from the R30 Toll Road
- 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)

Total toll revenue realised on these routes during 2021/22 was R4.522 billion, representing an increase of 22% from the previous year. The tariff adjustment for the year was restricted to a CPI-related rate of 3.39%. The decline in revenue in 2021 was mainly due to decreased traffic volumes on these roads as a result of the travel/mobility restrictions during the national lockdown (level 2 to 5).

When traffic volumes returned to normal (pre-COVID-19) projections, the 2022 toll revenue increased significantly. Included in the toll revenue are cash sales from all the conventional toll plazas, amounting to R3.953 billion.

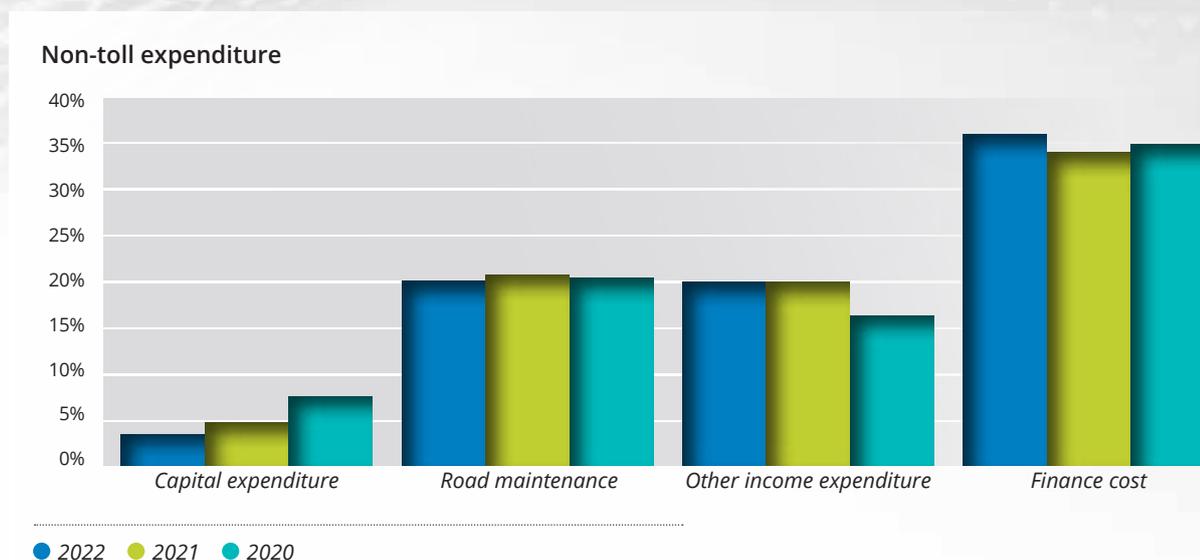
The GFIP showed an increase of 25.6% in revenue to R569 million. This project is SANRAL's only toll route that receives government assistance. This grant is intended to offset the discounts on tariffs instituted in response to public opposition to tolling on Gauteng freeways and to compensate for the loss of income while a decision on its future from the Presidency is pending. In 2022, this grant amounted to R3.740 billion (including VAT). The Minister of Transport, as SANRAL's sole shareholder, approved a transfer to the Toll Portfolio account from the non-toll government grant to reduce the expected shortfall on GFIP revenue collection. The compliance collection rate remains very low at about 17%.

All other conventional toll roads operated by SANRAL realised an increase in revenue of 21.4%, which was attributable to increased traffic volumes and tariff adjustments.

Total capital expenditure on construction-related projects on SANRAL toll roads amounted to R426 million in 2021/22. Routine maintenance contracts in operation on SANRAL-managed toll roads amounted to a total expenditure of R2.287 billion in the 2021/22 financial year.

During the 2021/22 financial year, SANRAL raised R3.737 billion (nominal) on the capital markets by tapping existing bonds. The finance cost on borrowings amounted to R4.342 billion, of which R25 million was capitalised.

The main categories of direct expenditure on toll roads were:



Toll road expenditure

Toll road maintenance	Number of projects	Length of road involved (km)	Cost ('000)
Routine & adhoc maintenance	85	1,102.57	R2,295,773
Periodic maintenance	10	15.42	R23,364
Special maintenance	5	5.11	R2,236
Total	100	1,123.09	R2,321,373

Toll road capex	Number of projects	Length of road involved (km)	Cost ('000)
Strengthening	3	0.17	R2,698
Improvements	8	1.26	R77,862
New facilities & land	24	36.56	R345,400
Total	35	37.99	R425,960

Profit/loss before taxation

The net profit /(loss) for the year was as follows:

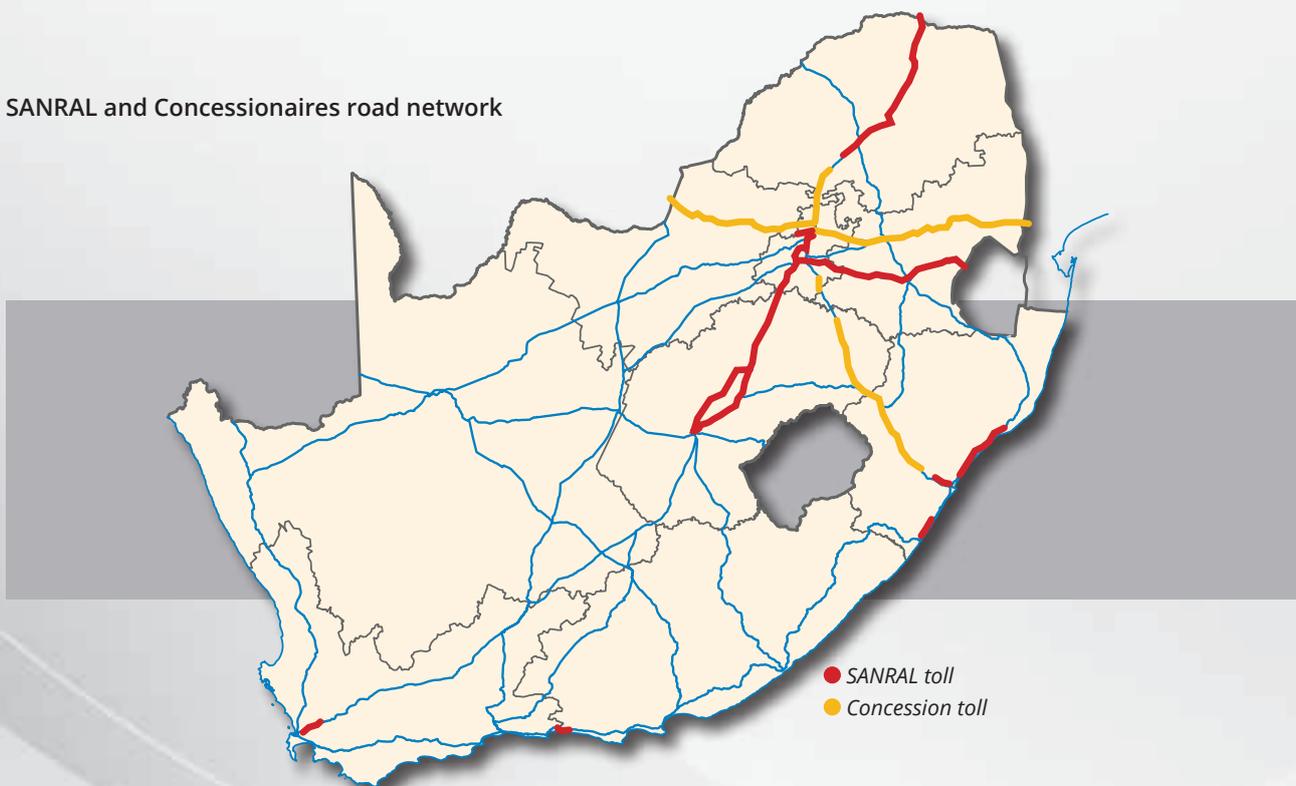
	Non-toll operations	Toll operations	Total net profit
2017/18	R1,104 million	(-R1,521 million)	(-R418 million)
2018/19	(-R96 million)	R2,517 million	R2,421 million
2019/20	R710,843	R552,498	R1,263,341
2020/21	R836,334	(-R455,552)	R380,782
2021/22	(-R833,070)	R1,181,559	R348,489

2.2 TOLL ROADS UNDER CONCESSION

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

- **TRAC** manages the N4 eastward from Tshwane (Pretoria) 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. This concession is for the period 2001–2031.

SANRAL and Concessionaires road network



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.

2.2.1 Road infrastructure expenditure

The total expenditure of the three companies on capital road improvement projects in 2021/22 amounted to R2.275 billion.

Road network and structure only (capex) R'000	
TRAC	1,143,947,698.35
Bakwena	61,070,954.54
N3TC	1,069,602,907.75
Total	2,274,621,560.64



2.3 LAND PORTFOLIO MANAGEMENT

SANRAL leased 364 properties (amounting to 193 leases) in 2021/22 and realised R28.953 million during the year. Properties include SANRAL's head office and its regional offices. SANRAL has three green buildings in Tshwane, Nelson Mandela Bay and Cape Town that reduce SANRAL's carbon footprint, realise savings in energy consumption and adhere to green principles.

While road reserves are maintained using routine road maintenance contracts, the surplus land is managed by a specialised service provider that carries out surveying, valuing and general property management services and maintains all of SANRAL's offices. Upon expiration, this contract has been split into nine contracts and let to tender. Three contracts are for land acquisition and survey, property management and valuation. Five contracts are for facilities management. This approach was adopted to allow more contractors to access opportunities emanating from SANRAL's property portfolio. At year-end, only one contract, the valuation contract, had not been awarded. Regrettably, the latter had to be re-tendered due to the receipt of non-compliant tenders.

The contract value for property administration has been awarded for R239 million and the land acquisition and survey tender for R1.050 billion, including VAT.





SECTION 2

CAPITALS AND PERFORMANCE

3 INTELLECTUAL CAPITAL

3.1 Value-added services	98
3.2 Stages of progress	99
3.3 Account-based ticketing	100
3.4 The SANRAL mobile app	105
3.5 Average speed over distance	106
3.6 Parking	107
3.7 Automated electronic toll payment	107
3.8 Geotechnical solutions	108
3.9 Geometric design solutions	112
3.10 Innovative design	118



From a struggling post-pandemic economy to high unemployment rates and rising transport costs, the multiple crises facing our country call for the development of equitable solutions. With approximately 75% of South African households relying on public transport, there is a need for smarter and more reliable options.

Despite high usage and reliance on public transport, disparities exist in service delivery and integration between the various transport modes. The number of commuters reliant on public transport is growing and significant investment has been earmarked by government to improve and modernise public transport services. These are long-term solutions to immediate problems.

As road users become increasingly technology-savvy and our society more connected, there is an opportunity to optimise current infrastructure and resources with minimal investment.

3.1 VALUE-ADDED SERVICES

In 2019, SANRAL embarked on an investigation into potential projects to widen the scope of the toll portfolio and consider further value-added services (VAS) to maximise or 'sweat' its Transaction Clearing House (TCH) asset.

The focus of services rendered shifts from pure toll-based services to public transport and related services. In this process, the e-toll account becomes a 'mobility account' that can be used nationally for payment of fares in public transport services, facilitating integrated fare collection and management. In addition, road users can use their mobility account and the toll customer service centres to renew vehicle and driver's licences, pay for parking at the airport and commercial parking garages, gain access to secured areas such as offices and security estates, and, in the near future, make payment for fuel purchases from their TCH account.

3.2 STAGES OF PROGRESS

The value-added services are at various stages of development, and are classified as follows:

- **Stable solutions**

These are services such as parking and account-based ticketing (ABT), which have reached some state of implementation and maturity and are either currently being operated or have reached the pilot phase.

- **Developing solutions**

The Open Road Tolling development for detecting infringements in the Gauteng Open Road Tolling network was completed and the VAS portion to send speed alerts to participating mobile app users has been active for some time. With regards to average speed over distance (ASOD) as an extended platform within VAS, the first phase of the project has been completed. This will enable SANRAL to act as a country-wide hub for receiving and processing speeding infringements from multiple issuing authorities.





3.3 ACCOUNT-BASED TICKETING

The account-based ticketing (ABT) solution facilitated by SANRAL means that public transport operators (PTOs) can move away from multiple, non-integrated fare collection systems to systems that require only a single account identifier. This will allow commuters to utilise multiple modes of transport, regardless of whether the services are managed by a single or multiple operators.

The biggest benefit of utilising the current TCH system is its ability to achieve the clearinghouse functionality by centralising account hosting and processing at a specified standard of interoperability for all. This reduces the need to develop an ISO Level 4 clearinghouse, which is extremely costly.

Furthermore, the account-based solution was designed for offline processing capabilities, especially in rural areas or low-signal areas. This system allows the balance to be written to the card at the point of transaction, to be later reconciled, which is a built-in redundancy, allowing a fully integrated solution.



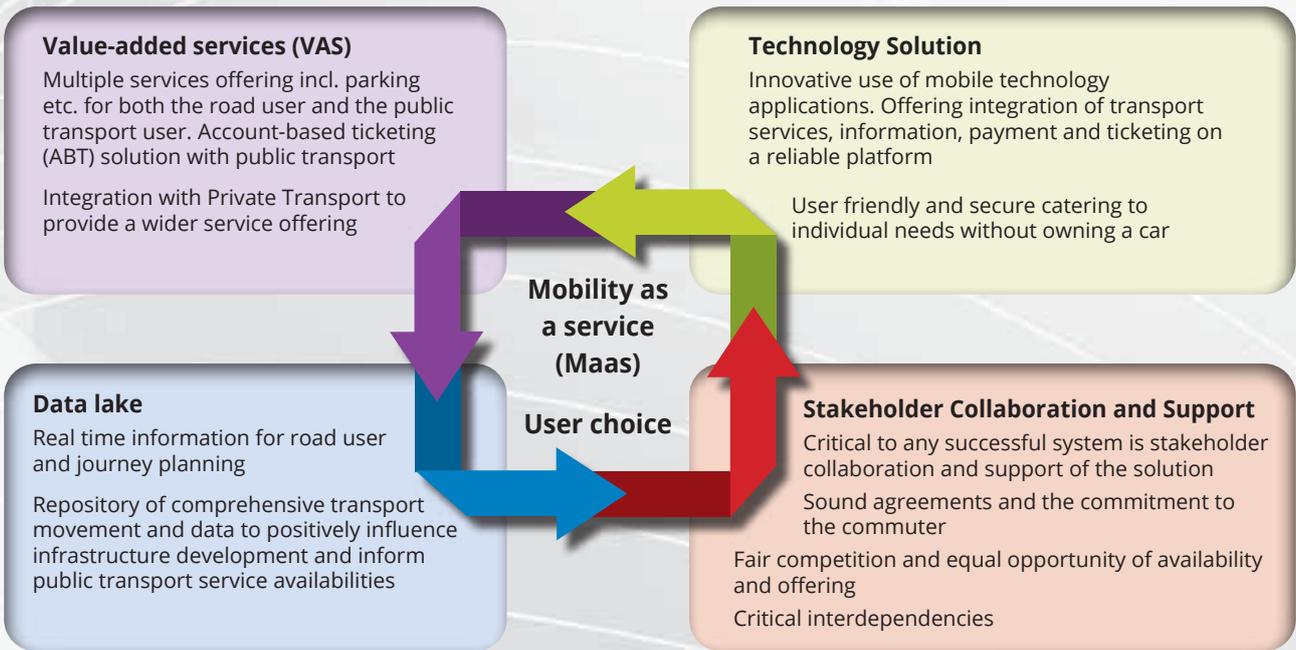
3.3.1 Integration of public transport utilising ABT

The ABT solution is not intended to replace any existing automated fare collection (AFC) systems at PTOs. Instead, the objective is for them to interface their systems to the ABT back-office infrastructure at the TCH to take advantage of the account-hosting and transaction-processing services. This will connect PTOs to a common technology and services platform and allow commuters to experience truly integrated multimodal public transport services in an integrated public transport network.

Implementing a fare collection system based on the ABT system has vast benefits and can largely mitigate many of the challenges faced by the public transport industry. Salient benefits include:

- There is no need to establish an electronic ticketing clearinghouse for the settlement of obligations between operators. Operators receive payment when the service is provided. Clearing fare transactions and the settlement of the fare transaction value takes place between the operator and SANRAL
- Account top-up points of presence (PoPs) and infrastructure are already in place as the e-toll footprint
- An ABT system will result in major capital and operational cost savings for public transport operators and regulators
- It facilitates simple and reliable fare collection and payment services, where the balance 'open to spend' and proof of entitlement to travel are held in the back-office account-hosting system, as well as on the fare media
- Fully multimodal travel and integrated fare is made possible with the use of a common (contactless) fare media that is interoperable across the services of all participating PTOs and meets the common requirements of all PTOs in an integrated public transport network
- The collection and distribution of operational and management information could leverage off the fare collection network infrastructure. This would greatly reduce the cost of establishing new collection and distribution systems for travel data collection

3.3.2 The confluence of ABT and MaaS





Implementation of the ABT solution will facilitate efficient public transport services and will also allow for the collection and storage of fare transaction data that can provide information on public transport operations and commuter travel patterns. The sharing of data from participating operators through a data lake is an important step in achieving public transport integration. This would also provide valuable information for the planning of Integrated public transport systems.

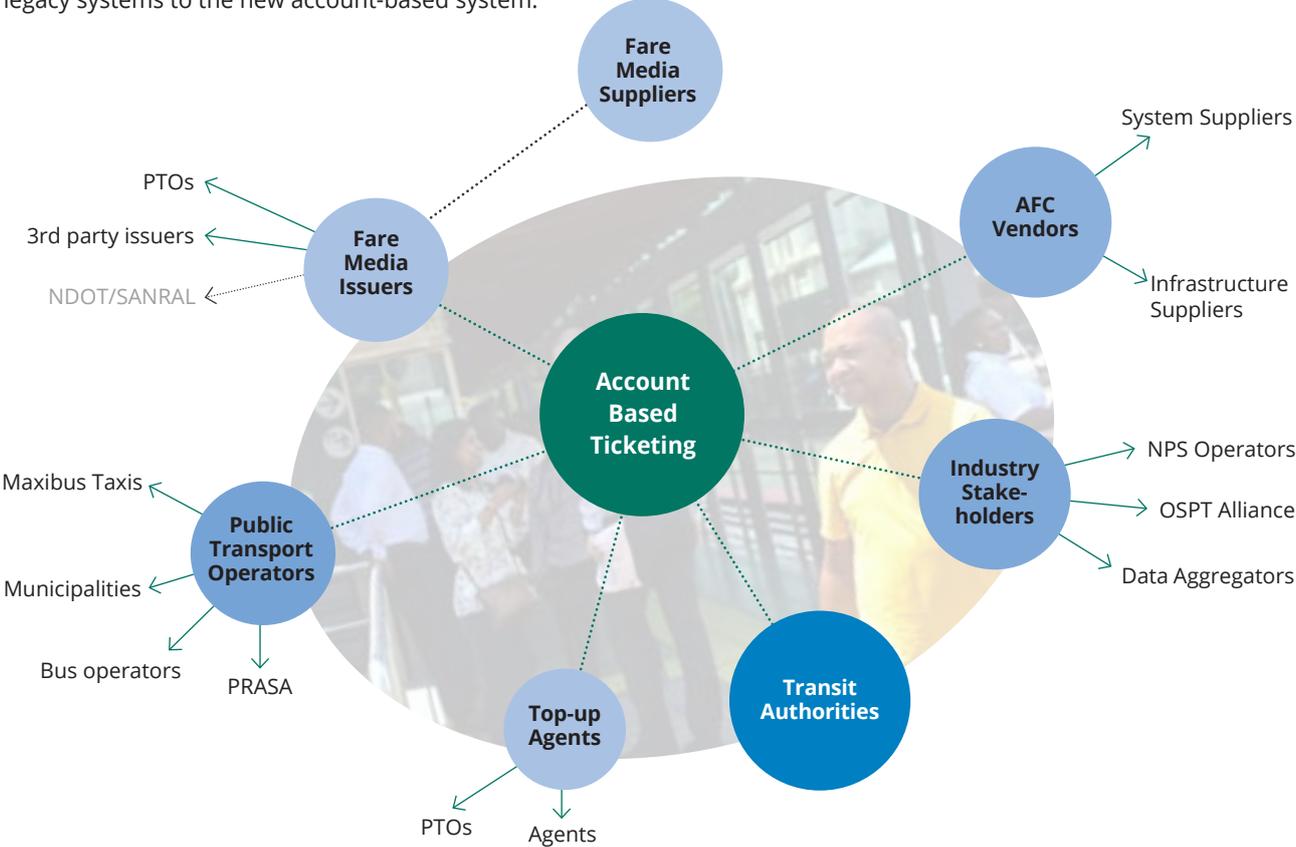
The transport data lake could include the following:

- **Travel data/usage sourced from fare transactions**
This data includes details of trips undertaken on all public transport systems operated by participating PTOs. This information is vital from a planning perspective because it provides a region-wide indication of demand, which in turn is necessary to plan public transport routes and schedules, as well as integration with other modes and services for delivering optimal mobility and accessibility to commuters. It can also provide the data on which subsidies are calculated.
- **Real-time data**
This includes incident reporting or delays to public transport services. This information forms the basis for providing integrated traveller information services.
- **Supply data**
This includes static details of available public transport services such as routes, stops and schedules. This information forms the basis for providing route planners.

This will also eventually enable an advanced public transport system (APTMS) solution for the planning of routes and integrated schedules, as well as providing PTOs with the intelligence and insights they need to anticipate trends in usage and introduce flexible fare policies, encouraging usage through discounts and promotions. The APTMS can be linked to the traffic management centre (TMC), thereby unlocking further capabilities and service offerings.

3.3.3 Current status quo

The Department of Transport has published regulations endorsing and supporting the use of the TCH for the integrated solutions. Comments have been received and considered from all sectors of the public transport industry for publication into the final regulations. These regulations will allow all entities a period of three to five years to transition legacy systems to the new account-based system.



In light of the above regulations, extensive presentations and discussions were undertaken with municipalities, provinces and bus operators, as well as various vendors and service providers. These served to explain the process and sensitise the industry on the service offering.

Memorandums of understanding were signed with five municipalities to begin pilot projects. The first of these pilot projects is scheduled to start in the near future.



3.3.4 ABT-centric data collection

The NDoT ABT solution creates opportunity for data collection on various levels, with layers of forward application. When the data is collected as part of the ABT system, a data lake can be created and used as the platform for big data value-adds.

This could include:

- **Public transport information**

- Planning information for transport planners, authorities and operators
- Improved efficiencies, better networks and reduced costs

- **Passenger information**

- Planning at the commuters' fingertips using mobile apps, passenger information systems and broad-stream media

- **Operational information**

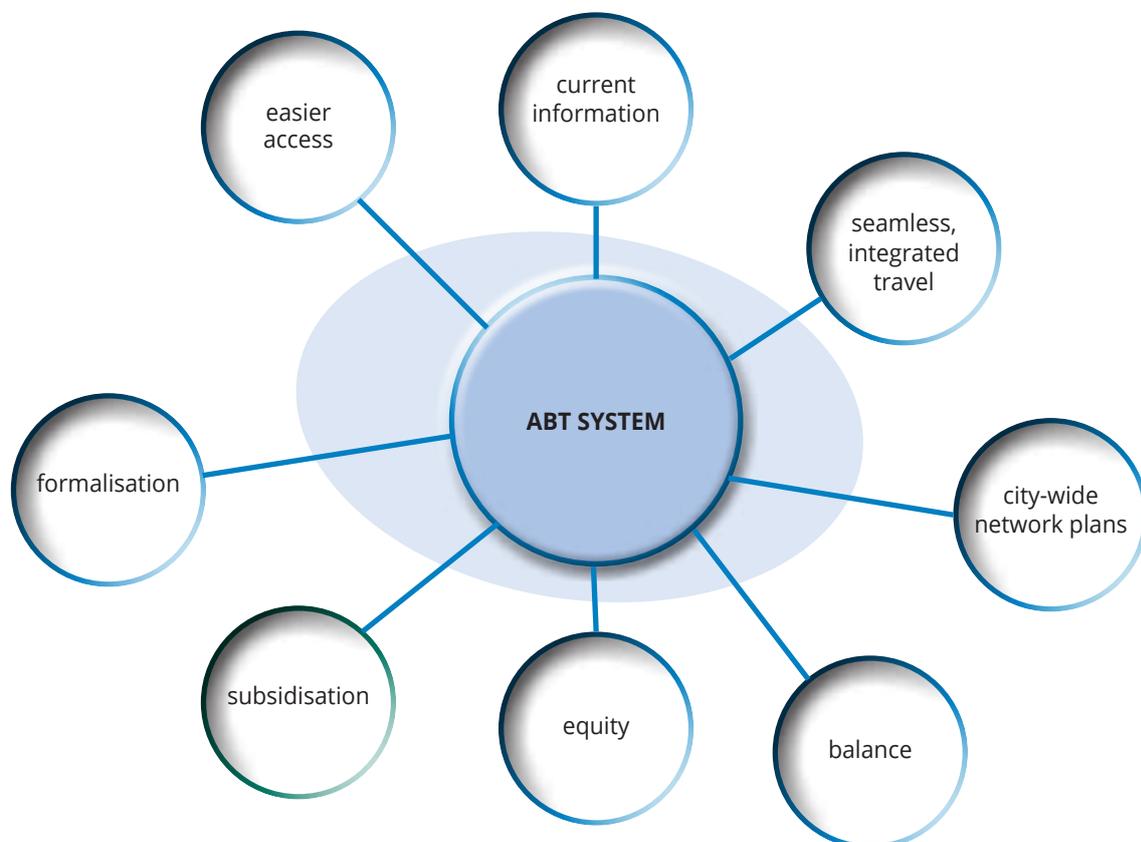
- Assisting transport operators with improved planning, more efficient services and better commuter experience

3.4.5 Linking fare structure with travel patterns

With the ability to seamlessly adjust payment structures based on the changing travel patterns of consumers, cost concerns for passengers are reduced and the overall experience is thus improved. There is also the potential to reduce operating costs for PTOs.

3.4.6 Improved accessibility and mobility for all

The ABT system gives transport authorities, operators and commuters exactly what they need:



3.4 THE SANRAL MOBILE APP

SANRAL has made significant strides with the SANRAL app. Current functionality addressed by the SANRAL app includes:

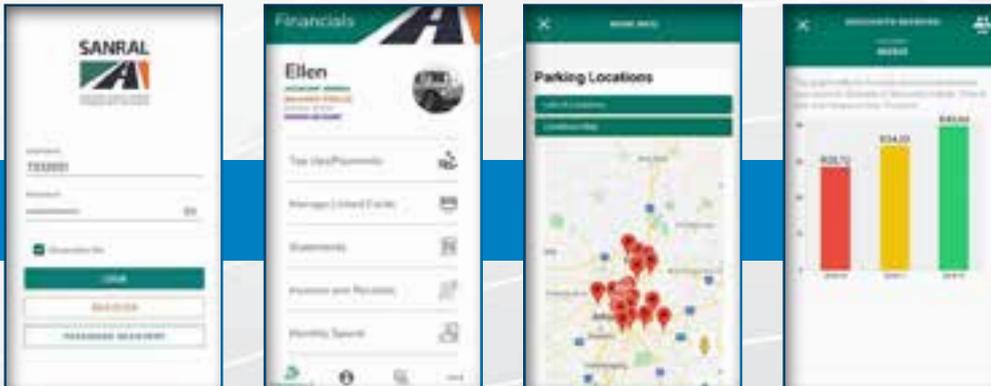
- Logging into one's mobility account and obtaining an account overview
- Obtaining account balances and financial transaction history
- Managing linked credit/debit cards
- Topping up an account with a linked credit/debit card
- Lodging an enquiry with SANRAL
- Contacting SANRAL via email or call centre from the mobile device
- Logging into the account using biometric authentication (if available)
- Updating the account profile from a mobile phone
- Providing feedback to SANRAL on app improvements, mobility account uses and general

SANRAL improvements

- Reporting on transactions, monthly spend and discounts received (if applicable)
- Other value-added services (VAS) functions, including:
 - Enabling the renewal of licence discs and the payment of traffic fines
 - Registering for parking and speed alert services
 - Managing vehicles and tags that are linked to an account.

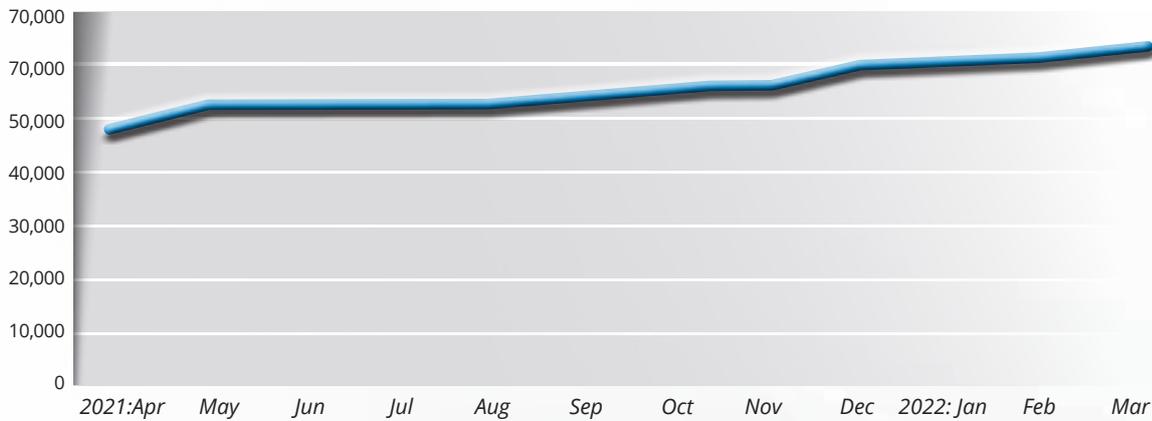
SANRAL mobile app statistics

The SANRAL mobile app has seen an increase in users and top-ups over the past 12 months. There are currently more 64,000 active users on iOS and Android, with a total of R309.6 million in top-ups to mobility accounts.



MONTH	NO. OF USERS	CUMULATIVE USERS	MONTHLY TOP-UP VALUES
Apr-21	381	49,767	R17,835,711.41
May-21	-643	53,718	R19,727,681.93
Jun-21	1,761	54,245	R22,471,464.08
Jul-21	459	54,140	R20,822,888.86
Aug-21	2,961	54,377	R25,910,131.13
Sep-21	720	55,808	R27,840,583.81
Oct-21	1,128	57,322	R27,742,965.34
Nov-21	5,942	58,356	R28,381,063.04
Dec-21	3,259	61,002	R27,852,249.15
Jan-22	1,043	62,061	R27,596,187.41
Feb-22	1,081	63,148	R28,813,194.92
Mar-22	1,679	64,805	R34,628,291.12

The cumulative number of SANRAL app users



3.5 AVERAGE SPEED OVER DISTANCE

The concept of average speed over distance (ASOD) has been successfully implemented in various parts of the country in isolation. The TCH allows SANRAL to uniformly apply ASOD over areas as required and to provide a single point of implementation and support in this regard.

This initial deliverable consists of the necessary components in the processing chain to receive ASOD infringement records from an external party in the VAS platform, process the data for eNatis ownership lookups and other data enrichment steps, and post the infringement records into the cloud-based infringement management platform. This online platform is where the relevant operational procedures can be executed (verification, adjudication, etc.) for the infringements to be issued to offenders via eNatis interfaces.

Although the initial phases of the project are focused in ASOD infringements, the platform is designed with an open approach, allowing for any type of infringement (red lights, speeding, yellow lines, etc.) to be processed in future, by simply developing the required input interfaces.

The first proof-of-concept implementation for this ASOD prototype will be conducted in conjunction with the Limpopo province, where an ASOD infringement capturing solution has been implemented in high-accident zones of the N1 highway (Waterberg District Municipality).



3.6 PARKING

SANRAL developed a parking value-added services solution that uses vehicle licence numbers as identifiers to link users to their mobility accounts.

SANRAL has partnered with service providers such as Admyt that have infrastructure installed at parking facilities across South Africa. It is envisaged that this will ultimately be expanded nationally.



3.7 AUTOMATED ELECTRONIC TOLL PAYMENT

During 2021/22, the implementation of electronic toll collection (ETC) continued at all SANRAL-managed toll plazas and toll plazas managed by concessionaires. The adoption of the electronic payment option by many road users has reduced congestion at toll plazas during busy periods. Increased use of ETC was evident, especially along toll routes and at plazas in KwaZulu-Natal.

In 2021/2022, the average electronic toll transactions at SANRAL managed toll plazas per route ranged up to 18% of the total traffic, at a combined value of R955,679,279.

During the same period, the average electronic toll payment transactions at toll plazas managed by concessionaires were as follows:



Bakwena	TRAC	N3TC
23.4%	25.1%	21.6%
of total traffic to the value of R475,416,429	of total traffic to the value of R639,848,591	of total traffic to the value of R721,095,047

3.8 GEOTECHNICAL SOLUTIONS

WESTERN REGION

Kaaimans Pass stabilisation work

Project description Kaaimans Pass is located National Route 2 Section 7, between George and Wilderness, in the Western Cape.

The geology is very complex and varying along this section, which is essentially characterised by three geotechnical zones or units and includes colluvial soils, a highly weathered rock profile located near the surface of the natural slope and a moderately weathered phyllite with lesser quartzite interbeds.



Rock joint mapping from km 35.330 to km 35.350

The topography of the study area comprises a cut slope, which attains a maximum height of approximately 17m, as well as a high, relatively steep natural slope profile situated above. The rock face, which is inclined between 39° and 62°, ranges from 5m to 17m in height.

The slope above the cutting is characterised by a natural slope profile that is moderately inclined, with batters ranging between 28° and 47°. The overall height of the slope is more than 50m.

Project aim The scope of the current project includes the stabilisation of the lower cut toe (located above the road) from km 35.180 to km 35.500 as a preventative measure to avoid slope failures similar to those that occurred in 2006.



The 2006 incident of the major planar failure at km 35.450

A smaller but similar failure occurred in 2018/19, initiating further investigations to determine the cause and severity of the failure and the overall slope stability. The outcome of the assessment indicated that remedial measures were required.

Project scope The proposed remedial measures for the lower cut slope include:

- Active mesh drapery system comprising a pinned mesh and rock dowels or mesh or fibre-reinforced shotcrete and rock dowels
- Scaling/barring of loose rock particles
- Landslide debris fences on the natural slope above the cut crest within the road reserve between km 35.215 and km 35.315
- Installation of drainage holes to lower the potential ground water table in the slope

In addition, corroded rock bolts on the cut face of the section between km 35.0 and km 35.17 will be refurbished and/or replaced.

Project cost The cost of the remedial works is estimated at R22 million.

Project status The project will be undertaken as part of the planned road maintenance contract from Kraaibosch to Touw River, which is planned to start in February 2023, spanning a contract period of 30 months in total.

WESTERN REGION**Project: N2 slope stabilisation**

Project description The site is located adjacent to the eastbound carriageway of National Route 2, Section 7, from km 0.00 to km 2.00, starting immediately after the bridge over the Groot Brak River, approximately midway between Mossel Bay and George in the Western Cape.

Project aim The need for the slope stabilisation project has been established through the SANRAL Slope Management System (SMS), which was verified by regional panel inspections. A potentially unstable slope was identified near Groot Brak during an assessment in 2016. The slope was classified to be a 'major problem slope' according to the SMS rating system and has a network level assessment rating of 145 points out of a potential 297. Mitigation measures were investigated for implementation at the unstable slope site, which forms the scope of this contract.

The unstable material on the slope creates a potential hazard and needs to be addressed in order to ensure the safety of the road users.

The site traverses two cuttings, totalling approximately 700m in length. The western cut is approximately 300m long at the road level and the eastern cut approximately 400m. Both cuttings are characterised by complex geological features and previous signs of distress.



Two distinct distress areas were identified:

- A failure slump is present in the lower portion of the western cut
- The slope is characterised by numerous erosional or failure scars



Project scope

- The works include:
- Construction of any temporary access road/ramps/platforms along the slope as required and approved by the engineer to provide access for construction equipment
 - Installation of 610mm-diameter concrete rotary percussion-type ('down the hole hammer') piles reinforced with structural I-sections at varying levels along the length of the cuttings at a specified spacing
 - Construction of a reinforced concrete capping beam (760x760mm²) to tie the pile heads together in each row
 - Installation of 3.5m high, shallow land-slide fences, capable of resisting dynamic impacts of at least 150 kPa, and with a minimum impact absorption of 500 kJ, installed immediately above the upper pile
 - Repairing slump failures and erosion areas (cut to spoil and reinstating with imported fill material)
 - Demolition, removal to spoil and reinstatement of defected areas of the existing gabion wall (as directed by the engineer)
 - Placement of topsoil, planting of vegetation, placing adequate erosion protection and landscaping to reinstate disturbed areas

Project cost The cost of the project is estimated at R250 million.

Project status The project commenced and was handed over in April 2022, with a duration of 15 months (which includes a two-month mobilisation period).

3.9 GEOMETRIC DESIGN SOLUTIONS

EASTERN REGION

N2 upgrade from Pongola to the Mpumalanga border



Project description	<p>The N2 in KwaZulu-Natal between the town of Pongola and the Mpumalanga border is typically a two-lane single carriageway road. As the topography is rolling in nature, climbing lanes have been added where steep grades occur, as well as a compulsory truck stop in advance of, and a crawling lane through a section of the mountain pass.</p> <p>Human settlements are located along the length of the route, together with primary and secondary schools and a hospital. The secondary and local road network does not provide longitudinal continuity due to the presence of high hills/mountains, deep valleys and numerous river crossings. The N2 serves as the only longitudinal link in the road network and, as a result, there are numerous major, minor and illegal intersections. The route currently serves the mixed purpose of a mobility route for both motorised traffic, but also a local collector and distributor for motorised and non-motorised traffic (NMT). Numerous public transport stops and NMT infrastructure have been formalised along the route to serve local needs and to maintain a level of mobility for national traffic.</p> <p>The route also serves as an abnormal and super-load route connecting the ports of Durban and Richards Bay with the mines in Mpumalanga and beyond. To accommodate the high and wide loads, the route does not contain any overpass structures. The signposted speed is generally 100km/h. However, this has been reduced to 80km/h in many sections to safely accommodate the numerous intersections, public transport and NMT facilities.</p>
Project aims	<p>The main intentions of the project are to improve the mobility function of the route by adding additional capacity, reducing conflict points and improving geometry in order to:</p> <ul style="list-style-type: none"> • Increase the design speed • Maintain and improve the abnormal and super-load function of the route • Improve road safety for all road users, with a specific focus on public transport and pedestrians • Ensure full involvement of all stakeholders in all phases of the project <p>Considering the current mixed purpose of the route, the main intentions of the project and the limitations of the site, innovative and balanced solutions were required. These include:</p> <ul style="list-style-type: none"> • Development and implementation of a municipal roads and NMT user master plan • Provision of a four-lane undivided carriageway with a continuous median barrier to manage access and NMT user movements • Provision of numerous mini-interchanges (in the form of left-in/left-out intersections with deceleration and acceleration lanes), linking the minor road networks of each valley line safely to the upgraded N2 • Lifting of the N2 in some areas to provide for numerous pedestrian, cattle and farm implement underpasses (these could not be accommodated overhead due to the super-load route status) • Provision of public transport and NMT infrastructure within the national road network
Project cost	The estimated cost of the works currently stands at approximately R2.4 billion.
Project status	The project is currently nearing completion of detailed design. The project implementation date is currently being reassessed; however, the works contract period will likely be four years.

NORTHERN REGION

Grade-separated interchange on National Route R40 and R527 at Hoedspruit

Project aims The general objective of this project is to investigate and implement the addition of a grade-separated interchange at the intersection of Road R40-5/6 and Road R527/D5012 at Hoedspruit.

The aim of this improvement is to:

- Upgrade the existing at-grade crossing of Road R40 and Road R527
- Construct new grade-separated interchange(s)
- Close off existing access for public roads on the R40 between km 93.0 on section 5 and km 0.6 on section 6

Design solutions The following interchange concepts were considered and deemed to be suitable to aid the overall geometric conceptual design.



Partial clover interchange concept

SOUTHERN REGION

National Route 2 Section 15 at the Belstone (km 8.2) and Breidbach (9.8) intersections

Breidbach Interchange:

Project aim The existing at-grade intersection requires upgrading due to a high accident rate when vehicles cross or merge with the busy N2. Currently, this intersection carries a large portion of the traffic travelling to and from Bhisho/Breidbach/Zwelitsha and East London. As a result, the intersection operates at level of service F at peak times.



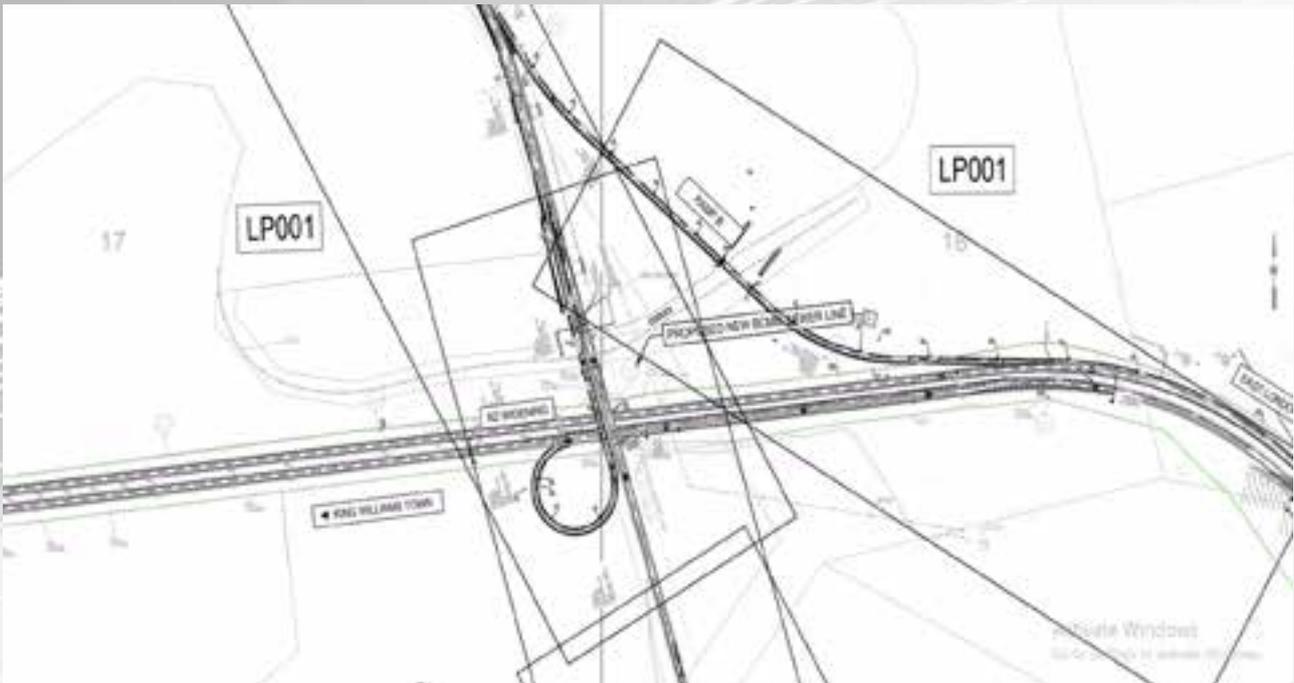
Breidbach intersection solution

Breidbach Interchange:

Project scope The upgrade will comprise the following:

- Construction of the eastern and western quarter-link ramps
- Construction of the Breidbach underpass, including new road-over-road bridges on the northbound and southbound N2 carriageways
- Construction of the N2 eastbound and westbound carriageway bridges

Project aim In order to cater for the increasing traffic between East London and Bhisho, as well as the proposed King William's Town Ring road, this intersection needs to be upgraded to an interchange. Although the interchange has been designed as a full-clover interchange, only certain loops and off-ramps will be constructed.



Breidbach intersection solution

Project scope The upgrade will comprise the following:

- Construction of a new interchange loop off-ramp (ramp H), which includes two new bridges, for ramp H over the N2 and ramp H over the railway line adjacent to the N2, as well as a pedestrian underpass under the new ramp H
- Construction of a new interchange on-ramp (ramp B), which includes a bridge over the adjacent railway line
- Re-surfacing the MR690 and MR688 link from Breidbach to Belstone and construction of a roundabout at the MR690/MR688 intersection
- Widening the MR688 to a divided dual carriageway from Belstone interchange to tie into the existing dual carriageway at the Bhisho Legislature
- Relocation of the existing intersection of Joubert Street and the MR688, and creation of dedicated turning lanes

Project scope The cost of the project is estimated at R438.6 million.

Project status The designs have been completed and the project has progressed to the tender stage. The estimated completion date is the fourth quarter of 2025.

3.10 INNOVATIVE DESIGN

EASTERN REGION

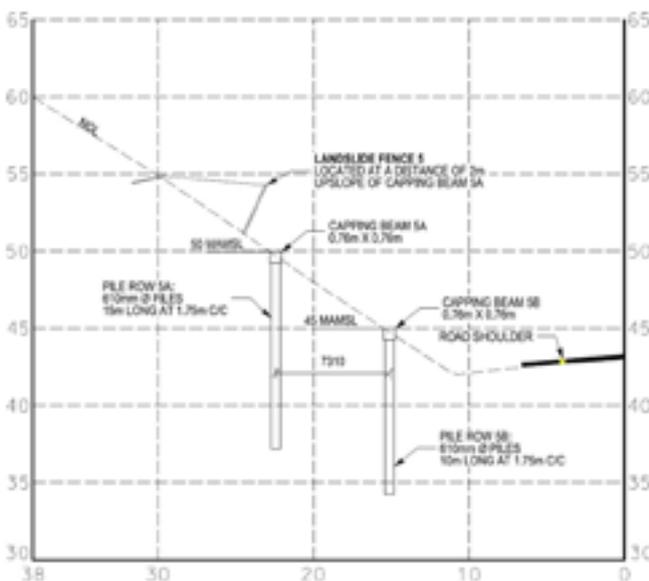
Use of steel H-piles for integral bridge abutments on the N2 from Mtamvuna River to Port Edward

Integral bridges are where the piers and abutments of a bridge are built monolithically with the deck, thus eliminating the need for bearings and expansion joints. Besides having lower future maintenance costs, integral bridges are also more efficient to construct due to slender member sizes as a result of the fixity of the superstructure to the substructure.

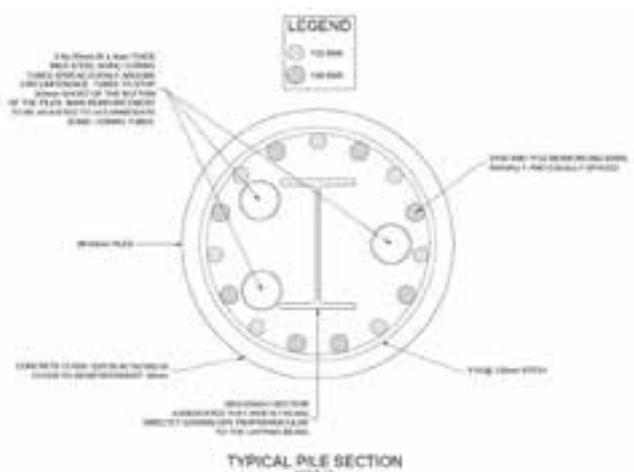
The design of integral bridges in South Africa is gaining momentum, especially for shorter-length bridges (generally less than 60m). Locally, concrete piles are the most common type used for integral bridge abutments. Internationally, concrete piles have been used to some extent, but not nearly as extensively when compared with the steel H-pile. In South Africa, driven steel H-piles are not commonly used due to the higher costs of steel and harder founding conditions. However, pre-bored, rock-socketed steel H-piles can be used as an alternative to driven H-piles.

Project description On the N2 section 22, for the upgrade between Mtamvuna River and Port Edward, the design consultants Royal Haskoning DHV (Pty) Ltd have proposed the use of pre-bored, rock-socketed steel H-piles for the integral bridge abutments for several bridges along this route. They have demonstrated that the steel H-pile system has superior design performance and is more cost-effective, especially when long-term performance and maintenance are considered. Steel corrosion is also not a concern due to the lack of oxygen in the undisturbed natural soils, which will not sustain the process of corrosion. The small amount of corrosion expected can easily be catered for in the design.

The use of steel H-piles for integral bridge abutments is not common in South Africa and its use on this project is considered an innovative design that will improve the performance and efficiency of integral bridges in the country going forward.



Typical cross section of pile installation and landslide fence



Typical pile section

WESTERN REGION

Slope stabilisation on the N2 at Groot Brak



The site is located adjacent to the eastbound carriageway of National Route 2, Section 7, starting immediately after the bridge over the Groot Brak River, approximately midway between Mossel Bay and George in the Western Cape. The site traverses two cuttings, totalling approximately 700m in length.

The western cut is approximately 300m long at road level and the eastern cut approximately 400m. The cuttings generally slope to the south-east at angles of 32° to 33°. The maximum height of the western cut is 57m (at km 0.214), with the eastern cut reaching a height of 73m at km 0.486.

Project description Slope repairs normally entail solutions such as gabions, soil nails and shotcrete, but this slope will be stabilised by implementing a spaced-pile solution, which will require the installation of two rows of 610mm-diameter concrete rotary percussion-type ('down-the-hole hammer') piles, reinforced with continuous structural I-sections, parallel to the road centre line and at varying levels along the length of the cut at a specified spacing. The pile lengths to be installed under this contract are 10m, 12m, 15m and 18m, with spacing varying between 0.8m and 2.0m. The horizontal spacing between the row closest to the road (lower row) and the second upper row varies between 4.18m and 10.35m.

A D25/30-XC1b(100)-20 concrete mix will be used for the piles, reinforced with 305x164x54 S355 structural I-sections, as well as high-yield (Y32 & Y40) steel reinforcing bars.





SECTION 2

CAPITALS AND PERFORMANCE

4 SOCIAL AND RELATIONSHIP CAPITAL

4.1 Social impact of construction and maintenance projects	123
4.2 Road safety programmes	125
4.3 Road safety on toll routes under concession	127
4.4 University partnerships	132
4.5 Science programmes for learners, parents and teachers	138
4.6 Concessionaire support for education, health and social development	153



SOCIAL AND RELATIONSHIP CAPITAL

SANRAL's corporate ethic is strongly guided by government policy and strategy. This is especially evident in the Agency's approach to building and consolidating its social and relationship capital.

SANRAL leverages road construction and maintenance contracts to help address South Africa's most pressing social and economic challenges: widespread poverty that is compounded by and rooted in historic patterns of inequality and high unemployment, especially in rural areas and among young people and women.

SANRAL also strives to contribute to a democratic culture by following consultative practices in the development of roads. This means working to balance the diverse interests that are affected by the processes of road construction and ensuring the public is well informed about how the Agency fulfils its mandate.

This section of the report provides details of performance in several areas that contribute to the above, namely:

- SMME development, work opportunities and skills training generated by our road construction, rehabilitation and maintenance projects.
- Community development projects undertaken to improve road safety and mobility in selected residential areas close to the national road network. These, too, have an economic impact.
- Road safety initiatives pursued in collaboration with a wide range of stakeholders.
- Various communication and stakeholder initiatives undertaken to facilitate many aspects of the Agency's work, to account for its use of public funds, and to improve understanding of SANRAL's mandate.

4.1 SOCIAL IMPACT OF CONSTRUCTION AND MAINTENANCE PROJECTS

SANRAL provided 1,684 SMMEs with work on construction, rehabilitation and maintenance projects during 2021/22. The total amount earned through these contracts was R2,330,241,038.

The majority of Black-owned SMMEs derived significant benefit, accounting for 88.05% of contracts awarded and 89.6% of the value of the work performed.

Description	Number of SMMEs		Value of work	
	Count	% Split	Total	% Split
≥51% Black-owned	1,253	88.05%	R2,086,786,468	89.6%
<51% Black-owned	170	11.95%	R243,454,570	10.4%
Total	1,423	100%	R2,330,241,038	100%

(Fourth-quarter target: 2,000)

Job creation (full-time equivalents)

Description	No. of FTE	% Split
Male	6,647	72.8%
Female	2,482	27.2%
Total	9,129	100%
Male youth	3,096	69.8%
Female youth	1,339	30.2%
Total	4,435	100%
Persons with disabilities	62	0.7%

(Fourth-quarter target: 10,000)

Training provided

Description	Trainees	% Split
Female	183	29.9%
Male	430	70.1%
Total	613	100 %



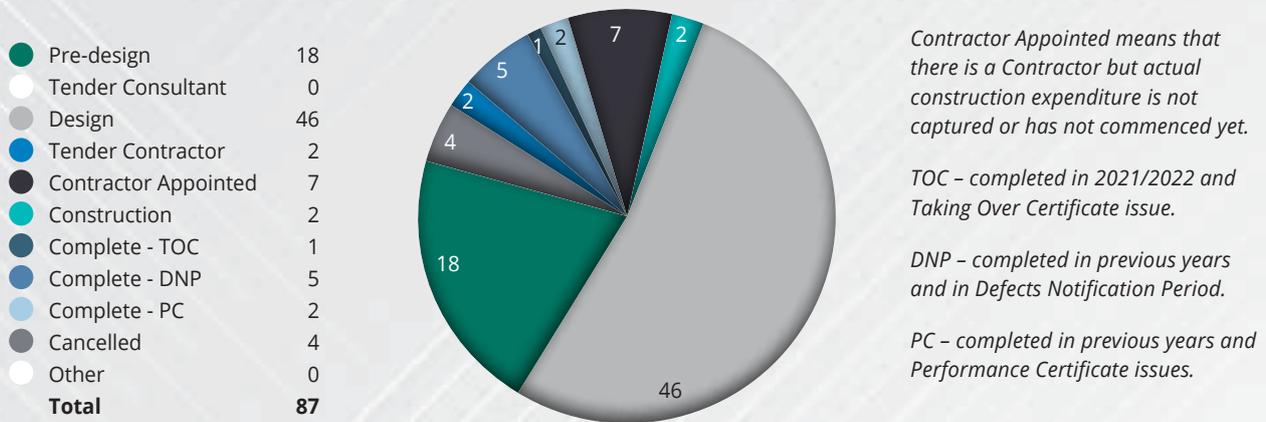
Black ownership ≥51%

Description	RRM project value	% Split	Non-RRM project value	% Split
≥51% Black-owned	R2,638,183,029	96.8%	R5,651,643,527	58.6%
<51% Black-owned	R86,788,264	3.2%	R3,988,996,518	41.4%
Total	R2,724,971,293	100%	R9,640,640,045	100%

(Fourth-quarter target: 75% RRM; 60% non-RRM)

Community development projects across all SANRAL regions

There were 128 registered community development projects for the 2021/2022 financial year. Of these, 87 were active and/or were budgeted for. A total of 155 service providers benefitted from community development projects and earned an amount of R31,201,631.30 (ITIS) R32,720,882.00 (SAP).



Empowerment and job creation

Community development projects benefitted a total of nine SMMEs. Of these, 44% were Black-owned. The total amount earned by these enterprises was R544,382.91 for the reporting period of 2021/2022.

Benefits for SMMEs

Community development projects generated 382 work opportunities in the reporting year. This was equivalent to 17,14 full-time jobs (29,138 hours).

Training and skills building

A total of 122 workers on community development projects received training during 2021/2022 and the total spent on training was R58,725.36.

Concessionaires building small businesses and creating jobs

	TRAC	Bakwena	N3TC
Empowerment of small businesses	R119.6m for construction and R13-million for CSI	Value of SMME work R29.86m	Value of SMME work R200 million
Job creation in construction sector	1150 total jobs (of which 760 were local)	1006	Average of 1030 per month
		Construction: 117	
		Maintenance: 889	
		Construction: 68	



4.2 ROAD SAFETY PROGRAMMES

4.2.1 Contributions to road safety

Safer road infrastructure

Most of the projects implemented by SANRAL include elements to improve road safety for all road users. While there is no specific classification for road safety projects, the following two examples are projects with prominent road safety features.

1. R.573-020-2019/4 – Upgrade

Location: National Road R573, section 2, from km 24.7 to km 36.2

The following interventions are included as part of the project scope:

Road risk	Mitigation
High volumes of pedestrians walking alongside and across the road	Sidewalks, safe crossing points and median barriers have been included which will allow safe walking, crossing and channelisation of pedestrians to safe crossing points.
Illegal U-turns by motorists	Roundabouts have been included, which will allow motorists to turn safely and legally. In addition, the continuous median barriers will be a physical obstruction to illegal U-turns.
Uncontrolled livestock crossing the road	Underpasses/cattle creeps have been included as part of the scope. This will allow livestock to cross in a grade-separated manner, thereby eliminating the conflict points.
Speeding	Roundabouts with chicanes have been included to act as traffic-calming measures.
Poor visibility at night	Street lighting has been included, which will ensure the area remains well-lit in all ambient conditions.
Head-on collisions	The introduction of continuous median barriers will help to eliminate head-on collisions.

2. R.573-030-2019/1 – Upgrade

Location: National Road R573, section 3, from km 6.5 to km 13.3

The following interventions are included as part of the project scope:

Road risk	Mitigation
High volumes of pedestrians walking alongside and across the road	Sidewalks, safe crossing points and median barriers have been included, which will allow safe walking, crossing and channelisation of pedestrians to safe crossing points.
Illegal U-turns by motorists	Roundabouts have been included, which will allow motorists to turn safely and legally. In addition, the continuous median barriers will be a physical obstruction to illegal U-turns.
Uncontrolled livestock crossing the road	Underpasses/cattle creeps have been included as part of the scope. This will allow livestock to cross in a grade-separated manner, thereby eliminating the conflict points.
Speeding	Roundabouts with chicanes have been included to act as traffic-calming measures.
Poor visibility at night	Street lighting has been included, which will ensure the area remains well-lit in all ambient conditions.
Head-on collisions	The introduction of continuous median barriers will help to eliminate head-on collisions.





4.2.2 Road safety education

SANRAL's Horizon 2030 strategy recognises road safety as a national priority, which compels the Agency to take the lead in the arena of road safety education and awareness. SANRAL's road safety education and awareness programmes target a broad range of South Africans, from learners and parents to teachers and community members.

Carried out in cooperation with the Department of Basic Education, these programmes are geared towards the following educational phases:

Foundation phase	Grades R-3
Intermediate phase	Grades 4-6
Senior phase	Grades 7-9
Further education and training (FET) phase	Grades 10-12
Identified stakeholders	Parents

During the year, a total of 1,711 teachers attended train-the-trainer workshops, while 13,082 received road safety education resources. A total of 523,280 learners benefitted from road safety education during formal school hours. Parents of learners in Grade R-9 were also invited to workshops on being a responsible road user and road safety role model.

4.3 ROAD SAFETY ON TOLL ROUTES UNDER CONCESSION

Sites	185
Sites (including special requests)	185
Workshops	206
Teachers attending workshops	1,711
Teachers receiving SANRAL material to teach road safety	13,082
Schools	1,813
Learners who benefitted	523,280
Parents who benefitted from parent workshops	513

4.3 ROAD SAFETY ON TOLL ROUTES UNDER CONCESSION

SAFER ROADS



Easter and December Road Safety and Swift Response Campaign

TRACAssist (roadside assistance teams), together with other public and private emergency services, set up at strategic points on the road on peak travel days to respond to incidents faster and more effectively. This boosts law enforcement visibility and roadside assistance. It also decreases response times to ensure the road remains clear and safe for all.

Routine road maintenance (RRM)

Several RRM initiatives were undertaken to improve road safety. These included:

- Construction of 2m-high boundary wall in the eMalahleni area (in progress –approximately 1km completed out of a total of 4km). This will help to keep stray animals from the roadway and reduce litter on the road reserves.
- Damaged wall areas in eMalahleni residential areas were repaired.



Routine road maintenance (RRM)

- Implemented roadside furniture improvements
- Improved road signage
- Installed ClearVu fencing to control pedestrian movement
- Maintained a detailed incident reporting information system (IRIS)
- Operated CCTV and VMS systems
- Conducted detailed post-accident assessments as per RIMS guidelines and supervised by NDoT
- Infrastructure support for average speed enforcement

SAFER ROAD USERS

- Incident management system and focus meetings targeting causes and intervention measures
- Conducted special operations with local emergency and enforcement agencies
- Facilitated road safety awareness programmes
- Alcohol and drug screening
- Public transport compliance
- Implementation of speed monitoring and control devices with local authorities



- Eleven-year partnership with Motus Corporation and Kia South Africa for additional six vehicles to be added to the existing N1N4 route patrols over Easter and December festive period to ramp up visibility and crash/motorist assistance
- 24/7 route patrollers on N1N4, assisting at crash scenes, helping stranded motorists and removing road debris
- Regular culvert clearing and checking and replacement of roadside furniture when damaged by crashes

SAFER ROAD USERS



N4 Road Safety and Swift Response Campaign

A direct marketing campaign was held during the 2021 Easter weekend where TRAC promoters interacted with road users at one of the busiest Petroports on the route (Alzu) to educate them on road safety practices and using the free TRACAssist service on the route.

TRAC is in the process of constructing paved walkways in the Nkomazi Toll Plaza area to accommodate pedestrians and scholars walking to Kaapmuiden School. Roundabouts at the school and at Stentor have been constructed for school bus drop-offs.

A pedestrian underpass is being constructed for the Stentor community to safely cross the N4.



Safe to School

This intense road safety effort focused on geographical clusters of schools to influence behaviour and improve the physical road safety environment. The project is implemented through stakeholders. It involves visits to schools and stakeholder meetings on improving the road safety environment around schools in Bapong, Majakaneng, Modderspruit, Groot Marico and Dinokana along the N4 and in the Hammanskraal area along the N1.

Groot Marico and Dinokana: A Road Safety Project Steering Committee for Bakwena projects with the Ramotshere Moiloa Municipality was established to assist with project implementation.

In February 2022, the handover of scholar patrol equipment took place with eight primary schools in Dinokana. All participating schools have been registered with the RTMC.

Volunteers trained in first aid ensured the safety of learners by assisting them with crossing the N4 pedestrian bridge between Bapong and Majakaneng.

Local representatives in Bapong, Swartruggens, Groot Marico and Dinokana were trained in basic road safety to empower volunteers in these areas to engage in Safe to School activities.

Road safety awareness initiatives in partnership with Imperial Logistics, Active Education and Supa Quick were carried out in eight schools in Hammanskraal in October as part of Transport Month.

Borolelo volunteers engaged with Kgalalelo Crèche in Borolelo to paint a traffic education track.

Car seat and Secure-A-Kid harness campaigns are held twice a year in partnership with Wheel Well (NPO that focuses on child road safety), targeting motorists travelling over the Easter and December holiday periods.

PROMPT AND EFFECTIVE INCIDENT RESPONSE



- Total number of calls received at 24-hour helpdesk: 16,541
- Total number of incidents responses: 4,078
- Total number of accidents responses: 2,524
- Total number of enquiry responses: 9,294
- Total number of roadside assistances: 645



- Integration of RIMS into the operations of all services along route
- Management of winter and firebreak protocols by all services
- Operational route control centre – effective co-ordination and scene management
- Effective 24-hour route patrol service using six patrol vehicles, supported by four special response vehicles, a specialised scene safety vehicle and two specially equipped emergency normalisation vehicles
- Training of services in RIMS, dangerous goods awareness, and management of alcohol and drug screening
- Simulation exercises
- Assistance with firefighting
- Additional water supply for firefighting at strategic locations on the N3 and the plazas
- Dedicated dangerous goods trailers and storage facilities along the route, as well as a specialised and fully equipped SASOL hazmat trailer based at the centre of the route



- Support and assistance to law enforcement authorities with planning for busy periods
- 24/7 route patrols and customer call centre
- Involvement of RIMS at national, provincial and district level (three provinces) in cooperation with law enforcement rescue services along the entire N1N4 route

ADDITIONAL INITIATIVES



- Took part in the N3 Protest Task Team initiated by SAPS to manage protest actions and disruptions to N3 traffic
- Post-trauma care awareness for emergency services
- Crash scene screens to conceal injuries/fatalities from passing motorists
- 'Recovery in progress' signs used at crashes where the recovery could take longer than expected (these signs prevent unnecessary response duplication)
- Push to talk radios linked to the CCCs along the route for effective scene communication
- Improved the lighting system on the response units for night-time incidents



4.4 UNIVERSITY PARTNERSHIPS

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

- Increasing relevant research and postgraduate study in the 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 to 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.



1. The SANRAL Chair in Pavement Engineering at Stellenbosch University (SU)

This Chair has a dual teaching and research function. It has played a strong role in empowering black professionals and a significant proportion of postgraduate students are drawn from other African countries.

Throughout its eighteen years of existence, the main thrust of the SANRAL Chair has been the “development of human capital and capacity building ... in the field of pavement engineering”. This is laid out in the memorandum of agreement between SANRAL and the university.

SANRAL's investment into the Chair is in its sixth year of the endowment contract between the parties. The objectives of the sponsorship include:

- Undergraduate and postgraduate education
- Development and management of the asphalt and pavements laboratories
- Study guidance for postgraduate students
- Academic administration

These objectives are achieved through:

- Short courses for practitioners
- Capacity-building in pavement engineering at universities of technology
- Close liaison and cooperation with SANRAL Focus Group (Materials Cluster), Council for Scientific and Industrial Research (CSIR) and other universities
- Specialist consulting work

In the 2021 academic year, one doctoral degree and two master's degrees were awarded in pavement engineering. Seven new postgraduate students registered for studies in pavement engineering. This brought the total number of registered postgraduate students to 23 for the start of 2021.

Cooperative research through projects involving SANRAL, CSIR and the Southern African Bitumen Association (Sabita) showed significant growth, underpinning postgraduate research, research and development, and the development of industry guidelines.

In 2021, the SANRAL Chair's involvement in training and academic courses – both at Stellenbosch University and with other institutions, such as the Delft University of Technology (DUT) – provided excellent opportunities for capacity building in the roads industry.



2. The SANRAL Chair in Transport Planning at the University of Cape Town (UCT)

This Chair has enriched the teaching of transport engineering at UCT. Research undertaken places a strong emphasis on the potential impact of transport planning on social equity and poverty alleviation.

The Chair dedicated a significant amount of time to the Department of Civil Engineering's response to the COVID-19 pandemic. In addition, some exciting new opportunities arose. These included:

- Development and implementation of a blended learning strategy for the Faculty of Engineering and the Built Environment:
 - Introduction of departmental homerooms for face to face activities in small cohorts
 - Use of homerooms for invigilated tests and exams
 - Organisation of remotely proctored tests and exams

- Coordinating the return of students to campus, which involved more than just logistics as some students had only rarely been on campus during their second year of study

The Chair also continued to carry out the objectives of the memorandum of agreement between SANRAL and UCT, signed in March 2011. This includes:

- Promotion of transportation-related research in South Africa through active involvement in transport research projects locally and across the continent, including the creation of a state-of-the-art digital transport laboratory.
- Human capital development in transportation planning and engineering through the training of over 150 undergraduate and postgraduate students annually.

More specifically these activities are achieved through the Chair's involvement in:

- Undergraduate civil engineering teaching
- Postgraduate teaching in the Centre for Transport Studies
- Promotion of transportation-related research in South Africa
- Research collaboration:
 - Radboud University in The Netherlands/Technion (Israel Institute of Technology): Transport justice in Kigali, Rwanda and Blantyre, Malawi
 - University of Leeds, United Kingdom: Behavioural modelling/choice modelling in Africa
 - Contribution to COVID-19-related vaccination uptake research
 - Technical University of Dresden: PrePara: Nonlinear dynamics of epidemic spreading in urban transport networks – Impact of paratransit systems
 - SANRAL research panel, collaborating with the University of KwaZulu-Natal and University of Pretoria, among others
 - Non-motorised transport behaviour (RFA2.3, which started its inception phase in September 2021)
 - Road funding models and the impact of carbon tax and alternative fuels on funding (RFA2.6, which started its inception phase in October 2021)
 - Impact of travel behaviour on transport planning and analysis (RFA2.4 in its approval phase in 2021)

Specialist consulting work

Specialist consulting work and contract teaching are executed to generate funds for student bursaries.

- GIZ-sponsored: University of Namibia/UCT collaboration: Assistance to transport/geo-technical engineering curriculum development and implementation

Industry collaboration

Postgraduate courses for continued professional development are essential for maintaining a good understanding of current industry trends.

University management

- Director: Undergraduate studies in civil engineering
- Deputy Head of Department
- Coordinator: University of Namibia–UCT collaboration in civil engineering (until November 2021)
- Chair of the Faculty of Engineering & the Built Environment Working Group 'Return to Campus' (until March 2021)

In 2021, the management workload of the Chair was about 1.5 days in the week.

Corporate social responsiveness

- Board of Directors/Treasurer: HealthBridge Foundation of Canada
- Chairman: Dutch Educational Trust, Cape Town

The UCT-SANRAL Digital Laboratory

The SANRAL Digital Transport Laboratory was finally completed by the end of 2021. The laboratory boasts state-of-the-art computers and screens, as well as a direct link to the SANRAL Freeway Management System (FMS) to promote freeway-related research in South Africa.

Laboratory features:

- Five workstations with double screens for modelling and data analysis (four in the lab and one for the lab manager, Mr Angus Rule)
- One high-end workstation for heavy computing (to be connected to a data repository in due course)
- Two large screens for freeway monitoring in the lab
- A radio link with SANRAL FMS
- A UPS for uninterrupted operation of some of the workstations and lights
- One large screen for promoting freeway research through a Tableau dashboard outside the lab



- One touch table for collaborative decision-making research
- State-of-the-art desks and chairs

The lab has access to data from both SANRAL and the Western Cape government, all protected by a non-disclosure agreement signed between UCT and both departments.

Investment into the SANRAL lab amounts to over R500,000 and is paid by:

- SANRAL (for equipment and radio link)
- The UCT SANRAL Chair, Professor Mark Zuidgeest (for the renovation)
- The UCT Advanced Computing Committee (for the interactive table)

The following research directions are being developed in the lab:

- Machine learning and image recognition for freeway pedestrian crossing
- Calibration of a freeway simulation tool for Cape Town's freeway network
- Collaborative decision-making for gravel road upgrading
- Behavioural modelling of paratransit operations (Blue Dot)
- Behavioural modelling of pedestrians along South Africa's freeways
- Willingness to pay for carbon taxes and impact on driving behaviour





3. The SANRAL Chair in Mathematics, Natural Science and Technology Education at the University of the Free State (UFS)

This Chair directs its energies at postgraduate research into the teaching of mathematics, science and technology, and the training of teachers in these subjects.





4.4.1 Research and education laboratory partnership

SANRAL is working with the Council for Scientific and Industrial Research (CSIR) and the University of Pretoria (UP) to establish research and education laboratory facilities. The Integrated Laboratory Facility (ILF) at UP is a first of its kind in Africa.

The facility is separated into three components, namely:

1. Research laboratory:

This is used for research in construction materials and materials-testing procedures.

2. Reference laboratory:

This is used for the calibration of civil engineering materials testing in South Africa and acts as the custodian of local proficiency testing. Its function is to coordinate and set the benchmark for other laboratories. The intention is also for this laboratory to participate in international proficiency testing schemes such as the American Association of State Highway and Transportation Officials (AASHTO) and the Forum of European National Highway Research Laboratories (FEHRL).

3. Training laboratory:

This part of the facility will train material laboratory testers in South Africa and the rest of Africa for civil engineering materials. Trainees will attain a certified qualification recognised by the South African Qualifications Authority. This will assist in advancing the laboratory testers' careers and help pave the way towards gainful employment. This qualification is a first in South Africa and this facility will be the only certifying authority. The facility has been constructed and is currently being equipped. It will be able to accommodate 20 students per session. The current qualification is set up so that training for each material type (concrete, asphalt, bituminous binders, gravels and aggregates) can be conducted over one to two weeks.

Construction of the entire facility has been completed. A ramp-up plan is in place whereby each laboratory type within the reference laboratory (granular, aggregates, concrete, asphalt and binders) is being phased in. Kick-off operations were delayed due to the COVID-19 pandemic and associated regulatory challenges. Participation in the granular round of the AASHTO Proficiency Testing Scheme has already been undertaken.

Training has also commenced in training facility. Certification is not yet available as the administrative process for attaining certification status is underway.

4.5 SCIENCE PROGRAMMES FOR LEARNERS, PARENTS AND TEACHERS

University of the Free State:
Science-for-the-Future (S4F)

4.5.1 ICT laboratory

The Physical Sciences ICT Laboratory at the University of the Free State utilises the advantages of information and communications technology (ICT) to support effective science teaching and learning methodology. This initiative aims to encourage and enable more learners and students to enter science-related studies and careers, including engineering and science teaching. In this quest, it is very important to have a strategy that considers the characteristics of the participants, as well as the essential 21st-century skills required for success.

At the laboratory, learners and students with the necessary potential are exposed to carefully planned curriculum-related activity sessions in the physical sciences. These sessions are underpinned by a philosophy of learning called social constructivism. These hands-on, minds-on activity sessions enable learners to construct their own understanding of science concepts. They also promote an understanding of overarching concepts, rather than focusing on isolated facts and 'textbook knowledge'. Authentic experimental set-ups in the laboratory provide learners with opportunities to collect data in a real-life context to investigate science concepts. A very important component of the learning process, according to social constructivism, takes place when learners interact with each other and their facilitators. This happens frequently in the laboratory when information is discussed, analysed and interpreted.

The constructivist approach provides the ideal teaching and learning environment for skills development, while addressing the needs of the 21st-century learner. Since communication, collaboration, teamwork and cross-cultural understanding are essential skills in the modern workplace, the learners in the laboratory work in groups of four, with a high premium placed on diversity. Today's learners, also referred to as the 'techno-clever generation', have no problem with exploring new ICTs since they often have higher levels of digital literacy than their parents or teachers.



This approach to addressing the understanding of science principles utilises a teaching and learning environment where the components of theory, practice and technology are integrated into a single classroom facility.

In 2021, 282 learners (Grades 9–12) from 18 different schools were nominated by their respective schools and attended sessions at the laboratory. During the sessions, the learners engaged in curriculum-related activities on a regular basis.

Apart from conducting experiments and other hands-on activities, learners also participated in several

excursions, including a visit to Boyden Observatory, the Naval Hill Planetarium and a career guidance session whereby an official link was established between the learners and the university's Unit for Prospective Students.

Key to the success of this project is the fact that every individual learner is exposed to at least 30 sessions, on average, over a period of three years (when progressing from Grades 10 to 12). This extended approach, rather than once-off engagements, is very efficient and can only maximise the programme's return on investment.



Project outreach

Target group: Grade 9–12 learners

One of the characteristics of effective teaching and learning is its cumulative nature. According to this principle, learners will progress only if they have the necessary background knowledge. Thus, in order to maximise the impact of the S4F activities and consequently SANRAL's investment, schools identify, encourage and enrol talented learners who show a real interest in science and mathematics.

Participating learners are expected to:

- Attend all laboratory sessions
- Make a long-term commitment to attending during the further education and training (FET) phase
- Make use of the opportunity to benefit from the programme
- Be individually responsible and act as an ambassador for their school

The programme is a partnership between S4F, SANRAL and participating schools.

LEARNER ENROLMENTS IN 2021

	Grade 9 (selected)	Grade 10 (selected)	Grade 11 (selected)	Grade 12 (selected)	Total number of selected learners
Bloemfontein Campus	-	69	71	63	203
Qwaqwa Campus	24	25	30	0	79
Total	24	94	101	63	282
					TOTAL: 282

NUMBER OF EXPOSURES (Number of learners x number of two-hour sessions)

	Grade 9 (selected)	Grade 10 (selected)	Grade 11 (selected)	Grade 12 (selected)	Total number of exposures of selected learners
Bloemfontein Campus	-	552	426	567	1,545
Qwaqwa Campus	72	75	90	-	237
Total	72	627	516	567	1,782
					TOTAL: 1,782

ENROLLED LEARNERS BY POPULATION GROUP

	White	Coloured	Asian	African	Total
Selected learners (Grades 9–12)	93	27	16	146	282
Percentage	32.9	9.6	5.7	51.8	

Due to the national COVID-19 lockdown regulations at universities and schools in 2021, it was not possible for learners to attend laboratory sessions on campus, even when restrictions were eased to Level 1. The challenge was to find an alternative mode of delivery to make project implementation possible – without compromising the integrity and character of the training sessions, which in turn could dilute the purpose and impact of the programme. It was equally important to consider the local circumstances and digital capabilities of the project participants and schools before deciding on a project implementation strategy. A decision was made to conduct the Bloemfontein sessions online, while in-person sessions went ahead in Qwaqwa at a local school. The annual SANRAL scholarship application session was facilitated via Microsoft Teams.

4.5.2 Key Concepts in Science: A 21st-century approach to teaching and learning

Underachievement and a low throughput rate are some of the challenges facing science teaching and learning in South Africa. Research findings from cohort pass rate statistics for the period 2013–2017 indicated that only about 40% of learners in Grade 10 would go on to pass matric if prevailing trends continued. This is a clear indication that learners are not prepared for the challenges of Grades 10–12. The results of the 2015 TIMSS report indicate that science performance among Grade 9 learners in South Africa was rated lowest among 39 countries.

To address these challenges, the Key Concepts in Science programme has been developed for natural sciences in Grades 8 and 9 to pave the way for success in physical sciences in Grades 10–12. The programme is underpinned by a social constructivist philosophy of teaching and learning.

The professional development objectives of the programme are to:

- Train and empower senior-phase teachers (Grades 8 and 9 in particular) and subject advisors from local schools in the constructivist and hands-on methodology of the programme during term training sessions.
- Resource teachers from participating schools with activity materials, laboratory apparatus and worksheets to be utilised in the science classroom.
- Monitor the progress of the project strategy on a continuous basis via progress reports and feedback opportunities such as meetings, etc.
- Support teachers from participating schools in the region to enable them to successfully integrate the programme into the curriculum.



Project outreach: Target groups

JTG Grades 8 and 9 natural sciences teachers

A total number of 22 teachers and one subject advisor from the John Taolo Gaetsewe District of the Northern Cape attended the Key Concepts in Science training sessions at the ICT Laboratory at the University of the Free State (UFS). The Grade 8 natural sciences curriculum was covered during 2021.

Mthatha Grades 8 and 9 natural sciences teachers

A total number of 32 teachers and three subject advisors from the Mthatha District of the Eastern Cape attended the Key Concepts in Science training sessions. The Grade 8 natural sciences curriculum was covered during 2020 and the Grade 9 natural sciences curriculum during 2021.

S4F enrolled 4,893 project participants in the UFS Key Concepts in Science and exit programmes during 2021.

NORTHERN CAPE PROVINCE		Grade	Teachers	Learners	Parents
1	Kuruman	8 and 9	23	1,333	0
		Subtotal	23	1,333	0

EASTERN CAPE PROVINCE		Grade	Teachers	Learners	Parents
2	Mthatha	8 and 9	37	3,501	0
		Subtotal	37	3,501	0

Total participants:

60	4,834	0
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4.5.3 Family Math & Family Science project

General overview

Science-for-the-Future (S4F) at the University of the Free State launched its Family Math & Family Science initiative in the Free State and Northern Cape at the beginning of 2009. With the support of SANRAL, the programme experienced exponential growth. By 2021, it had been extended to Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, North West and the Eastern Cape.

The mission of the project is to demystify mathematics and science for learners in the early school years by raising their levels of understanding and changing their attitudes towards these subjects. This is done by exposing learners to Family Math & Family Science activities on a regular basis in the classroom and integrating these activities into the curriculum. During the 'triangular' project strategy, teachers are trained at the University of the Free State. Apart from integrating the project activities into the curriculum, they are also expected to conduct parents' training at their respective schools in the local community. This enables parents to become involved

in their children's mathematics teaching and learning at school.

A total number of 23,430 project participants from predominately rural communities in the Free State, Gauteng, KwaZulu-Natal, North West, Northern Cape and Eastern Cape were actively involved in SANRAL-funded Family Math and Family Science activities on a regular basis in the classroom during 2021. This included 390 teachers, 14,880 learners and 8,160 parents from 99 different schools.

To achieve this, 16 subject advisors were trained to act as coordinators in their respective regions, with the responsibility of supporting local educators in programme implementation. Key to the programme's success was also the fact that S4F manufactures and issues participating educators with sufficient training materials to be utilised in the classroom and at parent training sessions.

To be more efficient, S4F consulted regularly with officials from the Department of Basic Education in the respective provinces regarding the roll-out of the programme during 2021.



FREE STATE FAMILY MATHS & FAMILY SCIENCE PROGRAMME STRATEGY

Project outreach: Target groups

Free State Grade R Family Math exit strategy 2021: Motheo 4

Project beneficiaries:

- 37 Grade R teachers from 12 schools (trained during 2020)
- 1,013 learners
- 589 parents

Free State Grade 3 Family Math exit strategy 2021: Xhariep Group B

Project beneficiaries:

- 18 Grade 3 teachers from 12 schools (trained during 2020)
- 595 learners
- 357 parents

Free State Grade 3 Family Math exit support strategy 2021: Xhariep Group A

Project beneficiaries:

- 26 Grade 3 teachers from nine schools (trained during 2019 and supported during 2020)
- 885 learners
- 531 parents

Free State Grade 4 Family Math roll-out strategy 2021: Xhariep Group A

S4F was requested to implement a Family Math programme in the Xhariep region. At a meeting in December 2020 at Zastron Primary School, principals, subject advisors and Grade 4 teachers from the local schools were briefed by S4F regarding the envisaged triangular teacher-parent-learner Family Math model in the region for 2021. At the end of the session, 26 teachers from nine different schools enrolled for the programme.



NORTHERN CAPE FAMILY MATHS & FAMILY SCIENCE PROGRAMME STRATEGY

Project outreach: Target groups

Northern Cape Grade R Family Math exit strategy 2021: Postmasburg

The 28 Grade R teachers from 13 schools in the Postmasburg region of the Northern Cape Province who were trained during 2020 as well as 816 learners and 490 parents were the project beneficiaries during 2021.

Northern Cape Grade 3 Family Math Exit support strategy 2021: Postmasburg

Project beneficiaries:

- 31 Grade 3 teachers from 10 schools (trained during 2019 and supported during 2020)
- 1,084 learners
- 650 parents

Northern Cape Grade 4 Family Math exit support strategy 2021: Postmasburg

Project beneficiaries:

- 14 Grade 4 teachers from 10 schools (trained during 2019 and supported during 2020)
- 1,060 learners
- 444 parents

EASTERN CAPE FAMILY MATHS & FAMILY SCIENCE PROGRAMME STRATEGY

Project outreach: Target groups

Eastern Cape Grade R Family Math exit strategy 2021: Libode and Mthatha

Project beneficiaries:

- 29 Grade R teachers from 23 schools (trained during 2020)
- 899 learners
- 539 parents

Eastern Cape Grade 4 Family Math exit support 2021: Libode and Mthatha

Project beneficiaries:

- 25 Grade 4 teachers from 22 schools (trained during 2019 and supported during 2020)
- 1,534 learners
- 745 parents

GAUTENG FAMILY MATHS & FAMILY SCIENCE PROGRAMME STRATEGY

Project outreach: Target groups

Gauteng Grade R Family Math exit strategy 2021: Hammanskraal Group B

Project beneficiaries:

- 28 Grade R teachers from 11 schools in the Tshwane North region (trained during 2020)
- 862 learners
- 517 parents

Gauteng Grade 3 Family Math exit support strategy 2021: Hammanskraal Group B

Project beneficiaries:

- 28 Grade 3 teachers from 11 schools in the Tshwane North region (trained during 2019 and supported during 2020)
- 1,475 learners
- 738 parents

Gauteng Grade 4 Family Math exit strategy 2021: Hammanskraal Group B

Project beneficiaries:

- 18 Grade 3 teachers from 11 schools in the Tshwane North region (trained during 2019 and supported during 2020)
- 1,367 learners
- 646 parents



KWAZULU-NATAL FAMILY MATHS & FAMILY SCIENCE PROGRAMME STRATEGY

Project outreach: Target group

KwaZulu-Natal Grade R Family Math exit strategy 2021: Lion's River region

Project beneficiaries:

- 24 Grade R teachers from 19 schools (trained during 2020)
- 474 learners
- 284 parents

KwaZulu-Natal Grade 4 Family Math exit support 2021: Lion's River region

Project beneficiaries:

- 25 Grade 4 teachers from 22 schools (trained during 2019 and supported during 2020)
- 521 learners
- 288 parents

NORTH WEST FAMILY MATHS & FAMILY SCIENCE PROGRAMME STRATEGY

Project outreach: Target group

North West Grade 3 Family Math roll-out strategy 2021: RSM region

S4F was requested to implement a Family Math programme in the Dr Ruth Segomotsi Mompati region. After several liaison efforts with the North West Department of Basic Education, an information meeting was finally scheduled for 24 August 2021. At the meeting, which was held at Stellaland Primary School in Vryburg, principals, subject advisors and Grade 3 teachers from local schools were briefed by S4F regarding the envisaged triangular teacher-parent-learner Family Math model in the region for 2021. After a decision was taken for the training to commence as soon as possible in 2021 and to be continued in 2022, 34 teachers from 14 different schools enrolled for the programme.

A total of 1,381 learners and 829 parents were the project beneficiaries during 2021.

S4F enrolled 23,430 project participants in the UFS Family Math roll-out, exit and exit support programmes during 2021.



FREE STATE		Grade	Teachers	Learners	Parents
1	Khariiep	4 (roll-out)	23	914	548
2	Khariiep	3 (exit)	19	595	357
3	Khariiep	3 (exit support)	26	885	531
4	Motheo	R (exit)	37	1,013	589
		Subtotal	105	3,407	2,025

NORTHERN CAPE		Grade	Teachers	Learners	Parents
1	Postmasburg	R (exit)	28	816	490
2	Postmasburg	3 (exit)	32	1,084	650
3	Postmasburg	4 (exit support)	14	1,060	444
		Subtotal	74	2,960	1,584

EASTERN CAPE		Grade	Teachers	Learners	Parents
1	Mthatha Libode	R (exit)	28	899	539
2	Mthatha Libode	4 (exit support)	25	1534	745
		Subtotal	53	2,433	1,284

GAUTENG		Grade	Teachers	Learners	Parents
1	Tshwane North (Hammanskraal)	R (exit)	28	862	517
2	Tshwane North (Hammanskraal)	3 (exit support)	28	1,475	703
3	Tshwane North (Hammanskraal)	4 (exit)	18	1,367	646
		Subtotal	74	3,704	1,866

KWAZULU-NATAL		Grade	Teachers	Learners	Parents
1	Lion's River	R (exit)	25	474	284
2	Lion's River	4 (exit support)	25	521	288
		Subtotal:	50	995	572

NORTH WEST		Grade	Teachers	Learners	Parents
1	Dr Ruth Mompoti Region (Taung)	R (roll-out)	34	1,381	829
		Subtotal	34	1,381	829

Total participants

390

14,880

8,160

4.5.4 University collaboration (UFS appointed to establish and manage collaboration)

General overview

The challenges facing mathematics and science teaching and learning in South Africa are well known. Teachers often lack the necessary content knowledge and teaching skills. There is also a shortage of teaching resources at school and in the home, as well as a lack of parental involvement in children's learning. What's more, the language of instruction often differs from the home languages, especially in rural areas. Research has indicated that these influential factors impact successful teaching and learning. In the South African context, COVID-19 both exposed and worsened existing educational disparities.

To address the pedagogical issues at hand, Science-for-the-Future (S4F) developed two in-service teacher professional development programmes. These have been successfully implemented in several provinces over the past decade. The Family Math and Key Concepts in Science programmes are underpinned by a social constructivist philosophy of teaching and learning, characterised by hands-on, minds-on activity sessions in a social context.

The immense growth in the number of project participants, as well as increasing demand from different role players to be included in the project activities, were the catalyst for the expansion of the programmes to other South African universities. This decision was also informed by the increasing demand for higher institutions in South Africa to become involved in the development of 21st-century teaching and learning skills, as well as scholarly service to communities.

The innovative partnership between SANRAL and the University of the Free State (UFS) to train maths and science teachers and support learners and parents through joint outreach projects ultimately resulted in the notion to expand to six additional universities.

This initiative not only allows for new learning hubs to reach more teachers, learners and parents, but also serves as a platform for the knowledge and experience gained over the past few years to be shared between institutions, building further capacity and upskilling more facilitators/lecturers and communities.

After signing an agreement with SANRAL, S4F implemented a project that envisages – apart from teachers' professional development and school support –

skills development and collaboration between emerging universities across the country through a phased approach.

Phase I: The UFS established partnerships and collaboration with six universities and capacitated facilitators/lecturers from other universities regarding the UFS programmes during 2018–2020.

Phase II: This includes project implementation and an increase in participant numbers during the 2021–2023 project period (UFS has centralised management role).

To extend the S4F programmes to other universities, thirteen milestones were identified to inform project implementation during 2021/22 and 2023/24:

Year 1: 2021/22

- Milestone 1: Confirmation of collaboration with South African universities
- Milestone 2: Induction of collaborating facilitators in the S4F programmes at UFS
- Milestone 3: Roll-out training of local teachers by collaborating universities
- Milestone 4: Exit mentoring of local teachers by collaborating universities
- Milestone 5: Collaborating universities plan, organise and register teacher training for 2022

Year 2: 2022/23

- Milestone 6: Confirmation of collaboration and project quality assurance at collaborating universities
- Milestone 7: Roll-out training of local teachers by collaborating universities
- Milestone 8: Exit and exit-support mentoring of local teachers by collaborating universities
- Milestone 9: Collaborating universities plan, organise and register teacher training for 2023

Year 3: 2023/24

- Milestone 10: Confirmation of collaboration and project quality assurance at collaborating universities
- Milestone 11: Roll-out training of local teachers by collaborating universities
- Milestone 12: Exit and exit-support mentoring of local teachers by collaborating universities

- Milestone 13: Collaborating universities plan, organise and register teacher training for 2023 (depending on funding secured)

YEAR 1: 2021/22

Milestone 1: Confirmation of collaboration with SA Universities (Collaborators)

At the beginning of 2021, S4F commenced with discussions with the institutions that indicated through letters of intent that they were committed to the project. This was before the official confirmation that the 2021–2023 project proposal by the UFS and collaborating universities was successful and that funding was granted.

Champions induction session 1:

3 February 2021

The S4F Programme Director and Family Math Manager conducted a Microsoft Teams meeting with the university collaboration partners to discuss the contingency plan for the 2021–2023 project implementation.

Facilitators Induction sessions and onboarding:

4 February 2021

An online Family Math induction session took place for the different institutions' facilitators.

Vetting process:

Agreements and accompanying documents

S4F received an email communication from SANRAL on 11 March 2021 that the re-appointment of the UFS and Nelson Mandela University (NMU) – as well as the new appointments for the University of Limpopo (UL), University of KwaZulu-Natal (UKZN), Walter Sisulu University (WSU), University of Mpumalanga (UM) and Sol Plaatje University (SPU) – had been approved by the National Treasury. After receiving the communication from SANRAL regarding all of the documents and systems that needed to be in place, S4F commenced with these processes.

This comprised the following:

- Finalisation and signing of agreement between the UFS and SANRAL
- Finalisation and signing of agreements between the UFS and the respective collaborating universities
- Facilitating the finalisation and signing of the agreements between SANRAL and the respective collaborating universities

Since the respective collaborating universities also had to complete vendor application forms and supply accompanying documents, the process had to be managed quite extensively.

Champions project management induction session 2: 4 December 2021

The S4F Programme Director and Family Math Manager conducted a face-to-face induction session with the Champions of the respective universities at the UFS in Bloemfontein. The main objective of the session was to discuss the project management aspects of the Champions. Topics included the project fundamentals of professional development and project management within the context of higher institutions.

Milestone 2: Induction of collaborating facilitators in the S4F programmes at UFS

It is very important for S4F to keep the integrity of the Family Math and Key Concepts programmes intact. Therefore, all participating facilitators from the collaborating universities need to be exposed to induction sessions. During 2021, UKZN, UL and SPU appointed new facilitators who attended induction sessions at the UFS on 11 February, 14 April and 10 August. The Key Concepts in Science facilitators from the respective universities attended induction sessions on new training content on 17 and 18 February, as well as on 14 and 15 July.

Milestone 3: Training of local teachers by collaborating universities

In collaboration with officials from the Department of Basic Education (DBE), the collaborating universities identified and enrolled a new group of Family Math and Key Concepts in Science educators to be trained for the first time during 2021.

During the triangular Family Math training model, three one-day training sessions of five hours each were presented at the beginning of each term and implemented in the classroom during the respective terms. Participating educators conducted workshops with parents in their respective communities.

During the Key Concepts in Science training model, four one-day training sessions of five hours each were presented and implemented in the classroom during the respective terms. For the same group of teachers, the focus in 2020 was on the Grade 8 natural sciences content, while the focus in 2021 was on the Grade 9 natural sciences content.

During 2021, S4F supplied all the universities with the project material they issued to teachers, learners and parents to be utilised during training sessions, in the classroom and during parent workshops.

Milestone 4: Exit mentoring of local teachers by collaborating universities

Since the participating group of Family Math teachers was trained during 2020, the Grade 3 Family Math exit strategy was based on the principle of support and continued mentorship during 2021.

Instead of training sessions at the collaborating universities, the facilitators from the institution visited the teachers at their local schools. The objectives of the mentoring visit were to:

- Mentor and support the participating teachers in the 2021 Family Math activities
- Establish the need for Family Math activity material to be supplied to the schools to top up existing material, as well as to make provision for the parent training sessions

Participating teachers were also expected to implement all the components of the triangular model, which included parent training workshops at the least once per term.

S4F once again supplied all the universities with the project material they issued to teachers, learners and parents during the exit phase of the programme to be utilised in the classroom and during parent workshops.

Milestone 5: Collaborating universities plan, organise and register teacher training for 2022

In line with the requirements of milestone 5, the S4F Programme Director and Family Math Manager liaised with the six universities during the Champion induction session on 4 December 2021 to confirm the collaboration and discuss the project implementation strategy for 2022. Following the discussions, the collaborating universities started the process of identifying the project participants for 2022 in collaboration with the DBE officials.

The expansion of the project to other universities was carefully managed by S4F to ensure high quality of project delivery. The scaling of the programmes nationally depended on collaboration with other higher institutions in South Africa.

Through the university initiative, the benefits of the S4F programmes were extended to an additional 36,754 project participants during 2021. The following 14,792 project participants were included in the university collaboration Family Math roll-out and exit programmes during 2021.



NELSON MANDELA UNIVERSITY		Grade	Teachers	Learners	Parents
1	Family Math roll-out	3	22	812	488
2	Family Math exit	3	21	416	694
		Subtotal:	43	1,228	1,182

UNIVERSITY OF KWAZULU-NATAL		Grade	Teachers	Learners	Parents
1	Family Math roll-out	3	16	483	290
2	Family Math exit	3	27	1,280	790
		Subtotal:	43	1,763	1,080

SOL PLAATJE UNIVERSITY		Grade	Teachers	Learners	Parents
1	Family Math roll-out	3	28	624	990
2	Family Math exit	3	20	783	470
		Subtotal:	48	1,407	1,460

WALTERSISULU UNIVERSITY		Grade	Teachers	Learners	Parents
1	Family Math roll-out	3	0	0	0
2	Family Math exit	3	20	910	546
		Subtotal:	20	910	546

UNIVERSITY OF MPUMALANGA		Grade	Teachers	Learners	Parents
1	Family Math roll-out	3	27	774	464
2	Family Math exit	3	18	812	487
		Subtotal:	45	1,586	951

UNIVERSITY OF LIMPOPO		Grade	Teachers	Learners	Parents
1	Family Math roll-out	3	14	795	477
2	Family Math exit	3	15	737	442
		Subtotal:	29	1,532	919

Total participants:

228

8,426

6,138

SECTION 2: CAPITALS AND PERFORMANCE

The following 21,962 project participants were included in the university collaboration Key Concepts in Science roll-out and exit programmes during 2021.

NELSON MANDELA UNIVERSITY		Grade	Teachers	Learners
1	Key Concepts in Science roll-out/exit	9	23	3,300
2	Key Concepts in Science roll-out	8	27	4,517
3	Key Concepts in Science roll-out	8	10	1,534
		Subtotal:	60	9,351

UNIVERSITY OF KWAZULU-NATAL		Grade	Teachers	Learners
1	Key Concepts in Science roll-out/exit	9	20	4,774
		Subtotal:	20	4,774

SOL PLAATJE UNIVERSITY		Grade	Teachers	Learners
1	Key Concepts in Science roll-out	8	15	2,284
		Subtotal:	15	2,284

WALTERSISULU UNIVERSITY		Grade	Teachers	Learners
1	Key Concepts in Science roll-out/exit	9	25	3,138
		Subtotal:	25	3,138

UNIVERSITY OF LIMPOPO		Grade	Teachers	Learners
1	Key Concepts in Science roll-out/exit	9	20	2,275
		Subtotal:	20	2,275

Total participants:

140

21,822

4.6 CONCESSIONAIRE SUPPORT FOR EDUCATION, HEALTH AND SOCIAL DEVELOPMENT

**EDUCATION****Bursaries and learnerships granted**

- One BTech Master's student participated in the Reducing Roadkill Project with the Endangered Wildlife Trust (EWT)
- Two high school scholars sponsored through the Innibos Meridian Educational Trust Fund
- Two University of Pretoria students
- One health and safety diploma student employed through the TRAC community clinic
- One artisan electrician on learnership (this follows the successful qualification of TRAC's first artisan electrician learnership candidate, who is now permanently employed by TRAC)
- 20 students with disabilities studying towards general training and education certificates (one-year programme)

E-learning project

This is a partnership between TRAC and Ligbron E-Learning. TRAC's investment benefits ten schools along the N4, which has resulted in 25 maths and science classrooms that directly benefitted 1,002 matric learners. A total of 7,133 students have access to the system.

A new development in this programme is the introduction of the e-learning mobile application, which allows students to access the educational material for maths and science via an interactive mobile app.

EDUCATION**Penreach TRAC N4 Asifundze and PCLDP (Literacy and Courageous School Leadership Development)**

This programme focuses on improving literacy for foundation-phase scholars.

TRAC funds the programme in eight schools, with a total of 3,158 children, 49 teachers and eight communities currently benefiting.

The programme encompasses various other elements including:

- School leadership development with the Penreach Courageous Leadership Development Programme (PCLDP)
- Community reading camps
- Reading corners
- Toy libraries
- Teacher development workshops

HEALTH

TRAC continues to support community health and welfare initiatives and awareness programmes that focus on providing the necessary training to healthcare workers to support their local communities.

KuPhila Clinic

TRAC provides financial and administrative support to this community clinic

SOCIAL DEVELOPMENT**Thanda Primary**

The school, located in the rural area of Nkomazi in the Lowveld region, benefits from a sustainable relationship with TRAC.

SOCIAL DEVELOPMENT

This ongoing support continues to have an immense impact on the disadvantaged community in the area. TRAC's support focuses on the following:

- Growth and development of the community living in the area, with a focus on education, skills development and enterprise development
- Ongoing maintenance at the school allows for the self-employment of local residents

SMME – Enterprise and skills development

TRAC offers major support to SMMEs in the form of routine road maintenance contracts valued at R13m per annum, with mentorship and guidance by TRAC staff. This plays a positive role in the short- and long-term success of contractors.

N4 hawker enterprise development programme

This training programme focused on the development of sustainable and successful enterprises, which will ultimately stimulate local economic development in the area. Twenty-four roadside traders graduated this programme during the reporting year. They not only received accredited training, but also improved skills, which allows for the growth of their enterprises.

Emgwenya bakery project

Rehabilitation of a bakery in Emgwenya (Waterval Boven) in partnership (MOU) with the local municipality and an enterprise development project created local job opportunities.



EDUCATION

Touching lives

The programme continued to reflect the South African spirit of resilience in the face of COVID-19. The programme supported 40 projects in 2021 and is continuing to support 37 projects in 2022, all focused on reaching the vulnerable communities across the N3 Corridor between Cedara and Heidelberg.

The programme emphasises the importance of education. In addition to 16 bursaries awarded to tertiary learners, N3TC also sponsored top-up bursaries at eight schools.

Vula Mathematics Academy

This is a technology response to the crisis in mathematics teaching in township and rural schools in the greater Midlands area in KZN, helping to upskill educators. In addition to supporting VuMA, N3TC's funding is used by Vula to provide maths and science revision and tuition for Grade 12 students ahead of their final examinations.

WESSA Eco Schools Programme in the Free State

N3TC supports this programme, which aims to impart the necessary skills future leaders will require to make decisions relating to environmental protection.

HEALTH

In the health and wellness arena, N3TC continued its efforts to foster better access to primary healthcare for truck drivers through its 'driver wellness' days and by supporting Trucking Wellness, an organisation that promotes the wellbeing of the industry by ensuring access to primary healthcare – not just for truck drivers, but also for high-risk individuals in vulnerable and hard-to-reach communities along the N3 toll route.

Through the Fundasisiwe Bursary Fund, N3TC supports an assistive devices programme that helps disabled children at the **Kwazamokuhle School** to access life-changing assistive devices that allow them to participate in everyday activities.

SOCIAL DEVELOPMENT

Singakwenza

This initiative focuses on early childhood education through the training of practitioners, parents and caregivers at a grassroots level to provide fun, educational activities that enable young children to learn through play. This is supported by resources made solely from recycling.

SOCIAL DEVELOPMENT

St Mary's Interactive Learning Experience (S.M.I.L.E.)

The 'One Teacher - One Textbook - Many Learners English Piloting Programme' assists in environments where English is taught as a home language subject but many of the learners are not English home language speakers. Funding is used to produce learner-friendly books aimed at capturing the imagination of learners and building on their knowledge and confidence, as well as that of their educators.

Senzakahle Cooperative

Members of this small business operating in the uMgungundlovu District Municipality in KZN use their knowledge of the textile industry to produce quality products and create job opportunities for youth and people with disabilities in their community.



EDUCATION

Bakwena supports two educational projects that focus on improving school management, learner career development and behaviour change.

Ultimate Challenges

This programme worked with 306 matric learners from three Hammanskraal schools, as well as 12 learners from other schools via online channels. The pass rate at each school has remained consistent for the past five years, reflecting the success of the programme.

Relemogile Career Guidance and Wellness Centre

The centre assisted 66 Moedwil school-leavers with various challenges. It also ran a Grade 12 career guidance intervention programme. Each learner received a relevant career guidance manual.

Bursaries and learnerships

Funding 21 students at four universities

Supporting two high school learners

Learnerships for 10 unemployed youths in the following categories:

- Construction linked to the N4 rehab project (6 learners)
- Contact centre learnership (3 learners with disabilities)
- Business administration linked to the e-tag outlet at the N1 Petroport (1 learner)

HEALTH

Eight volunteer teams are active in Dinokana, Groot Marico, Swartruggens, Mooinooi, Bapong and Hammanskraal.

Dinokana: The team consists of 24 volunteers who received First Aid Level 2 training. They represent five wards along the N4 and focus on road safety and other social issues.

Groot Marico: New team members have First Aid Level 1 training (the rest of the group is already trained at Level 2 and 3). They assisted their community with developing food gardens, first aid and COVID-19 screening at community events.

Swartruggens: The group has been trained in community home-based health, first aid, firefighting and community response to emergencies. They assisted their community schools with COVID-19 screening, as well as supporting the Department of Health and the Department of Social Development with vaccination education and screening. They also assist informal settlements with Sassa and Home Affairs registration and documentation.

Five members found temporary posts at the schools where they were screening.

Mooinooi (Bokamoso):

The group received community home-based health and first-aid training.

Mines in the area engaged in talks with the group to assist with first aid support for construction projects.

HEALTH

Fifteen members received temporary employment from the Bokamoso Mooinooi Business Chamber. Two members secured employment contracts from the Department of Basic Education to work as screeners in schools.

Bapong: The group received food garden training and First Aid Level 1 training.

First responders worked with the Community Policing Forum to patrol the pedestrian bridge at Majakaneng.

The new group in Modderspruit has 20 members and has been trained in food gardening by one of their own members, who was accredited by Sibanye. Three group members have received food tunnels for their own gardens from Sibanye and are helping four others to qualify for Sibanye assistance.

Hammanskraal: The two groups (Ramotse and St Camillus) were involved mostly with:

- Screening in schools,
- Assisting the Tshwane Red Cross with vaccination education and referrals
- Assisting the elderly with COVID-19 awareness and registration at SASSA points
- Helping learners to crossing busy roads to get to school

In total, 62,000 community members and learners were screened for COVID-19.

Vaccination education, screening and referrals: 31,265 (Hammanskraal).



SOCIAL DEVELOPMENT

Drama for Change

This drama development project is implemented in secondary schools and focuses on outreach projects to get social messages into peer groups and the community.

It consists of 36 drama pioneers and five clubs with 81 members.

Community members reached through dialogue:

950 learners through a road safety show

Five community plays and dialogues with an audience of 658 people

Focus groups: 131 people







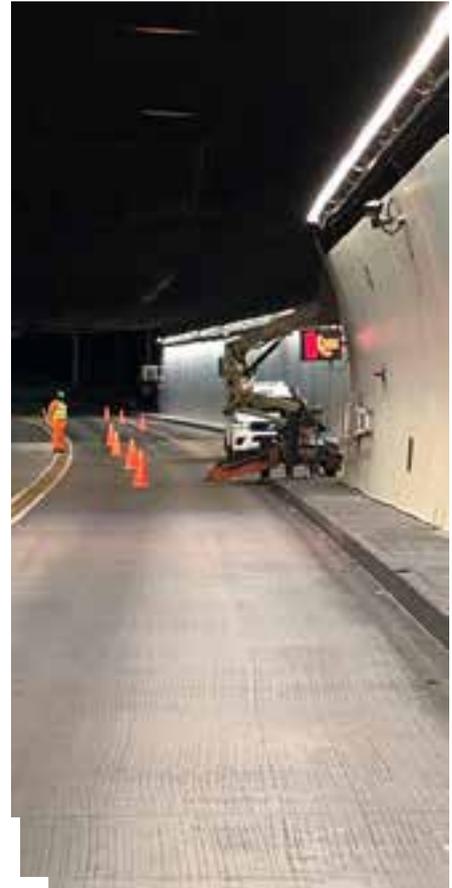
SECTION 2

CAPITALS AND PERFORMANCE

5 NATURAL CAPITAL

5.1	Lighting solutions for the Huguenot Tunnel	160
5.2	Conservation on major projects	162
5.3	Environmental impact assessments	164
5.4	Environmental authorisations	164
5.5	Statutory developments	165
5.6	Route P166	166
5.7	Liaison with regulatory authorities	167
5.8	Sustainability summit 2021	168
5.9	Smarter mobility africa summit	168
5.10	Sustainable roads forum (SuRF) rating tool	169
5.11	Concessionaires' environmental initiatives	170

5.1 LIGHTING SOLUTION FOR THE HUGUENOT TUNNEL



NATURAL CAPITAL

The Huguenot Tunnel on the National Route 1 (N1) near Paarl in the Western Cape is South Africa's longest road tunnel at 3.9 km. It was opened in March 1988 and provides a shorter route through the Du Toitskloof Mountains than the alternative route across the pass. More than 12,000 vehicles travel through the tunnel daily.

SANRAL upgraded the existing lighting system in the tunnel, which was reaching the end of its life. The upgrade entailed replacement and improvement of the existing installation, including the lighting and control systems, to comply with international best practice as provided for in the CIE 088 Guide for the Lighting of Road Tunnels and Underpasses.

This installation will result in cost savings in energy consumption and in maintenance/operations, in addition to making a positive impact on road user safety.

Additional highlights include a unique local design and manufacture of a strip luminaire, which incorporates the latest Light-Emitting Diode (LED) technology and takes into consideration tunnel conditions such as vibrations,

flying debris, car fumes, water leaks and electrical surges, which can damage luminaires.

Impact management during installation

To limit the impact of the works on tunnel operations, a strict programme had to be followed. This required the replacement of light fittings to be done during night closures from Monday to Thursday, 22:00 to 06:00. The tunnel lighting had to be reinstated after every night shift.

The fluorescent light bulbs removed from the tunnel were recovered and recycled by a specialist company into their constituent parts, including the hazardous portions .

The lighting system was successfully commissioned towards the end of September 2021, with a one-year defects liability period to allow for observation and the resolution of operational issues.

The upgrade in numbers

More than 30km of electrical cable and 10km of bus cable were installed. More than 6,000 LED strip lights and more than 200 LED adaptation luminaires were installed to replace the previous fluorescent light fittings.

By default, the system operates in automatic control, where the output lighting level is a function of the ambient luminance seen by a driver approaching the entrance. The tunnel is divided into different lighting zones, as per CIE88, with each zone requiring a different luminance level. This is measured by a special camera installed at each tunnel entrance and calibrated to local conditions.

In day mode, the tunnel entrance lighting (adaptation lighting) is sufficient for an approaching driver to see into the tunnel. The luminance then steps down systematically to allow the eyes of the driver sufficient time to adapt and thus prevent the 'black hole effect' (which occurs when a person moves relatively quickly from a very bright to a dark area). This is in accordance with the requirements of CIE88.

Under various emergency conditions, the system will automatically switch a section or the whole tunnel to maximum light output, depending on the type of emergency.

The system status is monitored remotely from the control centre. If necessary, an operator can override automatic control and manually switch to a different lighting scenario as required.



Energy and operational efficiencies

The advantages of LED lighting are well-documented and include the following:

- **A long lifespan:**

This is at least two to four times longer than fluorescent, metal-halide or sodium-vapor lights.

- **Energy efficiency:**

LED lighting produces less waste light and more useful lumens than other lighting technologies, providing as much as a 60% to 70% improvement in overall energy efficiency. LEDs emit almost no heat or UV emissions, and most of the light they emit is within the visible spectrum.

- **Improved environmental performance:**

Many traditional lighting sources, like fluorescent lighting, use mercury internally as part of their composition. As a result, they require special handling when they reach the end of their lifespans.

- **Better operability:**

LEDs light up instantly and can withstand frequent switching. In addition, they perform about 5% better in cold conditions, and unlike fluorescent lamps they do not require a higher voltage to start. The intensity of their light does not diminish with lower temperature.

- **Design flexibility:**

LEDs can be used in any application and can be directed to illuminate areas requiring illumination without additional methods to reflect and redirect light. They perform well at different power percentages, from about 5% to 100%.

Source: SitelogiQ

5.2 CONSERVATION ON MAJOR PROJECTS

INTERVENTION: RESCUE AND RELOCATION OF FAUNA AND FLORA



South African legislation regulates the clearing of indigenous plants to protect plants of conservation value, ranging from ‘critically endangered’, ‘endangered’, ‘vulnerable’ and ‘near threatened’ plants, as well as plants that may have medicinal and other uses. The table below summarises some important conservation activities undertaken as part of construction projects during 2021/22.

N3 UPGRADE: FLORA

Intervention	Added-value
<p>Several protected plant species and indigenous plants – including <i>Aloe dewetii</i>, <i>Aloe ferox</i>, <i>Hypoxis hemerocallidea</i>, <i>Aloe arborescens</i> and <i>Gladiolous sericeovillosus</i> – were identified along the N3 corridor through floral and faunal sweeps undertaken before construction. All protected plant species in the median and on side slopes that will be affected by construction were mapped. Permits were obtained from the Department of Agriculture, Forestry and Fisheries (DAFF) and Ezemvelo KZN Wildlife (EKZNW) to ensure that all plants are relocated before work commences.</p> <p>SANRAL has been in consultation and negotiations with authorities and conservation non-governmental organisations to formulate a solution for a herd of zebra that forages along the N3 Lynnfield to Ashburton, as well as in other construction areas to be used as material sources.</p> <p>It is important to note that according to the Natal Conservation Ordinance 15/1974, wildlife found on a specific property automatically becomes the property of the respective landowner.</p>	<ul style="list-style-type: none"> • The permits and sweeps help to prevent, minimise or manage potential adverse impacts on flora and fauna within or adjacent to the N3 corridor. • Ecologists were appointed to guide the relocation of protected species. SANRAL has also partnered with local organisations such as the Lower Mpushini Conservancy to provide local knowledge and further guidance. • Consultations are ongoing with key stakeholders to obtain more knowledge and buy-in for the proposed relocation of the zebras for their safety and that of road users. • Considerations include the capacity of the relocating entity to receive the zebras and the cost of relocation. • A game reserve has been identified that is willing to capture and relocate the zebras at its own expense. SANRAL will pursue an agreement with the game reserve.

N3 UPGRADE: FAUNA

Intervention	Added-value
<p>SANRAL has been in consultation and negotiations with authorities and conservation non-governmental organisations to formulate a solution for a herd of zebra that forages along the N3 Lynnfield to Ashburton, as well as in other construction areas to be used as material sources.</p> <p>It is important to note that according to the Natal Conservation Ordinance 15/1974, wildlife found on a specific property automatically becomes the property of the respective landowner.</p>	<ul style="list-style-type: none"> • Consultations are ongoing with key stakeholders to obtain more knowledge and buy-in for the proposed relocation of the zebras for their safety and that of road users. • Considerations include the capacity of the relocating entity to receive the zebras and the cost of relocation. • A game reserve has been identified that is willing to capture and relocate the zebras at its own expense. SANRAL will pursue an agreement with the game reserve.



N2 WILD COAST ROAD (N2WCR)

Intervention	Added-value
<p>Thousands of plants comprising indigenous, endemic, threatened and protected species were rescued from the road reserve prior to the construction of the N2 Wild Coast Road (N2WCR) project in 2016.</p> <p>Specialists and the environmental monitoring team raised concerns about the ability of the rescued plants to continue thriving in the bags they were planted in. It was initially suggested that they be planted in bigger bags.</p> <p>However, SANRAL proposed replanting in permanent locations, where the plants would not be affected by construction activities. The replanting commenced in February with the Msikaba plants, with an initial focus on wetland species that have very demanding maintenance requirements and need to be settled in waterlogged soils.</p>	<ul style="list-style-type: none"> • Replanting in permanent locations reduces the cost of double handling and saves the plants from the stress of multiple relocations. • More than 16,000 rescued plants were replanted during February and March this year (2022) on the Msikaba North and South sites. • At Msikaba North site, 4,750 plants made up of 49 different species were replanted. The total number includes 1,750 plants that are either nationally or provincially protected/endangered, some of which are endemic to the Pondoland Centre of Endemism (PCE). • At Msikaba South site, 11,480 plants were replanted. These are made up of 61 different species. The total number includes 4,050 plants that are either nationally or provincially protected/endangered, some of which are endemic to the PCE.

5.3 ENVIRONMENTAL IMPACT ASSESSMENTS

We continue to determine the impact of our activities in line with relevant activities. The following are some of the impact assessment processes that are currently underway.

Region	Environmental impact assessment process
Northern Region	A basic assessment process is underway for the improvement of the R33, section 13, from Modimolle to Witklip.
Western Region	A basic assessment process is underway for the upgrade of 17km of the N1, section 4, between Doornfontein and Laingsburg.

5.4 ENVIRONMENTAL AUTHORISATIONS

Region	Environmental authorisations/permits received in 2020/21
Eastern Region	A plant permit from EKZMW for the relocation of <i>Aloe dewetii</i> , <i>Aloe ferox</i> and <i>Hypoxis hemerocallidea</i> for the upgrade to the N3, section 2 and 3, from Lynnfield Park to Ashburton.
	Plant permits from EKZMW for the relocation of <i>Aloe arborescens</i> , <i>Aloe ferox</i> and <i>Gladiolous sericeovillosus</i> for the upgrade of N3, section 2, from Dardanelles to Lynnfield.
	Plant permits from EKZMW for the relocation of trees, <i>Aloe arborescens</i> and <i>Aloe ferox</i> for the upgrade to N3, section 2, from Cato Ridge to Dardanelles.
Northern Region	Environmental authorisation from the Department of Forestry, Fisheries and the Environment for the proposed rehabilitation and strengthening of the R504, section 3, from Wolmaransstad to Leeudoringstad.

Hypoxis hemerocallidea is a perennial tuber with strap-like leaves and yellow star-shaped flowers, commonly known as the African potato.

The leaves of this bulb are arranged in a triangular fashion and the lower surface of the leaves is densely covered with white hairs. It is used as a medicinal plant.





5.5 STATUTORY DEVELOPMENTS

Legislation is one of the main instruments used by countries to organise society and to protect its citizens. As a State-Owned Entity and a corporate citizen SANRAL has a responsibility to assist government in organising society (by delivering on its mandate and exercising statutory control) on the one hand, and to comply with applicable laws on the other. From time-to-time legislation is amended and/or new legislation promulgated, and this may affect SANRAL in the way it exercises its control over national roads or how it meets its compliance obligations.

Below are some of the legislative developments that occurred in the last financial year.

Amendments to the Financial Provisioning Regulations

In August 2021, the Department of Forestry, Fisheries and the Environment published the amended Financial Provisioning Regulations for public comment. These deal with the rehabilitation and remediation of environmental damage caused by mining activities.

The amendments represent a continuation of efforts to align legislation governing environmental management in mining. SANRAL provided input in this matter, highlighting possible implications for its material sources. This prompted further liaison between SANRAL and the Department to find practical approaches to the requirements of the National Environmental Management Act 107 of 1998 (as amended) and the Public Finance Management Act 1 of 1999 (as amended) to enable efficient road infrastructure delivery.

Environmental Impact Assessment (EIA) Regulations

In March 2022, the Minister of Forestry, Fisheries and the Environment withdrew Regulation 39(2) of the Environmental Impact Assessment (EIA) Regulations.

This Regulation states:

"If the proponent is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land."

The March amendment has now been withdrawn to reinstate the requirement for consultation (and not written consent) of the landowner. The reason for the withdrawal, as stated in the Government Gazette, is that public participation processes for the amendment of environmental legislation had not been adequately complied with.

Biodiversity Offset Guideline

In March 2022, the Minister of Forestry, Fisheries and the Environment also published a draft Biodiversity Offset Guideline for public comment.

The purpose of this guideline is to:

"... indicate when biodiversity offsets are likely to be required as mitigation by any competent authority (CA), to lay down basic principles for biodiversity offsetting and to guide offset practice in the environmental authorisation (EA) application context."

5.6 ROUTE P166

This reporting year marks the close of a three-year relocation and propagation trial for the *Aloe simii* project that commenced at the beginning of 2019. The project was a collaborative effort by SANRAL, the South African National Botanical Institute (SANBI), Mbombela Metropolitan Municipality and the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs, and Mpumalanga Tourism and Parks Agency, as well as a specialist consultant.

The objective of the project was to test the propagation viability of this critically endangered species through seedlings germinated and grown in the SANBI nursery, which were then transplanted into a selected natural habitat. This was to compensate for the potential losses of this aloe along the White River stretch of the proposed P166 road in Mbombela.

Seedlings from the nursery, germinated from seeds collected from the White River sub-populations in March 2020, were planted in the White River and Uplands trial plots. In total, 185 aloe plants were transplanted in the Uplands trial plots and more than 350 plants in the White River trial plots (some plantings included 2/3 plants).

At Uplands, a total of 123 (78.8%) out-planted specimens have survived and continue to grow successfully, while 306 (87.4%) specimens have survived in the White River trial. Thus far, out-planting of nursery seedlings from pots has been shown to be successful in February and March (middle to late growing season). Results indicate that root development (not size, as previously thought) is a critical success factor.



Aloe simii is critically endangered, which means it is on the brink of extinction in the wild.



The collection of seeds during the project demonstrated that timing is critical as seeds are vulnerable to herbivory by insects. The seeds collected too long after seed maturation in April 2019 resulted in 0% germination.

DNA coding of the different species is underway, but the DNA results are not yet available. Although the DNA analysis was not available at the conclusion of the project, the results will contribute towards the knowledge base for the species and form the basis for conservation management decisions.

The outcomes report will be submitted to the Minister of Forestry, Fisheries and the Environment for her consideration and decision on the impact of the P166 alignment, taking into consideration the results of the study. The significance of the Minister's decision is that it will determine whether SANRAL builds the preferred White River alignment or the Northern alignment of the P166 route, which was authorised.



5.7 LIAISON WITH REGULATORY AUTHORITIES

Mining activities

SANRAL provided input into a review by the Department of Forestry, Fisheries and the Environment of policy instruments intended to remove barriers to the use of construction and demolition waste. SANRAL also shared its experience on the recycling and reuse of secondary material in a webinar hosted by the Department in November 2021.

SANRAL continues to liaise with the Department on the misalignment between environmental and mining legislation in an effort to find practical solutions to the implementation of this legislation. The amendment to the Financial Provisioning Regulations remains of interest to SANRAL.

Self-regulation

The Department of Water and Sanitation conducted a national governance review on a number of SANRAL's projects, requesting self-regulating reports in line with the general authorisation (or with the specific conditions in the various water-use permits).

The Department followed these with a workshop with SANRAL to provide consolidated feedback on the findings. SANRAL also followed up on its suggestion for shared audit experiences and invited the Department, which duly joined the N3 upgrade project audits.

5.8 SUSTAINABILITY SUMMIT 2021

SANRAL participated in the 11th annual Sustainability Summit, which was hosted as a live virtual event. The event confirmed that governments, corporates and citizens worldwide are looking for ways to work together to achieve a green economic recovery after the COVID-19 pandemic.

South Africa has embraced the idea of a green recovery to achieve sustainable, resilient and inclusive economic growth. In line with this goal, SANRAL highlighted its initiatives on smart, sustainable and inclusive mobility.



5.9 SMARTER MOBILITY AFRICA SUMMIT

SANRAL again joined the Smarter Mobility Africa Summit during October 2021 to continue to showcase its initiatives on smart mobility. These are in support of the Green Transport Strategy 2018–2050 and give effect to SANRAL’s own Horizon 2030, which emphasises smart roads, mobility, technology and resource efficiency. Like the 2020 event, the summit was held virtually due to COVID-19 restrictions.



5.10 SUSTAINABLE ROADS FORUM (SURF) RATING TOOL

As road industry stakeholders increasingly demand that environmental sustainability be integrated into infrastructure projects, the ability to demonstrate sustainability grows ever more crucial.

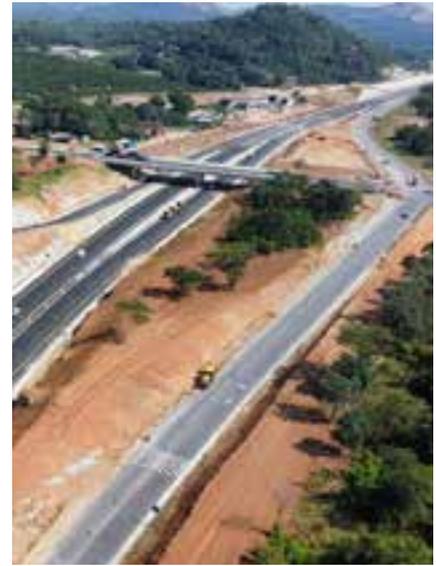
Improved environmental sustainability can also enhance the financing of road transport projects by helping SANRAL to demonstrate that the financiers' environmental requirements are being met.

While SANRAL mainstreamed environmental sustainability into its development years ago, the ability to demonstrate and report on sustainability practices in measurable and comparable terms (over time and between projects) was needed. This gave rise to an ongoing pilot of the Sustainable Roads Forum (SuRF) rating tool commencing with three packages of the N3 upgrade project.

An initial report was shared with the SANRAL environmental team indicating that the project teams have incorporated the requisite data-capturing into their routine and it was progressing well. However, some of the information relating to the planning/pre-construction phases still needed to be included in the rating tool.



5.11 CONCESSIONAIRES' ENVIRONMENTAL INITIATIVES



Recycling resources

TRAC is re-using asphalt milled in the rehabilitation and upgrading of roads.

TRAC is also crushing the damaged concrete blocks for re-use in the rehabilitation of the N4 in the Emalahleni area.

Environmental impact assessments (EIAs)

Submitted environmental applications for planned TRAC projects included the following:

A full EIA application for the upgrading of the Schoemanskloof T-junction at Montrose to a grade-separated interchange was submitted end-2020. Approval was received in April 2021 and construction commenced in January 2022.

A general authorisation from the Department of Water and Sanitation was received in March 2021, granting a water-use license for the interchange upgrade/ bridge widening over the Crocodile River for Montrose Interchange. TRAC also received an extraction permit approval from the Inkomati-Usuthu Catchment Management Agency (IUCMA), allowing extraction of water for construction purposes.

Formal environmental applications were submitted and approvals received from the Department of Forestry, Fisheries and the Environment and IUCMA for the

planned upgrading of the N4, section 13 (from Magnesite Mine to R571 Jeppe's Reef Interchange).

TRAC has also appointed environmental and engineering consultants for the planned upgrade of the Schoemanskloof Pass to provide additional passing lanes. This will also consolidate accesses and provide access roads for priority farm accesses, where spacing of accesses and sight distances are problematic. Public open day sessions for the local community were held. Further investigations on the additional land intended for access roads were conducted.

TRAC projects currently under construction have the required approvals received in previous years.

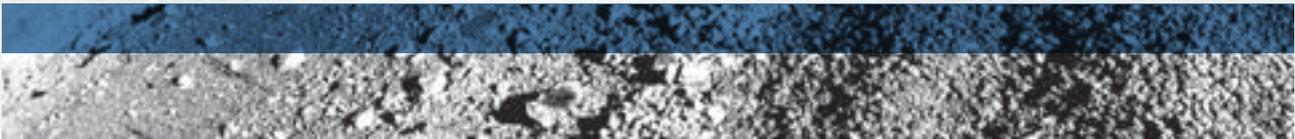
Other initiatives

In line with TRAC's generic Environmental Management Plan (EMP), annual surveys were done to evaluate the vegetation quality in the road reserve. A detailed survey was carried out on the alien invasive woody vegetation as listed in NEMBA Act and Regulations.

Annual water tests and noise surveys were done at various locations along the N4.

Major environmental spills have taken place on the Schoemanskloof section following two separate fuel tanker crashes in 2020. Specialist contractors were appointed by the respective truck operators for the clean-up process to remediate the contaminated soil.

Due to damages to the Petronet fuel line, a spillage took place adjacent to the N4 near Bronkhorstspuit. Soil inside the road reserve was also contaminated. In-situ rehabilitation is still ongoing.



Minor updates to the Environmental Management Programme (EMPr) were implemented.

No material changes were implemented in the reporting period. IMS documentation will be updated in Q2 2022 to cater for 'abandoned' sites where the offending party is not forthcoming. N3TC will initiate a close-out investigation after two years based on the Department of Forestry, Fisheries and the Environment's framework for the management of contaminated land.

Final rehabilitation reports were submitted to the Department for an additional two sites in this regard

(five in total). The independent reports confirmed fully rehabilitated sites. In terms of the IMS documentation, these five sites have been signed off and removed from the N3TC rehabilitation site register:

- Planting of vetiver grass and other types of grass seeds to stabilise soil and protect it against erosion
- Implementing erosion-control measures such as gabions, earth berms, grouted stone pitching etc.
- Continued use of the wider variety of erosion-control measures
- Placing of topsoil in identified areas
- Placing of topsoil and applying fertiliser to certain slopes
- Reducing the spread of alien vegetation by eradicating, controlling and managing its growth
- Proactive fire-break implementation measures such as disking/tilling and steep-slope management



Bakwena supported and sponsored three projects through the Endangered Wildlife Trust (EWT).

Guardians of the Future

This project focuses on environmental education and development of 'green' practices among learners. Due to lockdown restrictions, the environmental boosters that had been developed by EWT, will only be rolled out in the third term of 2022.

Roadkill Project

This project focuses on reducing harmful impacts on wildlife and domestic livestock and improving motorist safety along the N1N4 route.

Despite COVID-19 travel restrictions, EWT managed to provide training through the Bakwena/EWT Roadkill WhatsApp group, as well as face-to-face training of all the Bakwena route patrol teams (around 20 patrollers). These focused on roadkill data collection and species identification.

Magaliesberg Carnivore Conservation Programme

This programme implements large-scale collaborative field-based projects to actively increase the range, numbers and status of Africa's threatened carnivore species. This project focuses on the placement of specially bred livestock guarding dogs to minimise conflict between carnivores and livestock farmers in the Magaliesberg.

Bakwena also provided support and assistance to the Magaliesberg Biosphere NPC in terms of project coordination and training support for the Majakaneng hiking trail rangers in Majakaneng.



SECTION 2

CAPITALS AND PERFORMANCE

6 HUMAN CAPITAL

6.1 Employee profile	177
6.2 Employee skills development	179
6.3 External educational investment programmes	182
6.4 Employee wellness	185
6.5 Occupational health and safety	187
6.6 Marketing and communications	188
6.7 Information technology	200

ADOLPH TOMES

Acting Business Operation Executive

This portfolio includes information technology (IT), human resources (HR), facilities, knowledge management and skills development.

One of the highlights of the past year, from a human resources (HR) perspective, was the development of a new HR strategy for SANRAL. In terms of this strategy, we asked people where they wanted to be and where they saw themselves in a few years' time.

This strategy created a space where people did not think about everyday problems and issues, but rather dream and think about where they would want to see the environment over a short-, medium- and long-term period.

Another highlight was moving SANRAL towards digital maturity. We have implemented the SAP HANA project and have taken a firm stance on bringing about digitisation across all environments and areas to ensure that our organisation becomes future-proof.

There are many lessons for SANRAL to learn from the COVID-19 pandemic. This is something that became clear to me as the head of the organisation's COVID-19 Task Force. Our goal was not only to manage our risk in terms of the impact of the virus, but also to ensure we protected livelihoods, provided a space where people could still be productive and delivered the services the country needs. Our overarching goal was to ensure that people were not impacted by the pandemic in the longer term.

We created business-continuity processes and responded to the various variants to ensure that sufficient tools, capacities and capabilities were in place.

The virus also took a personal toll. Many people lost family members and SANRAL had to deal with many infections, including the loss of one employee. However, we were able to contain infections and ensure that we could deliver services during the various variants and stages of the pandemic.

Given the uncertainties of the past year, our

focus has been on maintaining stability in the organisation. People need to feel that they are being led, and that there is a space for them to be creative, to apply themselves and to make a difference.

On the telecommunications side, we are implementing several services that will improve service delivery. This includes a very sophisticated telecommunications network that will see all our services on our own private network, weaning SANRAL off from the telcos of this world by utilising our own infrastructure. It is important for us to become a dynamic organisation when it comes to technology.

On the facilities side, some of the regions are looking at upgrades and renovations to buildings. One of the challenges is to consider how an organisational structure flows in order to determine what a facility should look like post-pandemic. How do you plan and use space? How do you create a healthy and safe environment? How do you modernise facilities and make them efficient?

As SANRAL, we have to ensure that we do everything with a long-term view of where the organisation needs to go, where we should be and the type of organisation we want.



Adolph Tomes





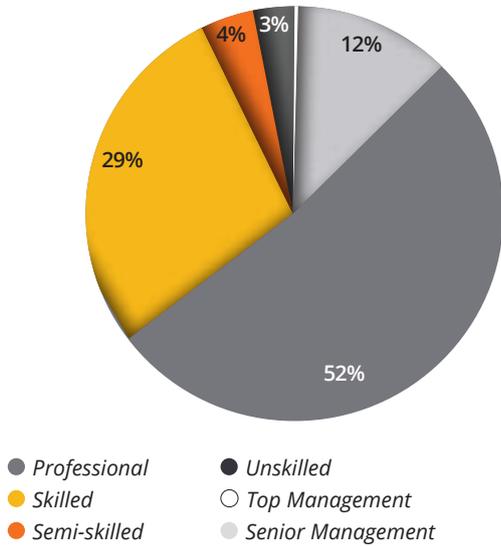
The SANRAL Human Resources Department supports the Agency's business objectives. To give expression to Horizon 2030, the focus is on deriving value from the human capital of the organisation as a main driver of these business objectives. This is achieved through fostering an environment that promotes employee development, enhancing the employee experience, driving HR excellence and innovation, and deploying recruitment and retention strategies.

The implementation of the Operating Model Review has played a significant role in aligning SANRAL's organisational make-up with the envisaged new way of working. The design of the operating model has yielded the need for a new hierarchical organisational structure with defined roles and accountability thresholds, unlike the collegial and flat legacy structure. While the rollout of these changes is underway, the current structure remains in use, which still serves a purpose for organisational deliverables in this specialised field of work.

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, road design and construction. Operational work is undertaken mainly by contracted engineering and construction companies.

6.1 EMPLOYEE PROFILE

The Agency's staff complement features an unusually large number of senior managers, middle managers and experienced professionals. They account for 64% of the total number of employees.



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 talent development. It achieves the latter through a system of study grants at school and university level and through its Technical Excellence Academy for young engineering graduates.

This approach has yielded results. SANRAL had a staff turnover rate of just 13.11% in the reporting year and 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.

The quality of SANRAL's human resources management is attested to by its certification across all 13 standards by the South African Board of People Practices.

Growth and diversity

SANRAL's staff complement has decreased substantially, from 13.22% growth in 2020/21 to 9.6% growth in this reporting year. This was due to the impending structural and operational model review changes, which have imposed recruitment restrictions to allow the transition process to take place.

The total number of employees as of 31 March 2022 was 427 nationally and the total number of development appointments (candidates and interns) was 51, bringing the combined headcount to 478.

Regional office	EE count per regional office
NRA - Eastern Region	74
NRA - Head Office	113
NRA - Northern Region	108
NRA - Southern Region	71
NRA - Western Region	61
Subtotal: Employee profile	427
SANRAL graduates	41
SANRAL interns	10
Total as per 31 March 2022	478

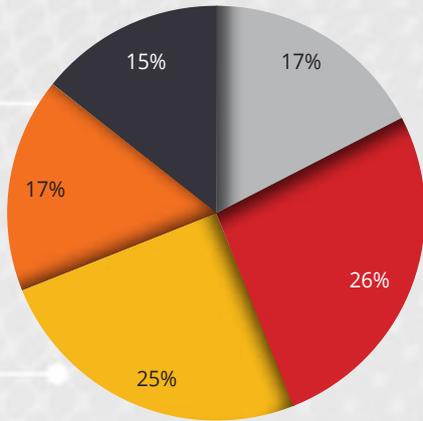
Note: The employee profile takes into consideration positions that are either permanently or temporarily filled. This excludes development positions, which will be catered for in the respective areas below.

Growth in SANRAL staffing



SECTION 2: CAPITALS AND PERFORMANCE

Employee distribution across offices

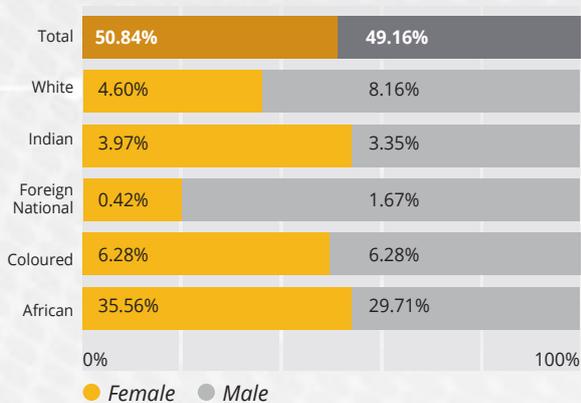


- NRA Eastern region
- NRA Southern region
- NRA Head office
- NRA Northern region
- NRA Western region

The gradual growth of the organisation has enabled greater employee diversity. Overall, appointments made during 2021/2022 brought SANRAL closer to its employment equity goals for 2020–2023, which are to align SANRAL’s staff composition with that of the general population, while also ensuring gender equality in employment opportunities.

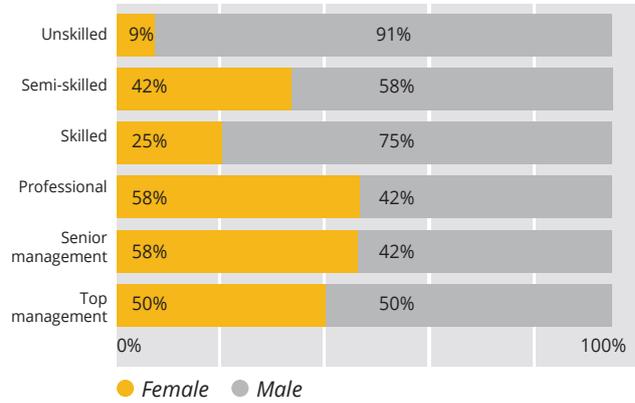
- By the end of the year, 85% of employees were Black, with African staff members comprising 65% of the total establishment.
- Female employees (50.84%) fractionally outnumbered male employees (49.16%).

Employee profile by population group and gender

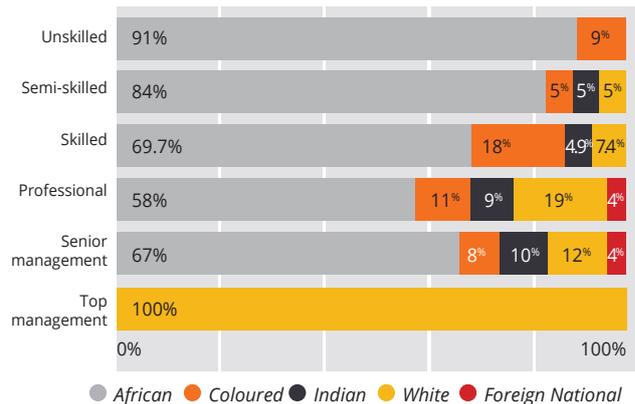


When the representation of women and Black employees is analysed by occupational category, the under-representation of both of these groups is evident at senior management and professional level.

Gender ratio in occupational categories



Occupational categories by population group



This under-representation is linked to the wider question of diversity in fields of study relevant to SANRAL and among professionals in the engineering and road transport sectors.

Alignment of the Employment Equity Plan and the Equity Plan applied in the student and graduate intakes had to take place in order to achieve SANRAL’s equality goals. Appropriate professional qualifications are non-negotiable for many positions within SANRAL and the Agency therefore seeks to promote the entry of women and Black students into these professions through its scholarship and bursary programmes.

6.2 EMPLOYEE SKILLS DEVELOPMENT

SANRAL encourages the development of employee knowledge and skills 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 postgraduate levels. A total of 278 employees were trained during the period under review, at an investment of R3,060,070.70.

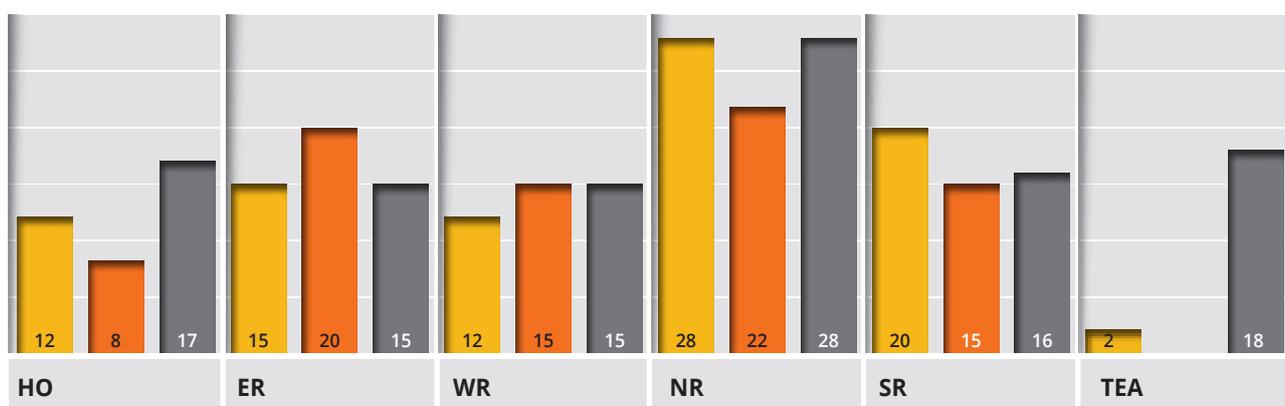
Skills development interventions are agreed upon between employees and line managers to address work-related shortcomings, career development or succession planning. The organisation has prioritised both technical and people management skills when investing in employee development, as evidenced by the national interventions for conflict management training, as well as all standard specifications for roads and drainage works recently approved by the Committee of Transport Officials (COTO). All project management staff attended training on the 11 COTO chapters, as listed below, between May 2021 to March 2022.

The new COTO specifications for road and bridge works are as follows:

- Chapter 1: General
How to use the new COTO specification to enhance labour on all projects
- Chapter 2: Services
- Chapter 3: Drainage
- Chapters 4 and 5: Materials and construction of earthworks and pavement layers
- Chapter 6: Concrete layers
- Chapter 7: Maintenance and repairs of concrete layers
- Chapter 8: Pre-treatment and repair of existing layers
- Chapter 9: Asphalt layers
- Chapter 10: Surface treatments
- Chapter 11: Ancillary roadworks
- Chapter 12: Geotechnical applications
- Chapter 13: Structures
- Chapter 14: Repair and rehabilitation of structures
- Chapter 20: Quality assurance

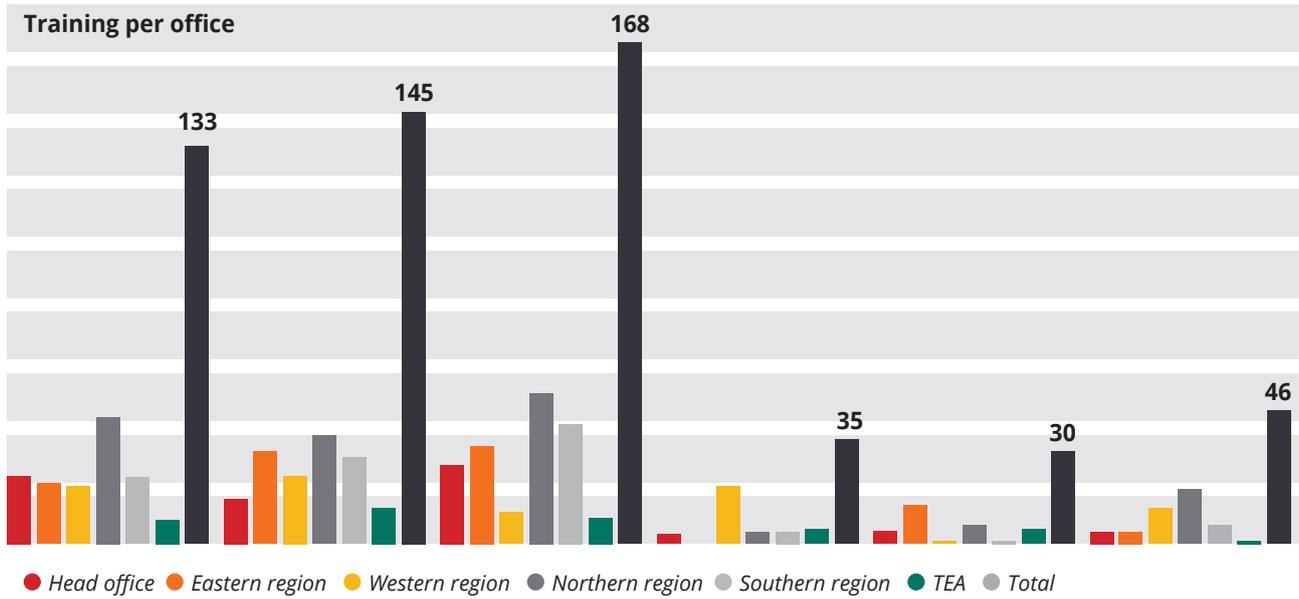
Number of employees trained per occupational level: YTD 31

The numbers below indicate attendance for all training interventions carried out in the organisation between April 2021 to March 2022.



● Management ● Professional ● Non-management level

Training interventions targeted all occupational levels in the organisation.



Internal bursaries

Formal training programmes that emanate from study towards undergraduate or postgraduate diplomas and degrees are supported through the Internal Bursary Policy, which enables employee personal development and growth.

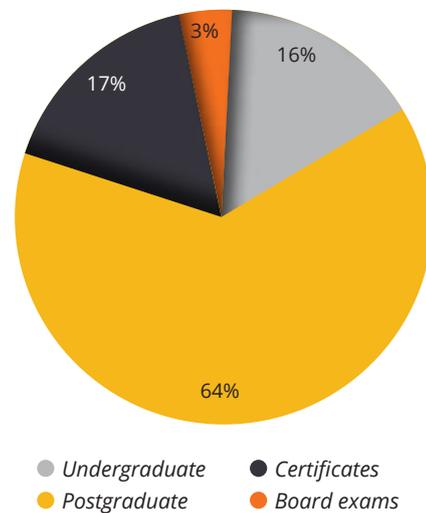
The Agency invested approximately R2.49 million in internal bursary awards to employees during this reporting period in fields that included accounting, human resources management and engineering. The number of self-studies has stabilised at a good and significant level over the past three years, fluctuating due to completion. However, several new applications are still considered every year.

Internal bursaries

- 2019/2020: 134 bursaries
- 2020/2021: 127 bursaries
- 2021/2022: 115 bursaries

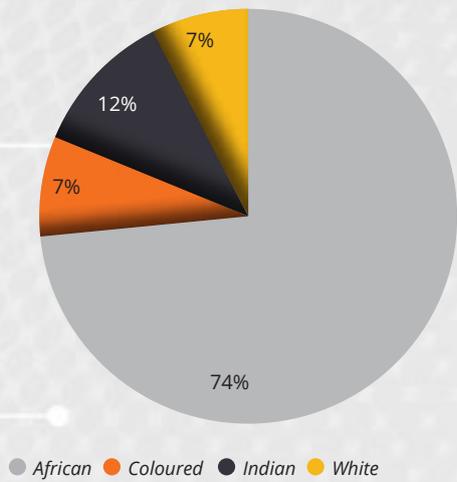
A total of 115 employees, including 23 new applicants, were awarded bursaries for tertiary studies during 2021/22. More than half of the bursary recipients (64%) were engaged in postgraduate studies.

Internal bursary recipients by course of study

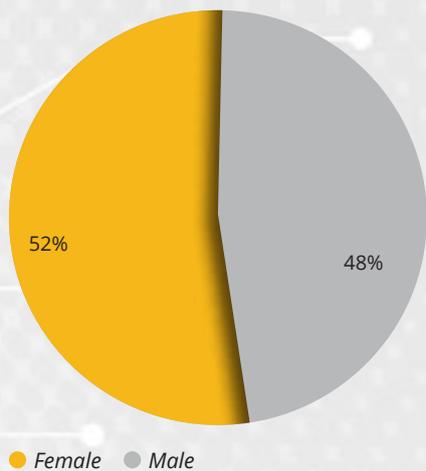


A high proportion of internal bursary recipients were Black employees, and especially Black women.

Internal bursary recipients by population group

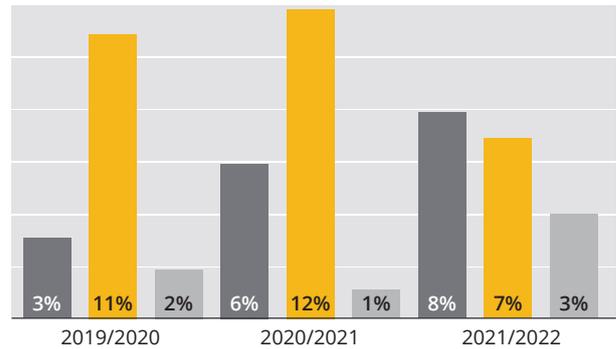


Internal bursary recipients by gender



The bursary programme resulted in a significant number of achievements. Fifty-four employees completed various qualifications, ranging from professional undergraduate and postgraduate certifications. Among the awarded employees, there was an increase of more than 30% in those who completed studies, therefore obtaining postgraduate qualifications.

Completed qualifications 2019/20 - 2021/22



● Professional certificates ● Postgraduate ● Undergraduate

The period under review saw an increase in the number of professional certifications. This development is evidence that the world of work requires academic qualifications and certifications linked to software programmes and the digitising of the workplace.

The SANRAL graduate development programme

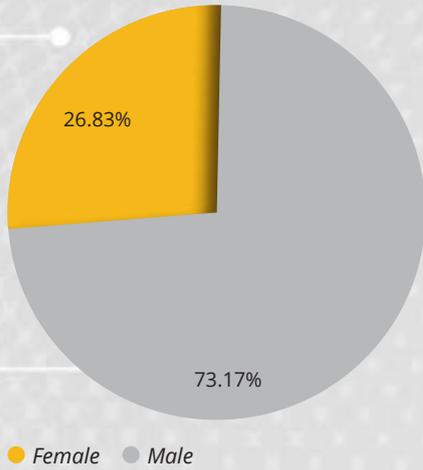
The graduate development programme has evolved over a period of 13 years. Initially established to provide training to civil engineering graduates via secondments on a case-to-case basis, the programme is now structured, with increasing focus on inclusivity and transformation.

The Technical Excellence Academy (TEA) and the extended graduate training programme is a facility that assists graduates in fulfilling practical experience and work-integrated learning that is aligned to their careers and required by professional registration bodies, such as the Engineering Council of South Africa (ECSA) and the South African Council for the Quantity Surveying Profession (SACQSP).

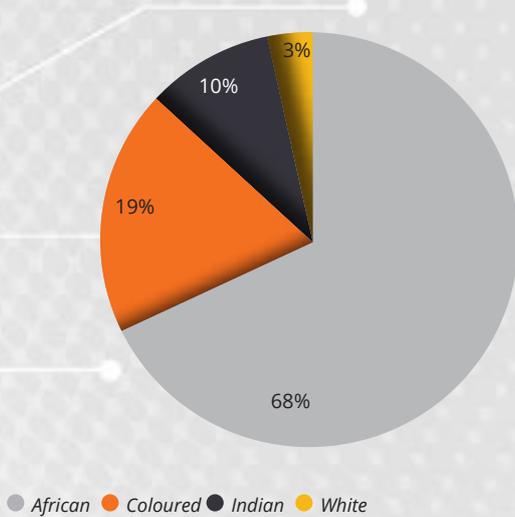
The development of the TEA (with its now dedicated in-house mentors and specialist external mentors) and the related operating costs are budgeted for and fully funded by SANRAL. The Agency supplies the full complement of training requirements, hardware, software, specialised training courses and construction site placement for the five-year programme. The emphasis of linking a tertiary qualification with required practical work experience as a jumpstart to a candidate's career has contributed to accelerated professional development in the delivery of infrastructure enhancement projects.

SECTION 2: CAPITALS AND PERFORMANCE

Using the established Equity Plan for Skills Development, the TEA aligns its intake with these requirements on an annual basis, whether through the external bursary programme or through external sourcing. As at 31 March 2022, SANRAL had 41 active graduates.



TEA candidate engineers by population group



The intake has been predominantly for engineering candidates; however, policy changes and business needs have created the space for the graduate development programme to soon expand to all business units of SANRAL.

6.3 EXTERNAL EDUCATIONAL INVESTMENT PROGRAMMES

SANRAL’s transformation initiatives are implemented through reformed policies that support external educational programmes. These programmes target deserving and qualifying recipients at secondary and tertiary institutions to improve inclusivity and reach.

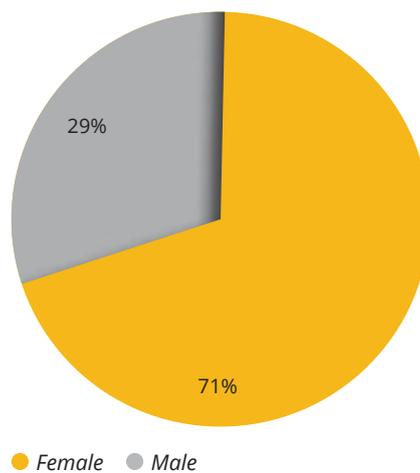
Policy changes bore fruit in an expanded offering to students in the built environment fields of transportation infrastructure development, engineering, environmental management, smart technologies, public sector infrastructure development and administration, and other professions related to SANRAL’s core business.

These learning programmes also aim to support the ideals set out in the National Development Plan (2012) and the White Paper on Post-School Education and Training (2013) to advance access to equal education for South Africans on tertiary level.

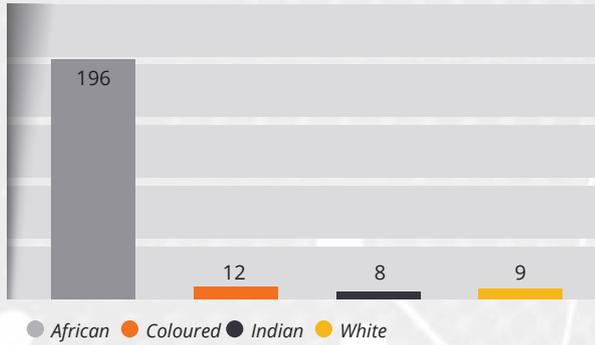
Scholarships

In 2021/22, scholarships were awarded to 225 learners, 71% of whom were girls. The annual number of scholarships has varied only slightly in recent years. Investment in this reporting period amounted to R6,311,140,74.

Scholarships by gender



Scholarships by population group



The cohort of 48 matriculants performed exceptionally well. Most received admission into bachelor’s degrees and ventured into a range of study fields, including medicine and engineering.

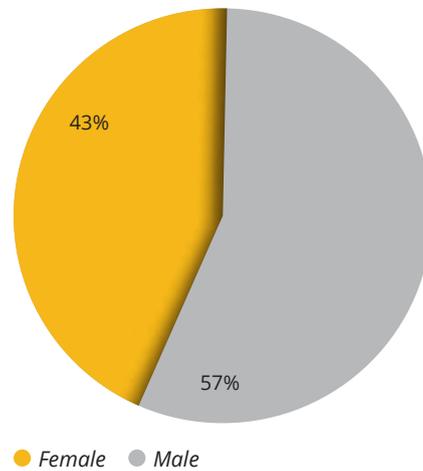
Together with the marketing team, SANRAL held an outstanding congratulatory campaign, where the learners had an opportunity to be interviewed to share their stories. This highlighted that SANRAL is indeed making a difference in their lives. This impact also has lasting effects as some of these learners become the first in their families to attend university.

Policy changes in pursuit of a more inclusive scholarship programme are underway and outcomes will be fully realised and reported in the coming year.

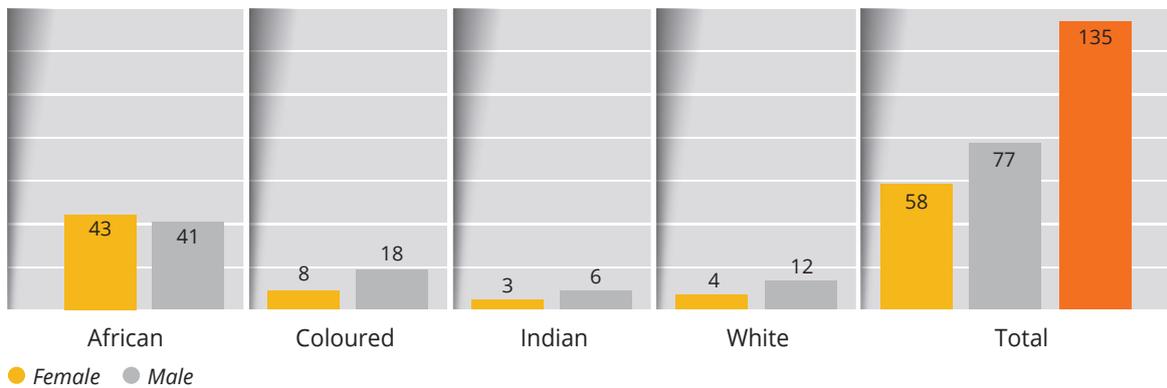
External bursaries

SANRAL awarded external bursaries to 135 students for both postgraduate and undergraduate qualifications. The new policy provisions allowed SANRAL to expand the scope of bursary fields to include students in computer science, mechatronics, human resources, law, electrical engineering, accounting, supply chain and quantity surveying. The expenditure in 2021/22 amounted to R9,510,874.

External bursaries by gender



External bursaries



One of the goals of the intake was to increase the number of candidates who met the targets set out in SANRAL’s Employment Equity Plan. This is a strategic approach to ultimately influence and change the industry to be more representative of the South African demographic. There was a greater emphasis on increasing the intake as well as allocating more awards to women in 2021/22.

During the period under review, SANRAL awarded bursaries to a total of 16 tertiary institutions, up from nine in the previous year.

The intake focused on reaching students from different backgrounds – including applicants from rural areas and disadvantaged communities – in order to increase inclusivity and make a greater impact on the educational footprint in South Africa.

TERTIARY INSTITUTIONS			
	2021/2022	2020/21	Province
1	Stellenbosch University	Stellenbosch University	Western Cape
2	University of Cape Town	University of Cape Town	Western Cape
3	Cape Peninsula University of Technology	Cape Peninsula University of Technology	Western Cape
4	University of Johannesburg	University of Johannesburg	Gauteng
5	University of Pretoria	University of Pretoria	Gauteng
6	University of the Witwatersrand	University of the Witwatersrand	Gauteng
7	Tshwane University of Technology	Tshwane University of Technology	Gauteng
8	University of KwaZulu-Natal	University of KwaZulu-Natal	KwaZulu-Natal
9	Nelson Mandela University	Nelson Mandela University	Eastern Cape
10	University of Limpopo		Limpopo
11	Rhodes University		Eastern Cape
12	Vaal University of Technology		Gauteng
13	North-West University		North-West
14	University of the Free State		Free State
15	Durban University of Technology		KwaZulu-Natal
16	Sol Plaatje University		Northern Cape

Further changes to the programme include student access to the Wellness Programme. Future plans include access to tutoring services, as well as Code 08 learner’s and driver’s licence support.

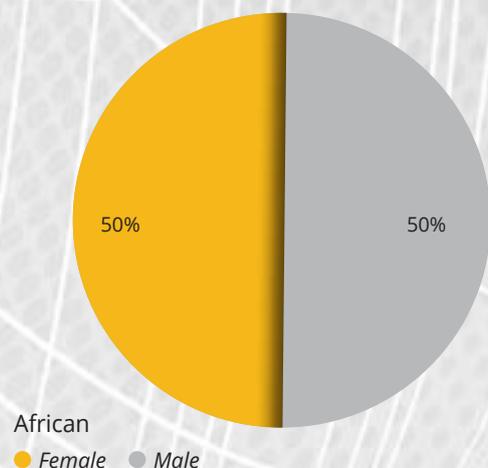
Internships

The SANRAL internship programme has been available mostly through the contract work carried out by consultants on our various construction sites. This has seen success over the years, contributing to students obtaining an important aspect of their diplomas or BTech qualifications.

The programme rebounded to a total of 239 interns nationally during the period under review. Ten of these were internal SANRAL internship opportunities.

During this reporting period, SANRAL committed to extending coaching and exposure opportunities to students looking for internships in transformation and legal services. SANRAL intends to continue being a contributor to youth development in South Africa and providing more internal internship opportunities.

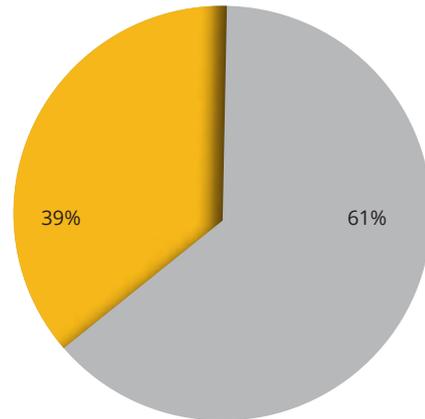
Internships by gender and population group



The availability of construction sites as well as the easing of COVID-19 restrictions allowed for a larger intake of site-based interns. Interns requiring work-integrated learning opportunities on SANRAL construction sites were mostly male and most opportunities were awarded to African students.

Interns on SANRAL contracts by gender

● Female ● Male



6.4 EMPLOYEE WELLNESS

The Ekhaya Wellness Service has had to adapt over the past two years with the unexpected impact and requirements of COVID-19. We have seen a significant demand for an environment that can adapt to any national disaster that could happen in future.

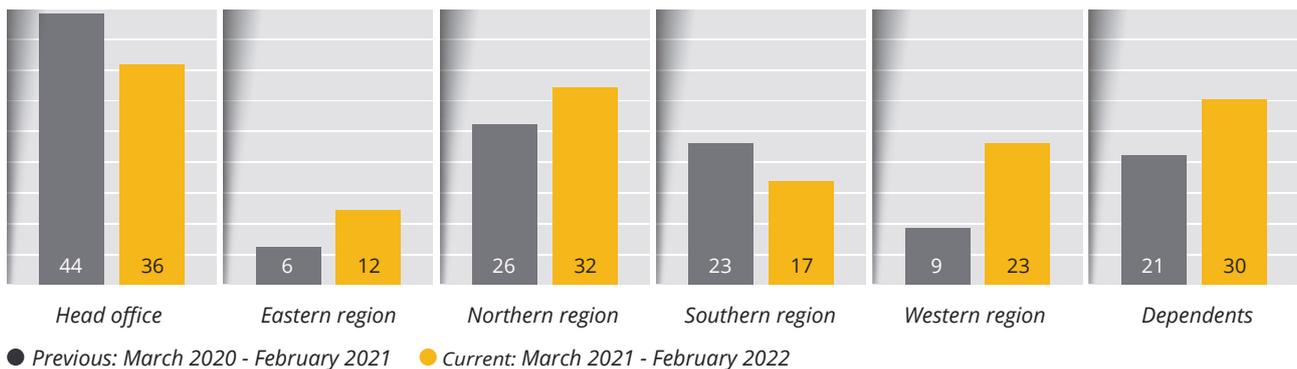
The wellness programme was therefore broadened to provide guidance under the new ways of working, especially in relation to issues linked to employee work-life balance. This included educational sessions and support to help employees deal with the stresses

and daily challenges associated with pandemic life. The Ekhaya Wellness Service is positively promoted in the company and the key engagement areas are outlined below.

Engagement overview

During 2021/22, 150 individual cases were opened and managed, down from 129 cases in the previous period. The utilisation rate of 31.1% is above the sector average of 5.7%. In the same period, 22 participants attended group counselling, with a utilisation rate of 4.1%.

Individual cases per site



High-risk cases

Three high-risk cases were flagged in 2021/22, representing an increase from 2020/21.

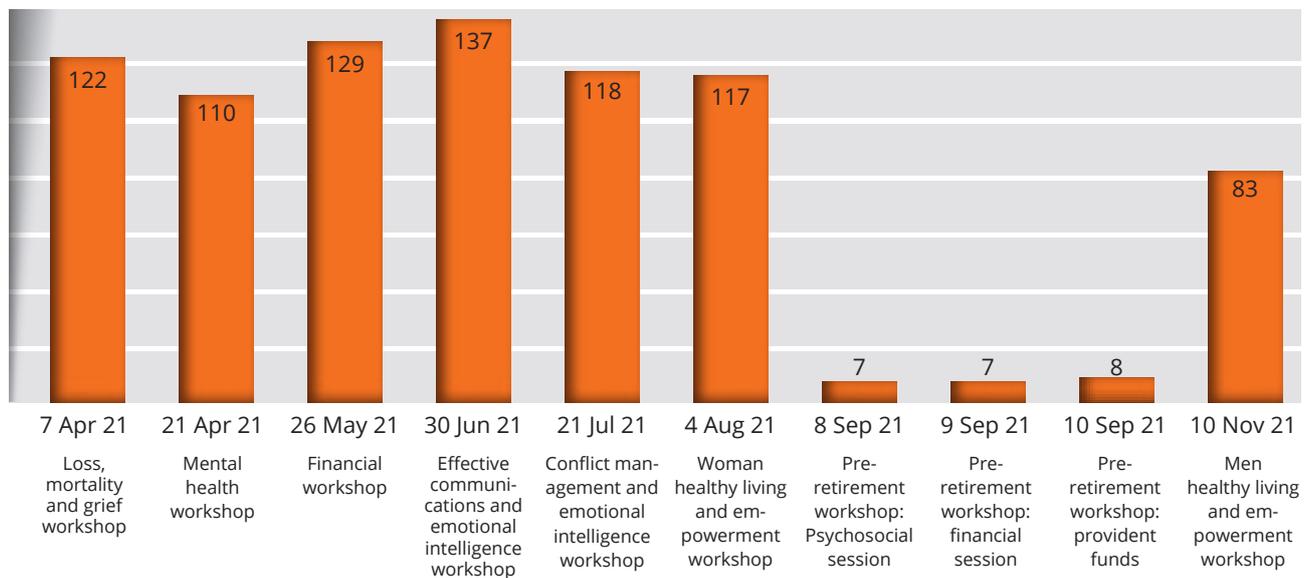
Managerial utilisation and referral services

Managers accounted for 9.3% (14 cases) of individual utilisation, a decrease from 16.9% (25 cases) in 2020/21. This is below the ICAS average of 18.1%. Seven formal referrals and one assisted referral were made in this period.

Workshops

Workshop sessions for employees were conducted on topics that included loss, mortality and grief, mental health, financial wellness, and conflict management, among others. The graph below provides a summary of wellness workshops implemented during the 2021/22 period.

2021 - 2022 Workshop interventions: Attendees





SANRAL's inaugural Men's Month Seminar was well received and will be expanded in the upcoming financial year.

6.5 OCCUPATIONAL HEALTH AND SAFETY

SANRAL ensures compliance with occupational health and safety (OHS) legislation in all aspects of the organisation through trained employees in all offices. Employees are trained in basic OHS competencies such as first aid, firefighting, evacuation and incident investigations in the workplace.

Compliance with OHS on construction sites is monitored through appointed external professional construction health and safety agents, as well as through an in-house professional construction health and safety agent. Construction sites must maintain an acceptable OHS standard within the OHS systems that are implemented on site. Construction sites are audited monthly and contractors are required to rectify non-compliances before the next audit.

The Federated Employers Mutual Assurance Company (FEM) has been appointed to manage all injuries on duty. During 2021/22 reporting period, only one minor injury was reported at SANRAL Head Office.

6.6 MARKETING AND COMMUNICATIONS

6.6.1 Stakeholder engagement and social facilitation activities

SANRAL's long-term strategy, Horizon 2030, is underpinned by four strategic pillars that guide and drive the Agency's vision and mandate: Roads, Mobility, Road Safety and Stakeholder Relations. The Stakeholder Relations pillar is a critical component in meeting SANRAL's Horizon 2030 objectives.

The Stakeholder Relations and Social Facilitation portfolio is the custodian of this pillar and is tasked with overseeing the following:

- Engaging regularly with stakeholders to ensure smooth delivery of SANRAL's road infrastructure community development projects
- Ensuring that SANRAL is communicating with stakeholders about its projects and identifying the needs of affected communities
- Monitoring and profiling SANRAL's impact on the communities in which it operates
- Assessing stakeholder satisfaction concerning project implementation and SANRAL's transformation agenda

Stakeholder engagements

Over 270 stakeholder engagement sessions, activations and events were held during the reporting period. This represents a significant increase from 2020/21. These initiatives were hosted across the four SANRAL regions within the respective municipalities where SANRAL's road infrastructure development projects are taking place.

The above include:

Presidential oversight visits:

President Cyril Ramaphosa undertook site inspections of SANRAL's flagship projects, which are aligned with the country's strategic infrastructure projects (SIPS).

Ministerial events:

The Minister of Transport, Fikile Mbalula conducted site visits to oversee developments along flagship road infrastructure and associated community development projects carried out by SANRAL nationally.

Information sessions:

This platform empowers stakeholders with information about SANRAL, its policies and the road infrastructure service delivery mandate in the areas reached. It aims to ensure that potential socio-economic challenges are identified and minimised.

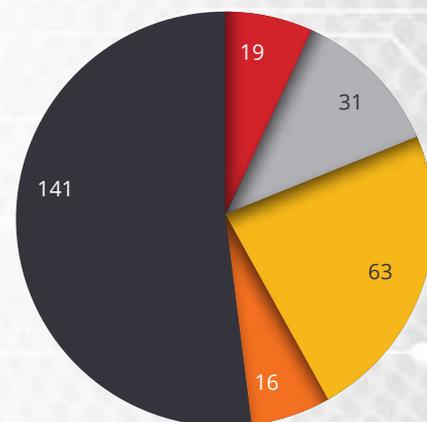
Roundtable engagements:

This platform addresses stakeholder matters that have the potential to impact the smooth execution of SANRAL's projects. It is also used to forge strategic partnerships with key stakeholders across respective municipal jurisdictions, provincially and nationally. WHOA! road safety activations: Road users are educated on road safety measures, which encourages safer habits among motorists and pedestrians, particularly during peak periods associated with road incidents and fatalities.

Taking SANRAL to the People (TS2):

This initiative aims to make the SANRAL brand more salient to its targeted stakeholders in rural, peri-urban and urban areas.

SANRAL public events 2021/22



- Engagement with provincial and local Government
- TS2
- Traditional leadership
- Information sessions
- Ministerial and Presidential events

Overview

SANRAL recognises the critical role it plays in transforming the construction sector, as well as contributing to the country's overall economic development through its road infrastructure projects.

Since its establishment in 1998, the Agency has focused on a range of strategic imperatives in response to prevailing challenges and opportunities on the ground. Its robust transformation agenda has ensured cooperation and collaboration with all strategic partners within the infrastructure development space. This has opened access to opportunities and helped to rectify historical inequalities within affected communities.

The above aims are embodied in SANRAL's Transformation Policy, which was adopted in 2017 and aims to empower black contractors, professionals and suppliers in all SANRAL-commissioned road infrastructure projects – above and beyond the minimum levels set by the prevailing legislative and regulatory framework.

All SANRAL projects are guided by a 14-Point Plan, which sets the tone for project liaison, sub-contracting and labour sourcing. The plan also gives expression to SANRAL's commitment to its Transformation Policy.

The above has given rise to SANRAL's project liaison committees (PLCs), which safeguard the interests of localisation and ensure SANRAL projects allow for maximum participation by local communities.

The stakeholder pillar has also been guided over the years by the principles of AccountAbility's AA1000 stakeholder engagement standard for good governance and accountability.

In its interactions with the wide spectrum of SANRAL's stakeholders, this portfolio provides a record of their satisfaction with the Agency's community impact. Various stakeholder engagement platforms were pivotal in assessing these satisfaction levels and were leveraged to inform SANRAL's future strategic approach.

Challenges

There are a number of barriers that hamper effective community engagement, including the political climate, service delivery protests and budget constraints, among others.

Although the Stakeholder Relations and Social Facilitation portfolio strives to conduct engagements in all areas impacted by SANRAL projects – particularly in rural and remote areas – preference is sometimes given to CAPEX and priority projects, where more communities stand to benefit in terms of job opportunities and participation by targeted enterprises.

Managing stakeholders expectations in this regard continues to pose a challenge, since economic opportunities are minimal, particularly in rural and remote areas across South Africa and in light of the negative economic impact of COVID-19.

Highlights

The introduction of virtual platforms for stakeholder engagement during the peak of the COVID-19 pandemic presented an important opportunity, allowing SANRAL to continue to engage with key stakeholders despite lockdown restrictions.

Virtual platforms allow for the maintenance of digital databases and for online invitations, RSVPs and registrations for upcoming engagements. This has mitigated the risks to the working team and its stakeholders.

This practical solution has allowed SANRAL to continue promoting its brand while engaging, informing and forging collaboration with stakeholders. SANRAL is also aware of challenges in areas that have not yet transformed and as such as a hybrid approach forms part of the mechanism used for digital engagements.

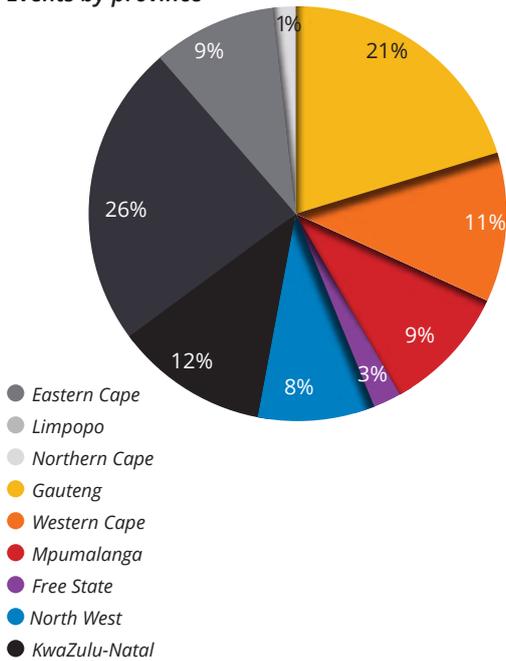
Event outreach to the public

A below-the-line agency was appointed in 2021/22 to help increase the number and quality of engagement initiatives and events. However, restrictions associated with COVID-19 continued to be a challenge during the reporting year. Virtual platforms were integrated to either replace or support most live events. This helped to increase reach, especially when restrictions limited the number of attendees at in-person events.

As restrictions were eased, the number of events and outreach activities was significantly ramped up to maximise impact, while still adhering to the regulations in place. In 2021/22, SANRAL hosted a total of 103 activations, outreach programmes and corporate events, which is almost three times more than in the previous financial year.

SECTION 2: CAPITALS AND PERFORMANCE

Events by province



SANRAL focused on diverse event types targeting specific stakeholders in order to amplify its message across various communities. This resulted in new events being developed during the reporting period, such events include SANRAL’s scholarship and bursary drives, which targeted approximately 2,000 learners (Grades 7–12) at disadvantaged schools across the country.

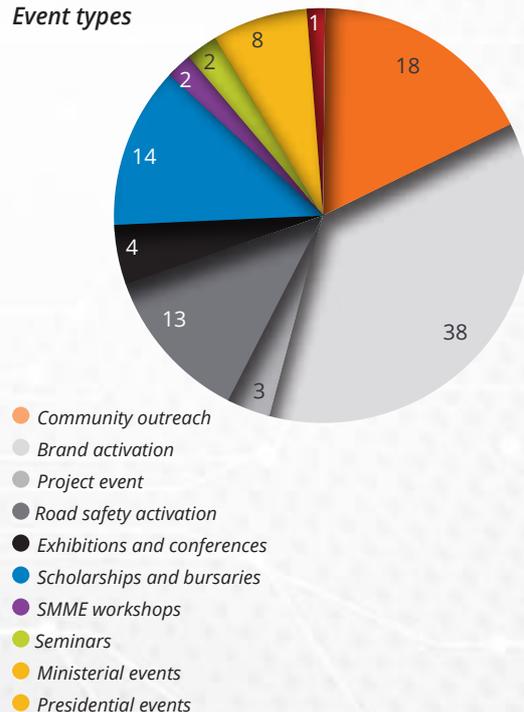
The main objective was to encourage learners to apply for SANRAL’s schooling and higher education funding opportunities, as well as to educate them about the changes made by SANRAL to its Scholarship and Bursary Programme.



SANRAL event types in 2021/22



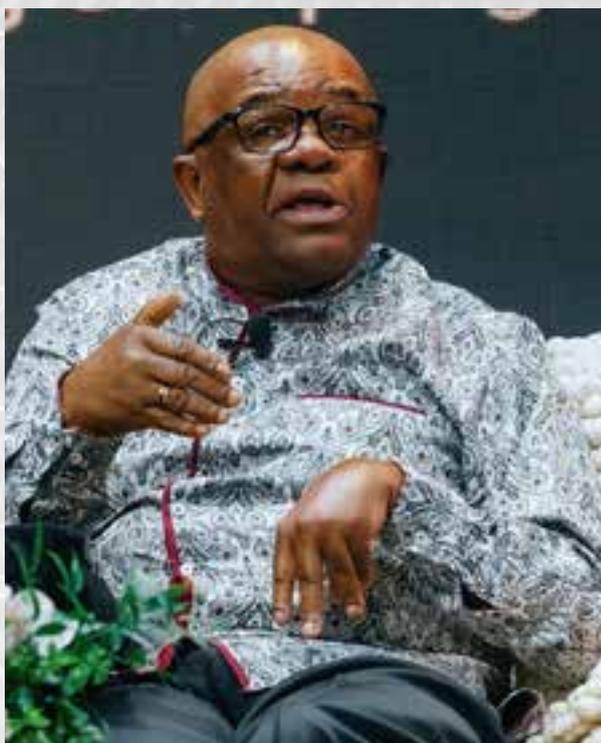
Event types



Internal and external event highlights

Some of the highlights from SANRAL events and outreach activities include:

- SANRAL's inaugural Men's Month Seminar was well received and will be expanded in the upcoming financial year.
- As a result of the scholarship and bursary events, applications for the programme reached a new high, attracting applicants from all corners of South Africa.



6.6.2 Advertising and marketing

SANRAL's advertising and marketing initiatives are designed to improve the nation's perception of the brand and the public's understanding of the SANRAL mandate.

This is done through:

- Positioning SANRAL as a leader in infrastructure development and economic transformation
- Illustrating SANRAL's contribution towards creating a better South Africa for all
- Showcasing SANRAL's service delivery and activities and its use of taxpayer funds
- Profiling SANRAL as a well-functioning and capable SOE that is delivering on its mandate while playing an important role in supporting government's policy objectives

In 2021/22, SANRAL flighted nine strategic campaigns, along with multiple tactical campaigns, addressing the key brand pillars of Roads, Mobility, Road Safety and Stakeholder Relations.

Various key messages were spread across television, radio, print media, digital media, outdoor media, wall murals, WiFi-enabled wall murals, transit media, DBI and airtime vouchers. As in all aspects of the business, strong emphasis is placed on supporting local business and community media in advertising and marketing. This varies from community TV, radio and print to alternative media such as airtime vouchers bought from community media partners.

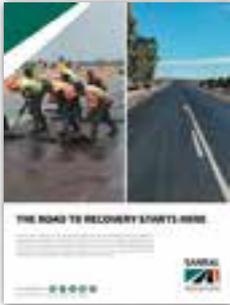
In the reporting period, 57% of the media budget was spent on commercial mainstream media, 43% on community media and 10% on digital media. The total spend on advertising and marketing amounted to R128 million. This was up from R53 million in 2020/21, but still lower than previous years (R148 million in 2019/20 and R158 million in 2018/19). The reduction was due to the global COVID-19 pandemic and resulting lockdowns, which severely impacted advertising and marketing across all industries, both nationally and internationally. Importantly, this fiscal year saw an increased focus on the promotion of priority regional projects.

Summary of advertising campaigns

	Campaign	Mass media	Purpose
	'New Beginnings' Corporate Campaign (New)	TV Radio Print Outdoor Digital Media	Developed in 2021, in the wake of the pandemic and the ensuing economic downturn, this was the latest in our campaign series following on from 'World-Class Infrastructure'. Here we went back to the 'benefits' – this time promoting SANRAL infrastructure development as critical to South Africa's economic revival. The campaign also showcased transformation with the empowerment of women and SMMEs in the construction industry.
	COVID-19 Thank You Corporate Campaign (Rerun)	TV Radio Digital Media	This was a rerun of the proactive campaign first run in the early days of the pandemic and lockdown level 5 (April 2020), where SANRAL thanked South Africans for staying home and off the roads. The campaign promoted the importance of lockdown compliance and served to position SANRAL as a socially responsible and caring brand.
	'World-Class Infrastructure' Corporate Campaign (Rerun)	TV Radio Print Outdoor Digital Media	Developed in 2019, this campaign focused on the basics of SANRAL's work and highlighted the 'wow factor' of key projects. These included the Mount Edgecombe Interchange, Msikaba Bridge and the William Nicol Interchange. The campaign featured narration and music by Ladysmith Black Mambazo, adding local warmth to the 'cold world' of concrete and bitumen.
	N2N3 Freeway Upgrade Project Campaign	TV Radio Print Digital Media	The first phase of communications (the drive for a better KwaZulu-Natal) served to inform and educate the public on the need for the upgrade and the associated inconveniences. The second phase included more informative traffic advisories relating to the different road works, with colour-coded alerts describing the status and severity of the inconvenience.
	N2 Wild Coast Project Campaign	Radio drama	This rerun campaign showcased the work that SANRAL is doing in the region and how the construction and development of new roads serves to uplift local communities. It demonstrated that SANRAL not only serves to build roads but also communities. A replacement campaign is now being developed.
	Huguenot Tunnel Partial Closure Campaign	Radio Print Digital Media	The first phase of communications was to inform and educate the public about the partial closure to mitigate potential negative sentiment. The second phase served to thank road users for their patience – and remind them that our infrastructure is world-class and meets international safety standards.
	Moloto Road Project Campaign	Radio Print Digital Media	This project campaign, a refresh, serves to sustain awareness of the upgrade and the benefits it brings for locals, SMMEs and the interlinked provincial economies. It underscores the Safety Pillar by building on the idea that road upgrades improve safety. It also promotes the need for personal safety.



Campaign	Mass media	Purpose
'Whoa' Road Safety Campaign (Rerun for 5 years)	TV Radio Print Outdoor DBI Transit media WiFi-enabled murals Digital media Digi screens Till slips Airtime vouchers	This road safety initiative serves to help people recognise their 'Whoa' moments and do the safe thing rather than get behind the wheel. The campaign was developed for the Easter and festive periods. A replacement campaign is being developed.
365 Road Safety Campaign (Rerun for three years)	Radio Print Outdoor Digital media	This campaign encourages safe road use by appealing to parents' desires to be good role models for their children. It demonstrates that children learn from adults' actions: if parents practice good road safety behaviours then their children will, too.
Matric Congratulatory Tactical Campaign	Print Digital media	This campaign positions SANRAL as a leader in investing in youth development and the future skills of the nation. It promotes the importance of education.
Scholarship and Bursary Tactical Campaign	Radio Print Digital media	This campaign focuses on young people who have benefited from SANRAL's internship and bursary programme, highlighting the Agency's contribution to youth development.
SMART Mobility Tactical Campaign	Digital Social media	Building the Mobility Pillar, this campaign promotes the SANRAL brand as world-class, and future-facing. SANRAL is seen as embracing the Fourth Industrial Revolution.
Women's Month Tactical Campaign	Radio Print Audio visual Digital media	This campaign builds on the internal Stakeholders Pillar, recognising and profiling the inspirational women of SANRAL who are helping to build both the brand and the nation.
Men's Month Tactical Campaign	Audio-visual	This campaign builds on the internal Stakeholders Pillar, recognising and profiling the inspirational men of SANRAL who are helping to build both the brand and the nation.
Small Business Development Tactical Campaign	Print Radio	This campaign promotes the fact that SANRAL is on a major drive to help transform the local construction, engineering and related industries.
Anti-Scam Tactical Campaign	Print Radio Digital media	This campaign advises the public about tender scams and informs them about legitimate SANRAL processes. It also mitigates potential negative sentiment.



Campaign	Mass media	Purpose
Regional Reseals Tactical Campaigns	Print Radio Social media	This campaign promotes the importance of ongoing maintenance.
Contactless Payment	Radio	This campaign promotes SANRAL as socially responsible and proactive in the fight against the global pandemic.
CEO Search Announcement	Print Digital media	The intent was to inform about and seek applications for the CEO position.



THE DRIVE FOR WORLD-CLASS INFRASTRUCTURE.

Durban is the busiest port in Sub-Saharan Africa and the N3 is South Africa's freight transportation backbone, carrying over 80% of all imports and exports along the Durban-Gauteng Corridor. SANRAL has been hard at work refurbishing and upgrading the Hammarisdale Interchange between Durban and Pietermaritzburg, as part of the planned Government Strategic Integrated Projects (SIP 2) that will develop the Durban-Free State-Gauteng logistics and industrial corridor.

This is the drive for a better KwaZulu-Natal.

www.sanral.co.za



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Advertising and marketing achievements

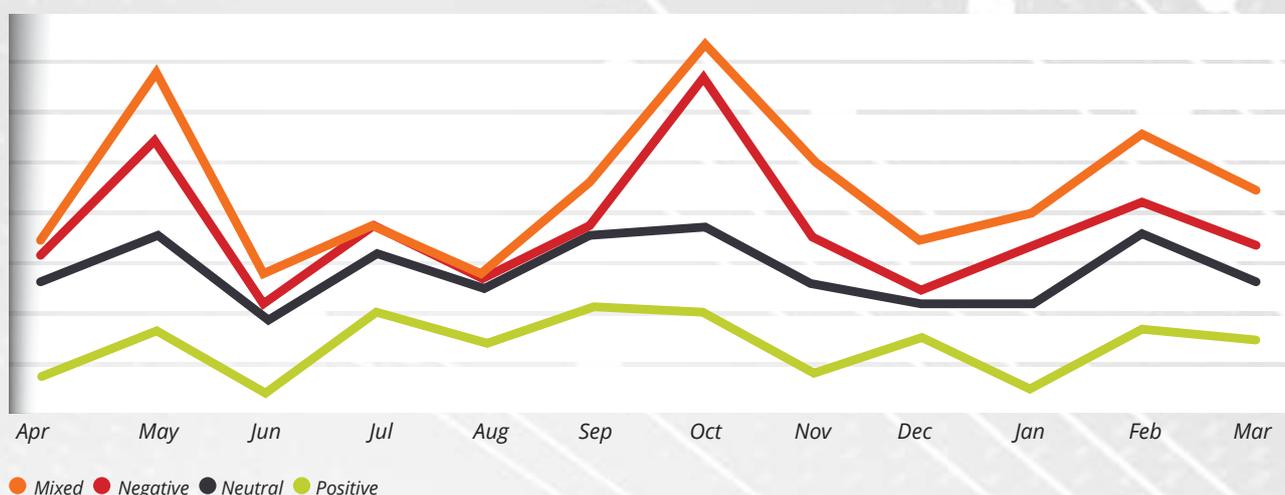
Advertising and marketing initiatives over the past few years have served to reduce negative perceptions of SANRAL and improve the reputation of the brand. The 2021/22 initiatives were equally effective in this regard. Research by Kantar (November 2021), a leading provider of audience measurement services, tested the effectiveness of the ‘New Beginnings’ and associated campaigns.

The campaign highlights include:

- Overall campaign reach achieved a new high of 95.2%.
- This high was led by TV, demonstrating the importance of a through-the-line approach.
- The ‘impact’ score dropped to 5.0, which is below the norm. However, this was still considered a success given the context of the pandemic.
- The ‘brand equity’ score remained static at 10.4% (again, a success given lockdown conditions).
- ‘World-class’ and ‘local’ remain key messages to build on in future campaigns.

Measures of media sentiment

Sentiment of media articles about SANRAL				
Month	Positive	Neutral	Negative	Mixed
April	89	186	52	22
May	176	182	181	143
June	56	134	43	49
July	213	111	45	1
August	147	106	18	19
September	219	142	17	91
October	204	170	299	70
November	88	178	88	154
December	159	74	19	103
January	58	173	108	65
February	177	183	65	132
March	155	116	74	112



Measures of media engagement

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	TOTAL
Media releases	7	6	16	7	8	14	19	10	6	2	13	5	113
Interviews	7	4	11	1	16	17	24	7	4	9	12	12	124
Media queries	12	15	10	12	12	19	15	18	5	6	11	10	145
Traffic advisories	6	4	8	3	9	8	4	5	0	2	12	7	68

Media engagement over five years

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/2022
Media releases	90	110	135	47	63	113
Interviews	79	40	38	14	57	124
Media queries	356	200	181	135	129	145

6.6.3 Publications and content

SANRAL’s publications and content strategy supports brand building and raises brand awareness. It also boosts employee brand loyalty and stakeholder reach and engagement. It does this through an array of materials across various platforms.

Internal and external publications comprehensively communicate SANRAL’s mandate, vision, brand and projects to key stakeholders through consistent and aligned brand messaging that underscores the impact of key activities.

The range of publications produced by SANRAL is extensive, but the content is cohesive and integrated. At least seven stakeholder groups use SANRAL publications, and this cohesion means that a golden thread of messaging is carried across the various media – from reports to e-newsletters to social media posts.

SANRAL produces up to 12 publications in any one month and there are currently 28 individual SANRAL titles. More than 125 digital and print publications were developed during 2021/2022.

Up to 100 internal publications are produced per year, including 11 issues of *InRoads*, four of *On the Road*, and 60+ communiques (monthly to Exco, quarterly to the Board and weekly to staff). In 2021/22, all of these were distributed in a digital format only.

The publications provide information on SANRAL’s projects and people, its impact on communities, stakeholder engagements, tender procedures, the availability of assistance and support, and pertinent information on roads infrastructure in the country.

The internal communications appear far more frequently than the external publications.

The internal publications reach SANRAL leadership (Board, Exco, management) and all employees.

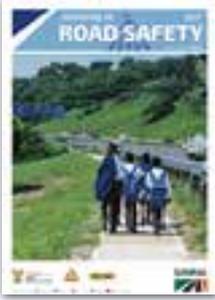
The external communications reach a much larger audience, which includes:

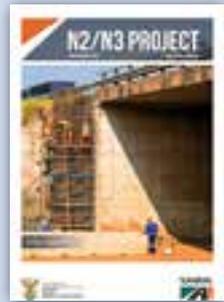
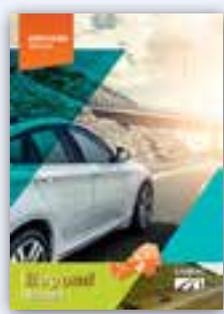
- Government
- The media (community, regional and national)
- The public, including specific groups such as women, youth, schools and parents, and civil society (e.g., unions, traditional leaders and other interest groups)
- Service providers (engineers, entrepreneurs, SMMEs and investors)



The following table provides an overview of the publications produced in 2021/2022.

Details of SANRAL publications

TITLE	AUDIENCE	FREQUENCY
NATIONAL EXTERNAL PUBLICATIONS		
	<p>By the Way</p> <p>A 24-page A3 publication that features content across various strategic areas, including SMME development, community development and major project updates in the regions and nationally.</p>	<p>General public</p> <p>Six/year</p>
	<p>Integrated Report</p> <p>Overview of SANRAL's delivery and achievements during the financial year.</p>	<p>Key stakeholders</p> <p>Annual</p>
	<p>People's Guide</p> <p>People's version of the annual Integrated Report, which summarises its key highlights.</p>	<p>General public</p> <p>Annual</p>
	<p>Investing In series</p> <p>Road Safety Communities Youth</p> <p>Various pillars are covered across each edition, focusing on community development, road safety and youth empowerment.</p>	<p>General public General public Youth</p> <p>Three/year</p>
	<p>Toll Tariff booklet</p> <p>The booklet presents a summary of the annual toll tariff increases.</p>	<p>General public</p> <p>Annual</p>

TITLE	AUDIENCE	FREQUENCY
PROVINCIAL PUBLICATIONS		
	<p>Hello series Hello NW Hello NC Hello Gauteng Hello Mpumalanga Hello WC Hello KZN Hello FS Hello Limpopo Hello EC Hello Mzansi</p> <p>Each edition focuses on information and projects in the respective province, including major project updates, RRM updates, community development, road safety and education, SMME development and youth development.</p>	<p>General public within province</p> <p>Ten/year</p>
	<p>Booklets on specific projects Moloto Road N2 Wild Coast Road N2/N3</p>	<p>Geographical areas impacted by these strategic projects</p> <p>Annual</p>
	<p>Beyond Roads (October Transport Month) One per region</p> <p>This covers major project updates and highlights in the region.</p>	<p>General public within the four regions</p> <p>Annual</p>
Publications for internal and external stakeholders		
	<p>N-route</p> <p>This features infrastructure project updates for key external stakeholders.</p>	<p>Stakeholders in government, finance and industry</p> <p>Four/year</p>

TITLE	AUDIENCE	FREQUENCY
 <p>On the Road</p>	<p>On the Road</p> <p>Updates are provided on current infrastructure, engineering and innovation within the global and South African context.</p>	<p>SANRAL employees</p> <p>Four/year</p>
 <p>InRoads</p>	<p>InRoads</p> <p>This internal publication includes content of interest to staff, including lifestyle features.</p>	<p>SANRAL employees</p> <p>11/year</p>
 <p>Annual Performance Plan and Report</p>	<p>Annual Performance Plan and Report</p> <p>This charts SANRAL's performance against key performance indicators.</p>	<p>SANRAL stakeholders</p> <p>Four/year</p>
 <p>Communique/Staff mailers/Guides</p>	<p>Communique/Staff mailers/Guides</p> <p>These cover a range of issues, including Board resolutions, National Treasury instruction notes, SOPs, surveys, COVID regulations, etc.</p>	<p>SANRAL employees</p> <p>Monthly, quarterly, weekly and as and when required</p>
 <p>Transformation Newsletter</p>	<p>Transformation Newsletter</p> <p>This covers transformation in the construction and related industries, promoting stability and inclusivity for everyone across SANRAL's operations.</p>	<p>SANRAL employees</p> <p>Quarterly</p>

6.6.4 Social media platforms

Social media is one of the most cost-efficient digital marketing methods used to syndicate content and increase SANRAL’s visibility. Our social media strategy has greatly increased our brand recognition and engagement with a broad audience of consumers. There was increased interest in all SANRAL’s social media properties and the Agency sustained this through a constant flow of fresh, relevant content. A consistent presence was maintained throughout the year.

Social media following and activity

		Total followers/ fans/ subscribers 31 March 2022	Annual growth followers/ fans/ subscribers	SANRAL posts/ tweets/uploads	Engagement
	Facebook	272,072	40,685	851	2,762,305 (3.5%)
	Twitter	82,601	26,779	2,623	116,254 (4.2%)
	YouTube	12,557	249	86	767,904 views
	Instagram	13,963	1,374	519	23,735 (0.2%)
	LinkedIn	39,332	11,732	420	90,724 (6.2%)

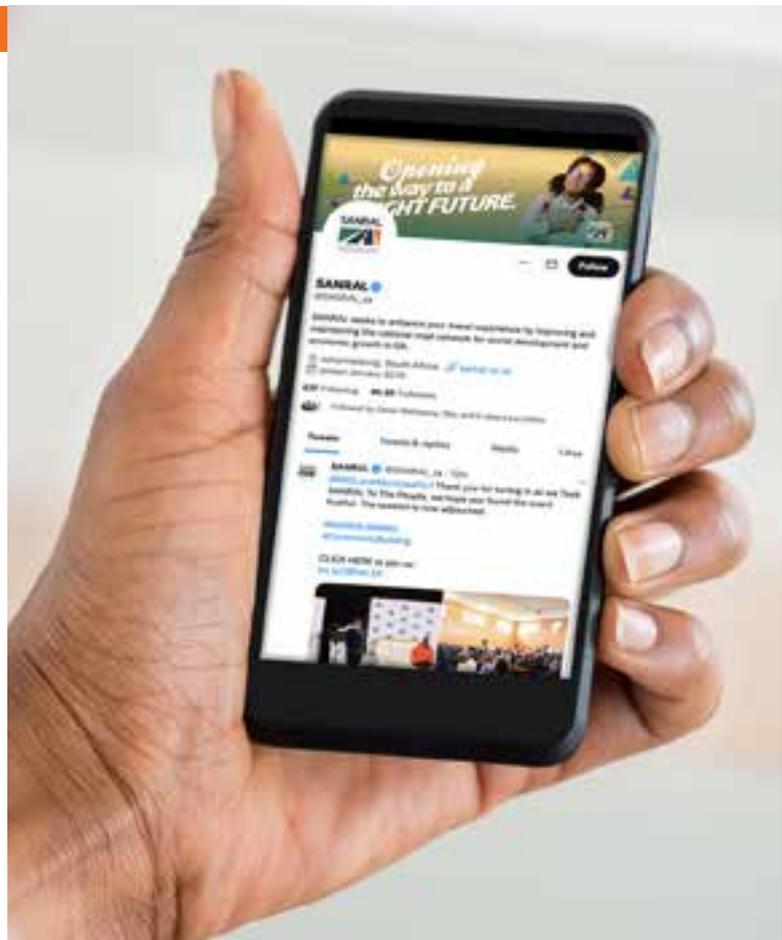
6.7 INFORMATION TECHNOLOGY

The year in review

Four years into the five-year span of the Information Technology Strategy 2018–2023, we reflect on its objectives, with a focus on ensuring that the ICT function enables SANRAL to achieve the strategic goals set out in its Horizon 2030 strategy.

The ICT unit is fully dedicated to the organisation’s mission of providing a road transport system that delivers a better South Africa for all. The ICT strategy was developed in 2017/18 and prepared SANRAL for the coronavirus pandemic and its repercussions.

A number of strategic choices within the ICT strategy 2018–2023 helped to ensure the Agency’s resilience during the pandemic.



Flexibility of technical infrastructure

Robust technical infrastructure is the foundation upon which SANRAL's ICT Strategy and investments rest. Going forward, SANRAL's technological infrastructure must offer architectural flexibility to ensure that the introduction of new technologies and business applications is both agile and easy.

In 2017/18, SANRAL deployed the following solutions that prepared it for the unprecedented impact of the pandemic:

- Point-to-point video conferencing – 2017 (added Teams 2020)
- Information security refresh in 2017
- Converged infrastructure through our datacentre refresh
- Office 365 on premises in 2018 and migrated to the Cloud in 2020

Upgrading unsupported and end-of-life systems

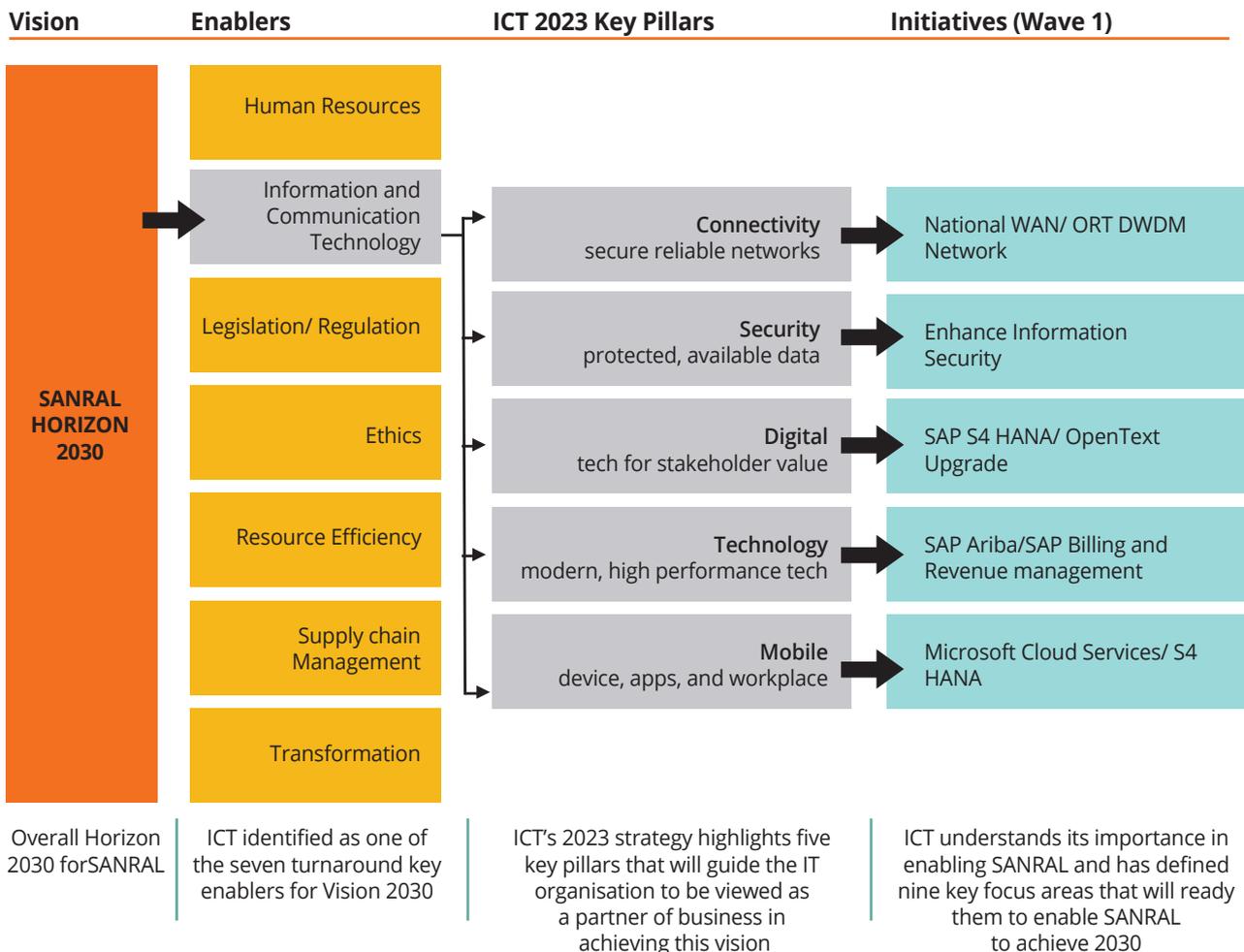
Replacing unsupported and old systems will produce better performance and improve connectivity among user-based systems within SANRAL. It will shift more control and responsibility for use of functionalities to the end user.

Appropriate leveraging of cloud infrastructure

Cloud deployments have become more complex, and a broad cloud strategy was recognised as a critical enabler of success.

Investing in information security

Security solutions should serve to protect our infrastructure, effectively respond to breaches and earn the confidence of our customers and other stakeholders.

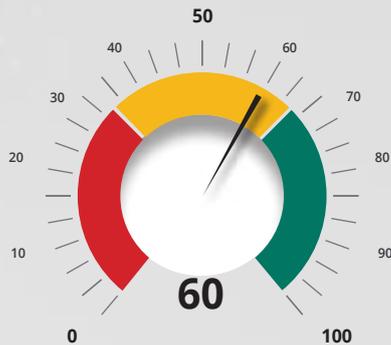


ICT strategic objectives

Create a data-driven organisation and support better decision-making processes

Build good data management practices.

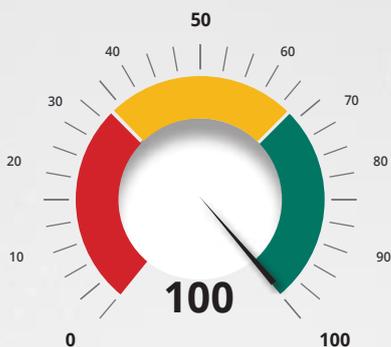
- Build an analytics platform that works for everyone
- Improve the standard of reporting



Ensure end-user satisfaction through customer-centric services

Drive customer-centric services through continuous improvements.

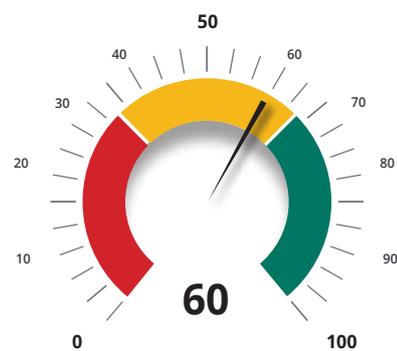
- Develop a culture in ICT that is professional and friendly, encourages leadership, cultivates collaboration, fosters continuous improvement/ learning and promotes innovation



Drive innovation and compliance by mobilising the organisation through digital transformation

Keep SANRAL relevant in the digital space.

- Develop digital capabilities within the organisation
- Define digital services based on the evolving needs of the organisation

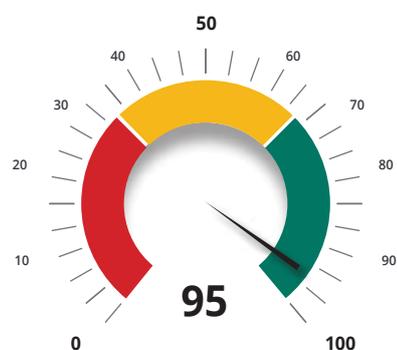


Modernise technology.

- Corporate Wi-Fi capability throughout the organisation
- Implement Office 365

Digital enterprise resource planning (ERP) services:

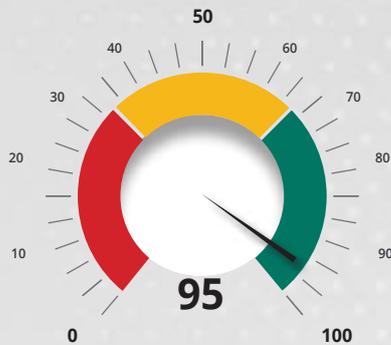
- Upgrade to SAP S/4 HANA
- Achieve innovation, integration and scale



Drive innovation and compliance by mobilising the organisation through digital transformation. (continued)

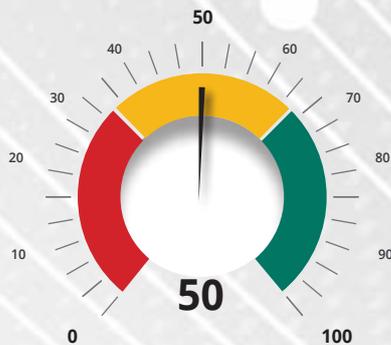
Leverage the latest emerging technology: next-gen ERP system, support and operational excellence, automation and seamless technology integration with core business requirements.

- Human resources
- Finance
- Portfolio and projects
- Procurement
- Marketing and communication



Unify communications and ensure easy management of complex communication across multiple channels, devices and user preferences.

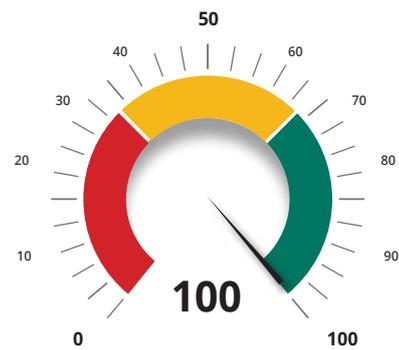
- Unified communications (UC) solution
- UC research and development
- UC design and architecture UC solution development and implementation



Enhance information security

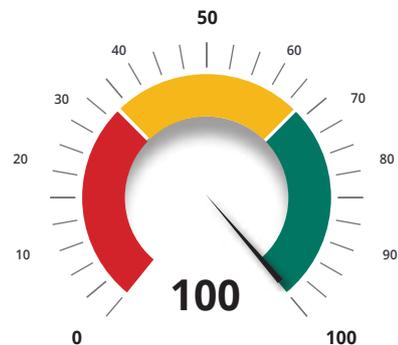
Policies and procedures.

- Ensure all security-related initiatives are aligned with recognised industry best practice
- ISO 27001/27002 and SANS or other current standards



Improve security of systems and network services and implement best-of-breed monitoring and security management systems and networking devices.

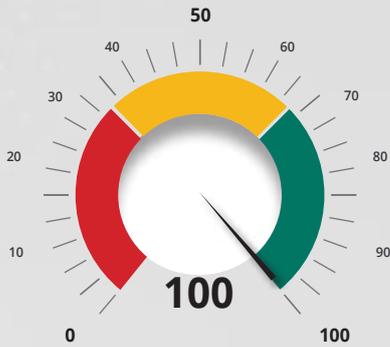
- Information security hardware refresh
- Risk-based assessment and refresh of network switch
- Continuous improvement of security operations and maintenance



Increase capacity through smart technology

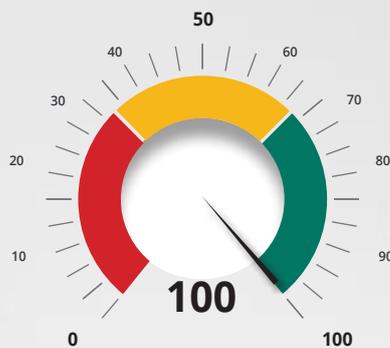
Smart datacentre

- Deliver a comprehensive logical design for a virtualisation environment that addresses business requirements



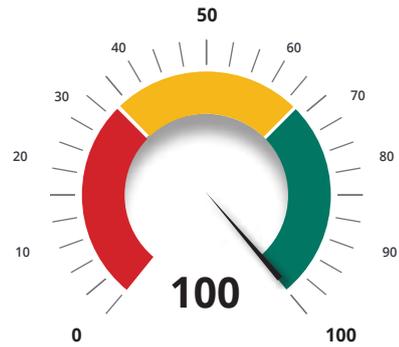
Implement a high-availability strategy for critical business systems.

- ERP
- EDMS
- Exchange
- Oracle



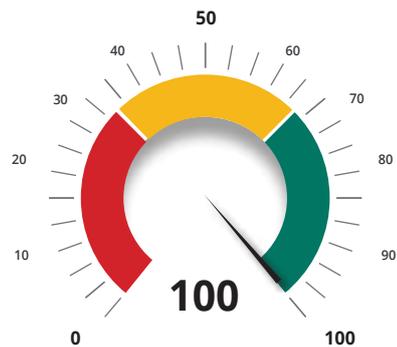
Create agile infrastructure that ensures technology infrastructure is scalable and can support the required business agility for the following:

- Networks
- Storage
- Operating systems
- Applications
- End computer technology



Investigate how cloud service implementation can best be utilised for non-core services.

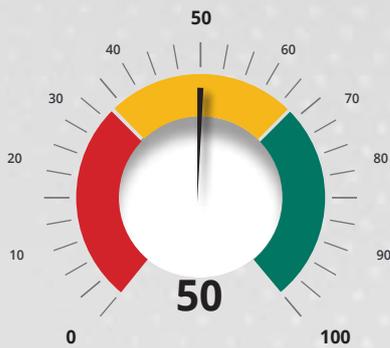
- Exchange (e-mail)
- ERP services



Increase capacity through smart technology

Investigate the viability of consolidating all ICT infrastructure services when replacing services that have reached the end of useful life.

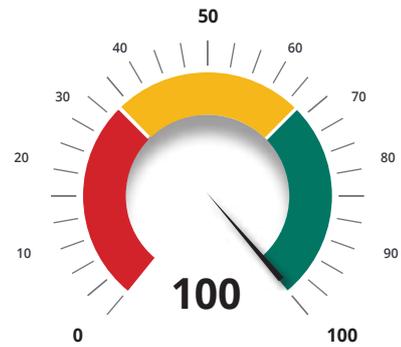
- Corporate technology services
- ITS services
- Toll systems



Create a paperless enterprise

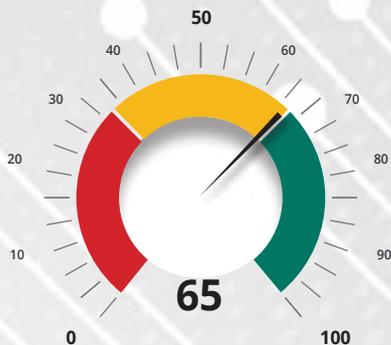
Create a digital signature strategy.

- Consider the feasibility of utilising a digital signature system

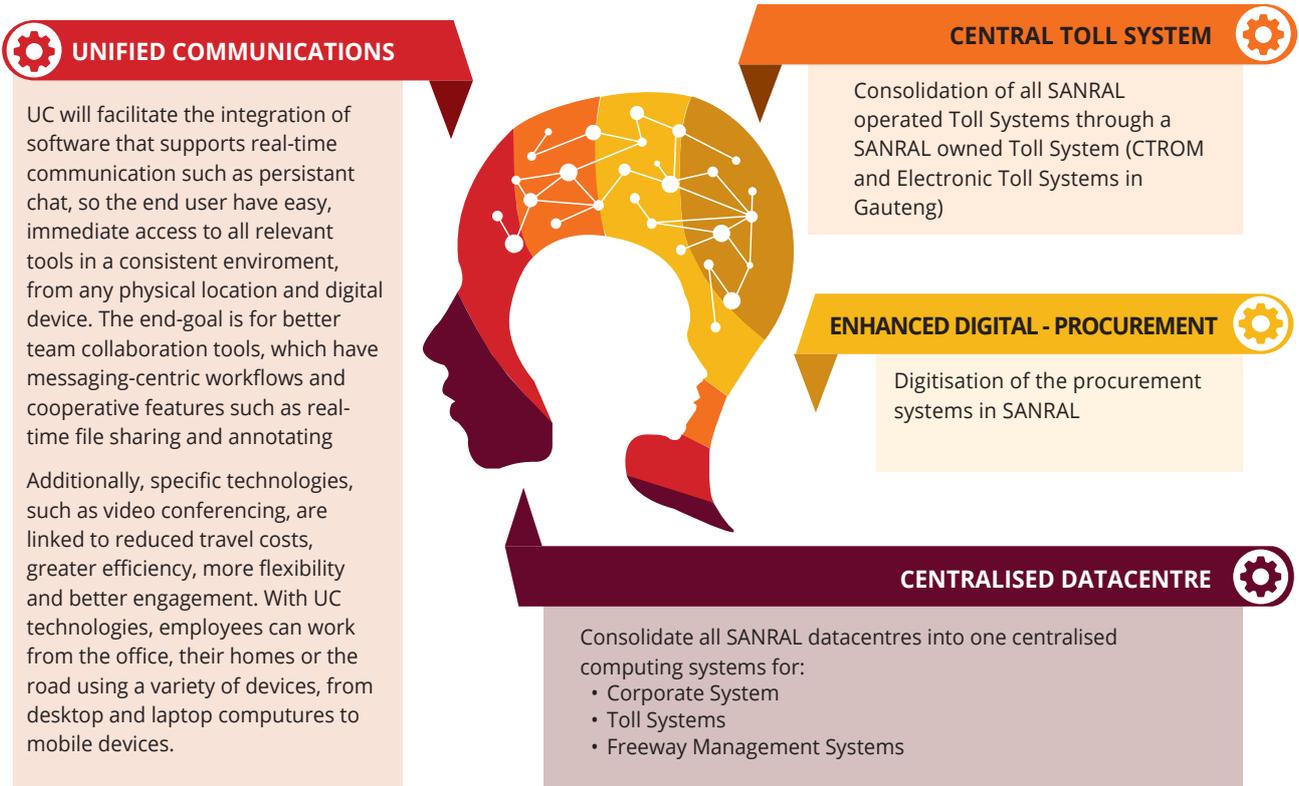


Increase capacity.

- Leverage SANRAL's fibreoptic infrastructure through partnerships with telecommunications companies
- Leverage telecommunications services to build a wide area network (WAN) for SANRAL's own operations and strategic requirements
- Upgrade internet capacity



Focus for the final year of ICT Strategy 2018–2023



The 'new normal'

The COVID-19 pandemic redefined the operating conditions within SANRAL in a short time, leading to organisational challenges and changes. The ICT environment has evolved and adapted to these new ways of working.



This is aimed to deal with uncertain situations and innovative approaches/solutions in a time-bound manner and develop innovative approaches/solutions in a time-bound manner. These organisational shifts allowed for flexible work arrangements.



Having been declared a global health emergency, COVID-19 has created ripple effects that have been felt by organisations worldwide. With many economies having only been recently opened, many organisations are working on recovering from the sustained devastating loss experienced in the first year of the pandemic. As with SANRAL, on-site work was limited to essential services, with offices across the country closing and the entire staff complement working remotely.

The ICT unit, however, still needed to maintain essential operations during the lockdown period. This led to a significant shift in IT operations: work continuity was prioritised over every other initiative. Guided by its strategy, the ICT unit immediately mobilised its response.

Almost overnight, a technology loaner programme for mobile devices was triggered to support financial year-end activities and other critical business requirements. A technology assessment was performed and all essential work could be performed remotely. This was enabled by the ICT 2018–2023 strategy initiatives and deployments, with very little else needed to allow for business continuity.

- Teams meetings:** Our MS Teams services became indispensable once off-site work became the rule rather than the exception. In addition to hosting distributed meetings and events, it enabled remote, interactive services on a new scale.
- VPN:** As the need to securely access SANRAL resources from remote locations across the country grew, we realised that remote access was up to the task.
- Microsoft Online 365 (O365):** The migration from Microsoft Exchange to cloud-based O365 enabled collaboration from anywhere and supported the launch of Microsoft Teams and OneDrive file hosting, without the need for a VPN.



Workplace evolution



The workplace | Work got executed through

- Remote and distributed teams
- Key technologies enabled virtual working (i.e., Cloud solutions, collaboration platforms, video conferencing)
- The technology strategy and deployments are flexible, secure and available across the technology stack for employee enablement

The workplace is to become digital as employees and stakeholders across the ecosystem have been communicating and collaborating in different and new ways. This trend will continue as SANRAL realises the benefits of a digital workplace.

SANRAL has optimised its operations.

A balance of the physical and digital workplace is the way forward.



Physical interactions	Physical - virtual interactions	Virtual interactions
These include in-person meetings, common working spaces, and facilities. This was the traditional practice until the COVID-19 outbreak	It is a combination of physical, and remote and distributed workforce that has become more mobile with the use of key technologies (i.e., collaboration platforms, video conferencing)	Remote and distributed teams use technologies to connect and work together. These technologies allow easy access to any type of worker across the globe
Ways of working: The goal is to forge productive and collaborative ways of working within and outside the organisation	Technology: The key is to adopt the right tools for your workforce to enhance their efficiency	Risk mitigation: The approach is to support with the appropriate governance structures and risk controls

A functional realignment for the future

As SANRAL continues its recovery from the impacts of the pandemic, its ICT unit is forging ahead with the implementation of the ICT strategy, which is designed to enable resilience, agility and modernisation of the organisation.

Among many other tasks, the next steps include a strong emphasis on:

- A talent search for a diversely skilled IT department is essential, especially with the consolidation of SANRAL datacentres, toll systems and the Freeway Management System (FMS).
- The implementation of unified communications to take on regular, centralised communications responsibility.
- A reboot of IT to make it more accessible and relevant to the organisation in a pandemic environment or while recovering from the impacts of the pandemic.
- The digitisation of the key services.
- A genuine culture of continual improvement.



AGSA	Auditor-General of South Africa	IDP	Integrated Development Plan
ALCO	Assets and Liabilities Committee	IFRS	International Financial Reporting Standards
ARC	Audit and Risk Committee	km	kilometres
ASANRA	Association of Southern African Roads Agencies	KPI	Key Performance Indicators
Bakwena	N1-N4 Bakwena Platinum Corridor Concessionaire (Pty) Ltd	m	million
BBBEE	Broad-based Black economic empowerment	MoU	Memorandum of Understanding
BEE	Black economic empowerment	N3TC	N3 Toll Concessions (RF) Proprietary Limited
bn	billion	NDB	New Development Bank
CDP	Community development project	NMT	Non-motorised transport
CEO	Chief Executive Officer	NMU	Nelson Mandela University
CFO	Chief Financial Officer	NT	National Treasury
CCTV	Closed circuit television cameras	OCI	Overall condition index
CIDB	Construction Industry Development Board	OHS	Occupational Health and Safety
CIPC	Companies and Intellectual Property Commission	ORS	On-road services
COTO	Committee of Transport Officials	PFMA	Public Finance Management Act
CPD	Continuing professional development	PIARC	World Road Association
CPI	Consumer price index	PPE	Property, plant and equipment
CSIR	Council for Scientific and Industrial Research	PPP	Public-private partnerships
DBSA	Development Bank of Southern Africa	PPPFA	Preferential Procurement Policy Framework Act
DEA	Department of Environmental Affairs	PSII	Public Sector Investment Index
DOT	Department of Transport	PT	Public transport
ECSA	Engineering Council of South Africa	QSE	Qualifying small enterprise
EE	Employment Equity	RIMS	Road Incident Management System
EI	Expenditure Efficiency Index	RRM	Routine Road Maintenance
EIA	Environmental Impact Assessment	RSE	Road Safety Education
EME	Emerging micro-enterprise	SABPP	South African Board of People Practices
EMP	Environmental Management Plan	SADC	Southern African Development Community
ETC	Electronic Toll Collection Ltd	SAHRA	South African Heritage Resource Agency
EWT	Endangered Wildlife Trust	SANBI	South African National Biodiversity Institute
FMS	Freeway Management System	SANRAL	South African National Roads Agency SOC Limited
GDP	Gross Domestic Product	SARDS	South African Road Design System
GFIP	Gauteng Freeway Improvement Project	SCM	Supply chain management
GTS	Green Transport Strategy for South Africa: 2018 - 2050	SETC	Social, Ethics and Transformation Committee
HSRC	Human Sciences Research Council	SIMC	Strategy Implementation Monitoring Committee
IAS	International Accounting Standard	SIP	Strategic Integrated Project
ICT	Information Communication Technology	SMME	Small, medium and micro-enterprise
		SOC	State-owned company



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Registration Number: 1998/009584/30

RP154/2022

ISBN: 978-0-621-50381-4

Produced by

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