



Western Cape  
Government

FOR YOU

Transport & Public Works:  
Roads Branch

# THE ROLE OF CONSULTING ENGINEERS IN SERVICE DELIVERY

CESA Presidential Webinar of 16 November 2022

Presented by Keegan de Waal Pr Eng  
Chief Engineer: Construction & Maintenance (acting)  
Chief Directorate: Road Contracts

# OUTLINE OF PRESENTATION

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**Introduction and Context**

**SAICE 2022 Infrastructure Report Card**

**What opportunities exist for Consulting Engineers?**

**Code of Conduct for Registered Professionals**

**Questions and Comments**

**Thanks and Closing**

# Introduction and Context

# DEPARTMENT OF TRANSPORT & PUBLIC WORKS: PURPOSE

*to deliver and maintain transport infrastructure that is sustainable, integrated, and environmentally sensitive that supports and facilitates the social empowerment and economic growth and promotes accessibility and the safe, affordable movement of people, goods and services*



# INTRODUCTION TO WCG ROADS

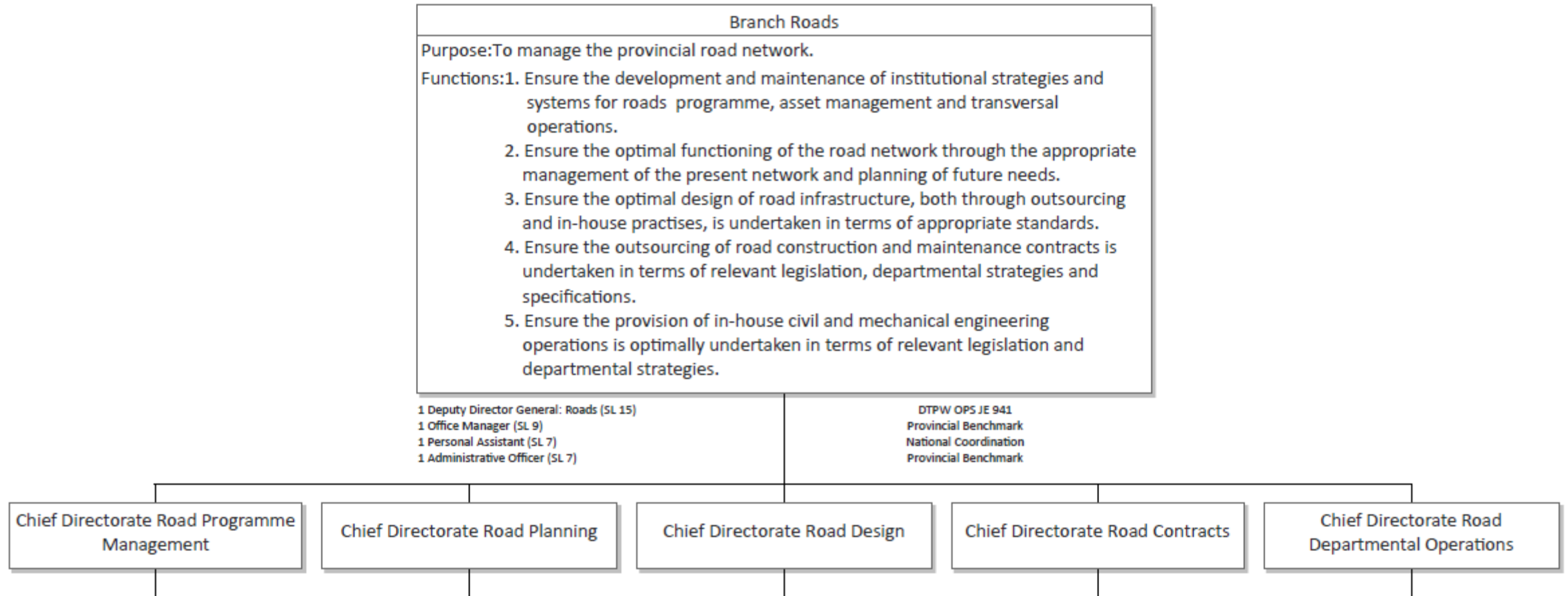
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**WCG Roads is responsible for the management of the proclaimed provincial road network in the Western Cape Province of the Republic of South Africa – both paved (surfaced) and unpaved (gravel) roads**

**WCG Roads manages its performance through the following key strategies**

- **Construct, rehabilitate and maintain the provincial road network:**
  - Implementation of a Road Asset Management Plan with ongoing assessments to ensure roads are safe and rideable
  - Minimum of 11 construction and maintenance projects completed every year
  - Appropriate public signage and information available and improve road safety and operation
- **Offer graduate training towards meeting professional registration requirements with ECSA:**
  - Placement of graduates on Graduate Professional Engineering Programmes
  - Assist candidates with the professional registration processes through guidance and suitable placement with engineering consultancies

# WCG ROADS ORGANISATIONAL STRUCTURE



# 50<sup>TH</sup> CESA AON ENGINEERING EXCELLENCE AWARDS 2022

## Visionary Client of the Year Award

- WCG Roads was proud recipient of this award on 28 September 2022 in Sandton, Gauteng
- This is recognition of the efforts of WCG Roads (and TPW) to strive for excellence in service delivery as a government institution within an ever-changing world and society

For more information, please see the URL link provided below: <https://www.westerncape.gov.za/tpw/news/department-transport-and-public-works-wins-yet-another-major-engineering-award#:~:text=The%20Roads%20Branch%2C%20Department%20of,in%20Sandton%2C%20Gauteng%20last%20night.>

In summary, the Award was adjudicated based on submissions for the following criteria:

- Quality of engineering design
- **Ingenuity, originality and innovation**
- Management of planning and technical design
- Aesthetics of engineering elements
- Budgetary compliance
- Unusual construction methods
- **Influence of consulting engineer on conceptual design**
- **Complexity and sophistication**
- **Responsibility carried by consulting engineer (risk)**
- **Environmental, social and economic sustainability**
- Responsiveness to needs of client and community
- Meeting the client's deadlines for readiness

# SAICE 2022 Infrastructure Report Card

**Table 1** Grading definitions

<b>A:</b> World class	<b>B:</b> Fit for the future	<b>C:</b> Satisfactory for now	<b>D:</b> At risk of failure	<b>E:</b> Unfit for purpose
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# SAICE 2022 Infrastructure Report Card: Roads

**Table 1 Grading definitions**

A: World class	B: Fit for the future	C: Satisfactory for now	D: At risk of failure	E: Unfit for purpose
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Roads	
 <p><b>B+</b> National roads</p>	<p>South Africa's road network is approximately 750 000 km long, making it the tenth longest in the world. About 160 000 km of the network are paved. SANRAL manages 21 403 km of this paved network (13% of these are toll roads), with the balance shared between provinces and municipalities.</p> <p>The proportion of the national road system in poor or very poor condition is below 7% thanks to SANRAL's strong maintenance and expansion regimen, which is excellent by global standards. By contrast, the secondary and tertiary road network is experiencing accelerated rates of deterioration, compromising both road safety and the efficiency of moving freight.</p>
 <p><b>D</b> Paved provincial roads</p>	<p>Most provincial and local road authorities do not regularly undertake or publish assessments of the condition of their road networks, and repairs are therefore typically reactive, e.g. fixing potholes rather than conducting regular preventative maintenance. Moreover, maintenance and improvements are generally underfunded, and the future negative consequences of this trend on the longevity of roadways are rarely assessed.</p>
 <p><b>D</b> Paved roads in the major urban areas</p>	<p>With the exception of the Western Cape, the condition of most paved provincial roads is substandard. There is a risk of further deterioration due to increased vehicle overloading, poor maintenance and the steady reduction of skilled personnel in roads departments. In major urban areas the condition of paved roads has also continued to deteriorate. While obtaining reliable road condition data for smaller municipalities was not possible, their roads generally suffer from significant and increasing maintenance neglect.</p>
 <p><b>D-</b> Other municipalities' paved roads</p>	<p>Provincial and municipal authorities share the country's gravel roads approximately equally. Gravel roads constitute nearly 80% of the country's road network, but few of them are in a satisfactory condition due to lack of capacity and insufficient funding.</p>
 <p><b>E</b> Provincial and municipal unpaved roads</p>	<p>Most South Africans (73% of the population) depend heavily on public and non-motorised transport. Around 20% of workers walk all the way to their place of employment. All public transport users also require pedestrian infrastructure for their first/last kilometre, as well as stops, stations and ranks. Statistics on infrastructure conditions for these modes are mostly unavailable, often due to a complete lack of services. This not only creates inefficiencies in public transport services, but also contributes to an extremely high road fatality rate (12 577 persons in 2021), of which over 40% are pedestrians.</p>

Extracts taken from SAICE 2022 Infrastructure Report Card for South Africa – see pages 6 and 9 specifically

<https://businesstech.co.za/news/government/642791/south-africa-is-slowly-collapsing/>

What opportunities exist for Consulting Engineers?

# SAICE 2022 Infrastructure Report Card: Roads (2)

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## **Main Findings from the Report regarding Roads Infrastructure (see page 33):**

- *There is no reliable database of the lengths and ownerships of roads and reliable condition assessment records*
- *The limited capacity of the majority of road authorities is of great concern*
- *Prioritisation of road expenditure and its uniformity/standardisation*
- *Greater policy clarity required for prioritizing expenditure and methodology for estimation of economic significance*
- *Widespread overloading of roads and poor stormwater management*
- *The gravel road network is too extensive and the budgets too constrained for the entire network to be kept in a satisfactory condition*

# Code of Conduct for Registered Professionals

# Engineering Professions Act 2002: Code of Conduct

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## Code of Conduct for Registered Persons (March 2017 Government Gazette)

**The objectives of the Code of Conduct is to ensure that registered professionals in execution of their work:**

- Apply their knowledge and skill in the interests of the public and the environment,
- Execute their work with the integrity and in accordance with generally accepted norms of professional conduct,
- Respect the interests of the public and honour the standing of the profession,
- Strive to improve their professional skills and those of their subordinates,
- Encourage excellence with the engineering profession; and
- Do not prejudice public health and safety

# Questions and Comments

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Thank you

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