



International Road Federation
Fédération Routière Internationale
Federación Internacional de Carreteras



2022 SARF • IRF • PIARC

**7TH REGIONAL CONFERENCE FOR AFRICA
& PIARC INTERNATIONAL SEMINAR ON RURAL ROADS AND ROAD SAFETY**

CONNECTING AFRICA THROUGH SMART, SAFE AND RESILIENT ROADS

18 - 20 OCTOBER 2022 | Cape Town International Convention Centre

WHAT DOES THE FUTURE HOLD FOR LOW VOLUME RURAL ROADS IN DEVELOPING COUNTRIES SUCH AS SOUTH AFRICA?

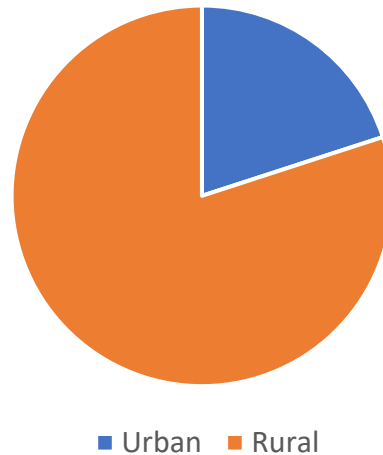
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19 October 2022

An estimated 80% of the developing world's poor live in rural areas and in Sub-Saharan Africa 50% of the total rural population live in extreme poverty



Rural low volume roads play a vital role in the economic growth and sustainability of rural communities and account for 80 to 90% of the road infrastructure

Outline

This presentation will look at:

- Current situation related to South Africa
- Outline relevance of international intervention for rural access and mobility
- Possible solutions and interventions to move rural access and mobility forward

Current situation related to South Africa

South Africa has about 750,000 kilometres of roads that include 131,919 kilometres of unproclaimed roads

| Authority | Paved | Gravel | Total |
|------------------|----------------|----------------|----------------|
| National | 22,197 | | 22,197 |
| Provincial | 48,945 | 173,732 | 222,677 |
| Metro | 51,682 | 14,461 | 66,143 |
| Municipalities | 40,648 | 266,416 | 307,064 |
| Total proclaimed | 163,472 | 454,609 | 618,081 |
| Unproclaimed | | 131,919 | 131,919 |
| TOTAL | 163,472 | 586,518 | 750,000 |

Table 1: Breakdown of the South African Road network

Current situation related to South Africa

- In general the national roads under SANRAL are in a good condition but the state of provincial and local roads vary greatly and in many small towns and rural areas, the roads are in an atrocious condition.
- Improved access and mobility is a critical factor to rural development and economic growth in rural areas
- The road infrastructure in these areas needs serious and sustained attention to have lasting impact on overall **Social Development Goals** for the country

Social Development Goals (SDGs)

- Sustainable transport will enable the implementation of nearly all the SDGs through inter-linkage.
- There are several SDG targets directly linked to transport.
- SDG 9: Industry Innovation and Infrastructure and SDG 11: Sustainable Cities and Communities contain specific indicators for the roads and transport sector.
- SDG 9.1.1: Rural Access Index (RAI) which is a measure of the proportion of the rural population who live within 2 km of an all-season road as a percentage of the total population.

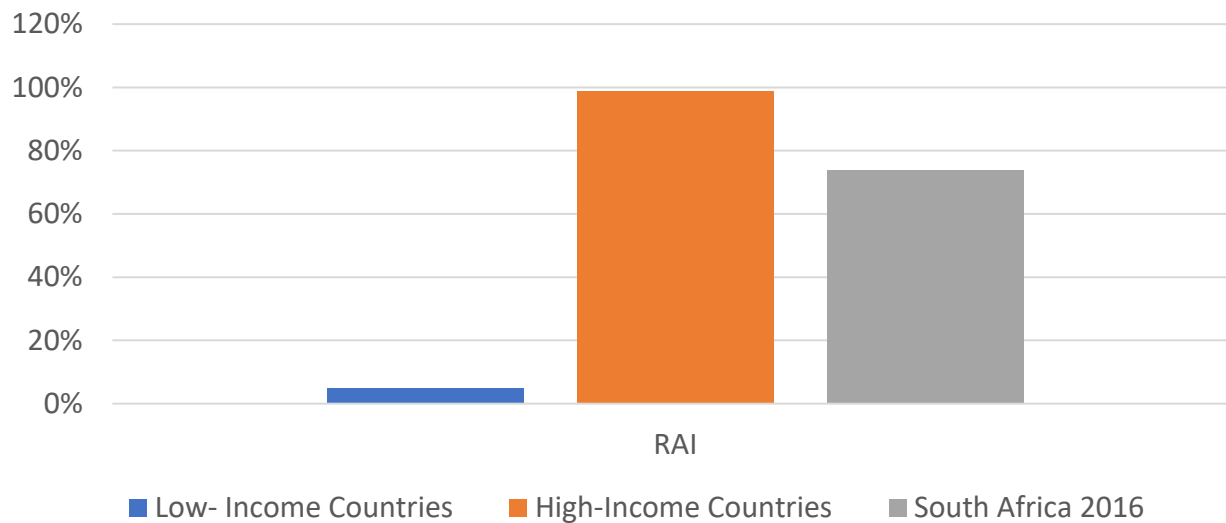
Sustainable Mobility for All (SuM4All)

- Established in 2017
- 55 public and private organisations and companies with a shared ambition to transform the future of mobility.
- The Universal Rural Access paper

The Universal Rural Access paper

1 billion people
in the world do not have access to transport

Rural Access Index (RAI) for different countries ranges from:



26% of the rural population in South Africa live in excess of 2 kilometres from an all-weather road

The Universal Rural Access paper

- Governments like South Africa will have to meet all or most of the investment costs (procurement, technical support, finance and communications).
- And to finance the investment needed, countries should establish a dedicated source of financing (e.g. fuel tax).
- Substantial capacity building is needed to provide the skills required to implement the programme and maintain the asset

The Universal Rural Access paper

Comment on the paper in relation to South Africa

- South Africa has pockets of good practice that should be built on to improve rural access to all areas.
- Unproclaimed roads provide basic access for rural communities and need to be proclaimed. It is these roads that service the vast majority of the rural population (26%) who live further than 2 kilometres from an all-season road.
- Climate resilience is particularly relevant to the rural road network and the provision of all-season access.
- Ongoing and sustainable national rural access programmes need to be underpinned by appropriate and dedicated research.

Technology Interventions

- Appropriate and cost-effective design methods based on locally available materials not necessarily meeting traditional specification with spot improvements in vulnerable areas for climate resilience.
- The use and implementation of the Climate Adaptation Handbook and the Change Management Guidelines should be implemented in South Africa for rural LVRs
- Road building materials that are based on improving marginal materials to counter the scarcity of good quality crushed aggregates
- Alternative materials for surfacing seals that are resistant to increases in rainfall, temperature and radiation caused by climate change is suggested

Technology Interventions

- Improved design of bridges, culverts and geometric design on LVRs to take account of potential increases in rainfall due to climate change and to counter flooding and improve road safety
- Improved condition monitoring techniques for LVRs using satellite imagery, cellphone technology and Unmanned Aerial Vehicles (UAVs) such as drones
- Appropriate and cost-effective Accelerated Pavement Testing (APT) techniques to evaluate the suitability of alternative designs and materials for LVRs using a systemic approach that simulates the increasing effect of the environment related to traffic

Conclusion

- Rural access and mobility are critical to rural economic growth and development and needs urgent attention in the next 10 to 15 years
- Proclaimed rural road network is generally in poor condition due to deferred and inadequate funding for maintenance along with reduced capacity and skills in many authorities to manage the network.
- The large volume of unproclaimed roads providing basic access to some rural communities needs to be addressed

Conclusion

The following is proposed:

- ➔ Adequate funding and good management
 - Appropriate technological interventions to provide all-season access need to be implemented based on current knowledge
 - Technological interventions need to be supported by a research capability to investigate and address future needs specific to rural access and mobility.
 - International interventions such as SuM4All should be supported as they provide an important benchmark for South Africa in terms of their progress to providing all-season access to all rural areas and improving their performance against relevant SDGs.

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Conclusion

The next 15 years are critical to rural development. However, without a sustained plan with adequate funding and suitable management the goals and indicators of progress may not be met

Acknowledgement

- LC Sampson – Sampson Consulting
- FC Rust – PERC
- CSIR



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THANK YOU

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