



# 12<sup>TH</sup> Conference on Asphalt Pavements for southern Africa

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**Advancing sustainable practice –  
finding a common voice and approach to sustainability for  
the South African roads sector**

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# The next 20 minutes...

- Why sustainability?
- Our responses to a growing global problem?
- Re-look at the roads industry: Draft Roads Policy
- A green road network
- Embedding sustainability across all phases of road-building
- Industry structure: current and proposed to move towards a sustainable roads industry
- Comments and discussion please!

***Sustainable development*** is “meeting our own needs without compromising the ability of future generations”  
Brundtland Commission, *Our Common Future*



Cape Town  
Photo: Masixole Feni

“You’ll die of old age,  
I’ll die of climate change.”

# Growing global problem... our response?

Global problem of immense proportions – overwhelming?

## Components of sustainability

- People – Social Justice
- Planet – Environmental Responsibility
- Profit – Economic Efficiency

## What is within our sphere of influence?

What opportunities exist to build into roads industry and communities nationally?

# Re-look at the roads industry

Demonstrable benefits of SA roads industry:

- social and economic
  - mobility of people and goods, and
  - access to job opportunities and markets

Roads are already a **key contributor** to the sustainability and wellbeing of our society.

Embedding sustainability = **Opportunity**

to demonstrate the value of roads AND improve practice  
towards further social, environmental and economic benefits

## South Africa

- Social sustainability is key
- Economic sustainability and efficiencies – constrained construction sector
- Environmental – key resources to sustain life (basic needs) and development

However, there is currently no coherent overarching approach to sustainability...

Draft Roads Policy (DoT) – embed sustainability in the roads industry:  
“*all roads authorities*” must develop “*a green road network,  
which conforms to the principles of sustainability*”  
(Policy Statement 15)

A ‘green road network’ is developed by applying **principles** throughout the road implementation process:

- resource-sufficiency and resource-efficiency in energy, materials and water use
- cost-effectiveness and assessment of economy-wide value
- environmental protection
- social sustainability

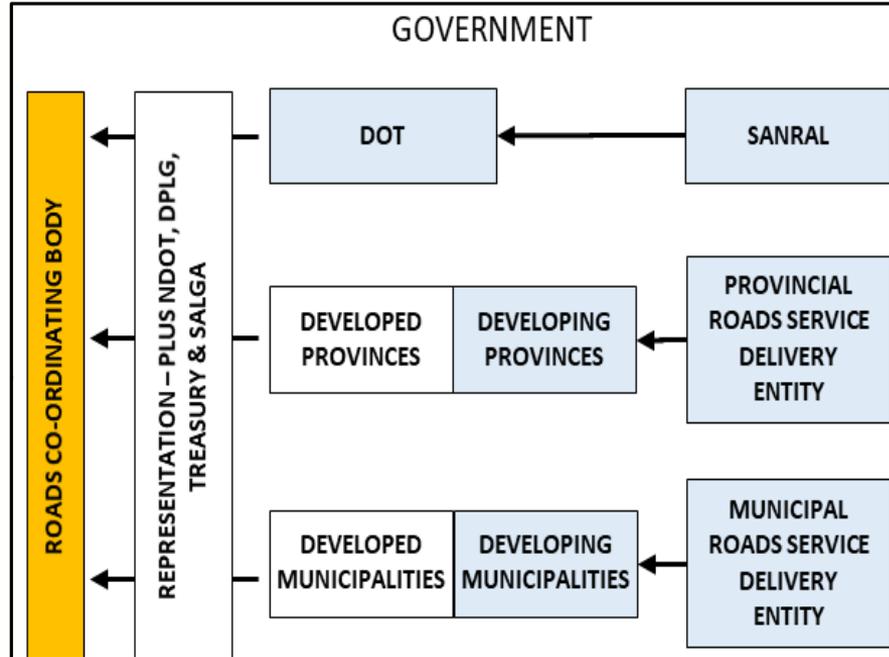
# Each phase of road implementation

Phase	Current good practice	Policy and legislation	Embedding sustainability
<p>Planning – oversight into all phases of the process</p>	<p>Integrated transport planning</p>	<ul style="list-style-type: none"> <li>• National Land Transport Act, 2009</li> <li>• Regulations Relating to Minimum Requirements for the Preparation of Provincial Land Transport Frameworks, 2011</li> </ul>	<ul style="list-style-type: none"> <li>• Social – improved synergy with settlement planning: including non-motorised transport aspects</li> <li>• Social – engaging communities and road users</li> <li>• Environmental – plan for infrastructure end-of-life</li> </ul>
<p>Design and construction</p>	<ul style="list-style-type: none"> <li>• Social – accessibility; labour inclusive</li> <li>• Environmental - Survey of locally available materials</li> </ul>	<ul style="list-style-type: none"> <li>• Legislation – biodiversity and disaster management, Carbon Tax Act (2019), Climate Change Bill, NEM:WA – waste</li> <li>• A range of SANS standards relating to sustainability &amp; EMS, incl. SANS 55392 (Sustainability in Building Construction &amp; other Construction Works)</li> </ul>	<ul style="list-style-type: none"> <li>• Social – non-motorised transport – health &amp; safety</li> <li>• Environmental – resource efficiency across all phases: design for secondary materials, reduced water consumption (150-200kL per layer per km<sup>2</sup>)</li> </ul>

# Each phase of road implementation

Phase	Current good practice	Policy and legislation	Embedding sustainability
Use		NEMAQA – air quality Carbon Tax Act (2019) Climate Change Bill	97% of energy use = petroleum-based products; Transport = 27% of SA's energy demand <sup>1</sup>
Maintenance	Maintenance planning and consideration of economic aspects – particularly for national roads	NEM:WA – waste As above	<ul style="list-style-type: none"> <li>• Social – engage with communities regarding maintenance planning and implementation</li> <li>• Environmental – reduce waste + secondary materials = economic benefits</li> <li>• Economic – internalise costs over life of road</li> </ul>
End-of-life – efficient and wise use of materials	Limited to none	As above	<ul style="list-style-type: none"> <li>• Environmental - recovery and re-use of resources locally = likely social and economic benefits</li> </ul>

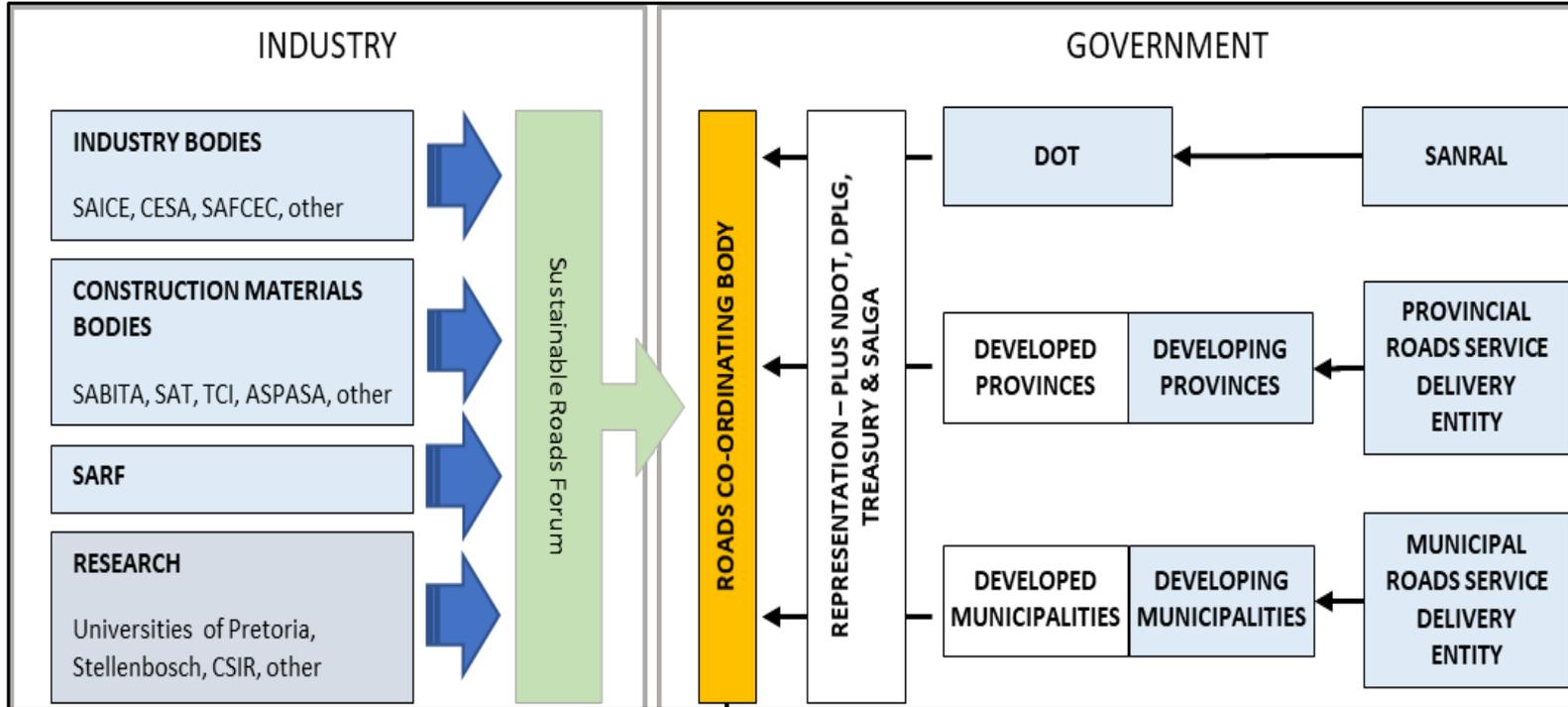
# Roads Industry Organisation



## Gaps

- Policy direction and regulatory coherence
  - No specific sustainability policy direction for the roads industry yet
- Lack of co-ordination of sustainability in the roads sector
  - No clear oversight or drive regarding sustainability
- Links between planning and construction in the sector are not framed into sustainability
  - If sustainability not considered across all phases of road implementation, limited potential to mitigate environmental and social issues in construction and operation
- Social Sustainability – a pressing South African need
- Need improved on resource efficiency eg. water; embedded resources
- Poor maintenance practice
  - Affects all 3 aspects of sustainability

# Proposed industry organisation towards sustainability



A common language and approach is needed in the roads sector to

- Be more responsive to the needs of local communities and to the future of our youth (now and future....)
- Be aware of and mitigate against the effects of our industry on our global neighbours and nationally
  - And maximise the value of the industry
- Facilitate equitable, environmentally sound and economically efficient development in a rapidly advancing technological age

**We all have a part to play – now is the time to act.**

Thank you and your perspectives please!

**Kirsten Barnes**

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