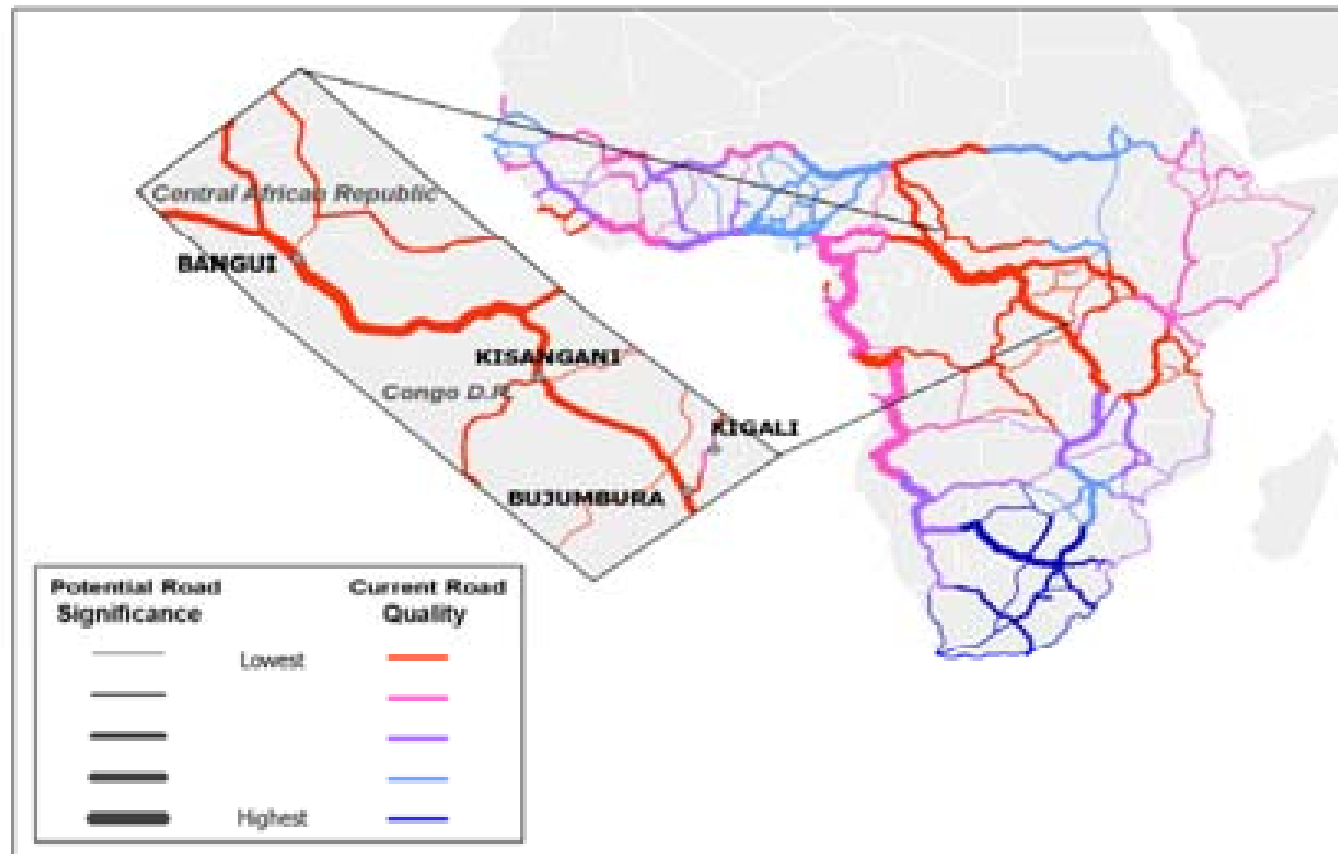


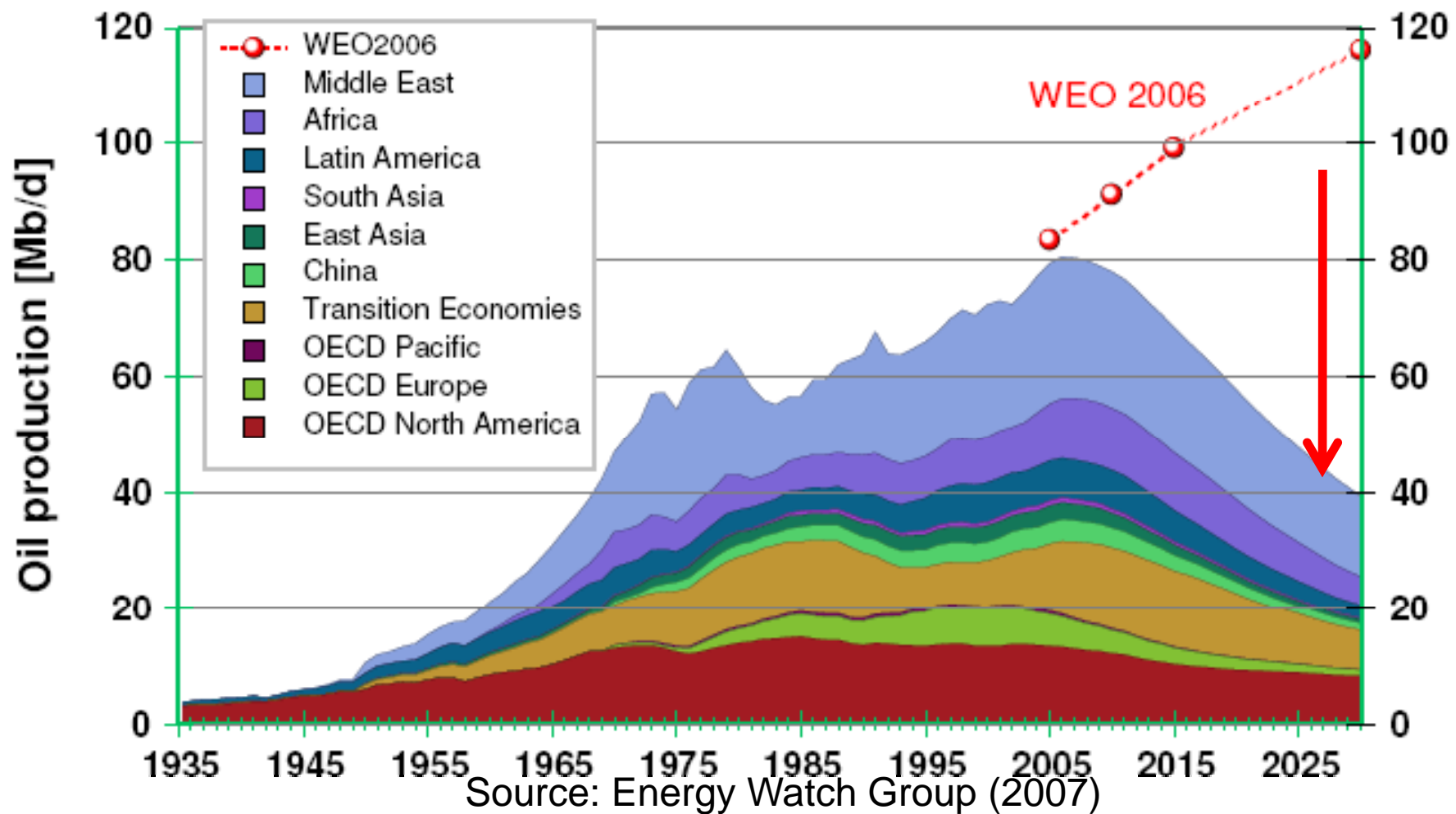
# Panel Discussion on Financing Rural Roads

Peter Copley  
Transport Specialist  
DBSA

IRF/GTKP/TARA 2009 Convention on  
Rural Roads: Arusha, Tanzania: 27<sup>th</sup> Nov  
2009

Road Network Links: Current Quality and Potential Significance  
(West - Southern Africa Link Enlarged): SSATP circa 2006





# Dilemma 1 - Justifying investments

- How can investment in rural roads be justified?
- Sober economic analysis (CBA, IRR, NPV) versus wider economic and social assessment of costs and benefits
- Competition with other public services

# Average Economic Rates of Return (% per annum) on World Bank supported projects: 1974 –92

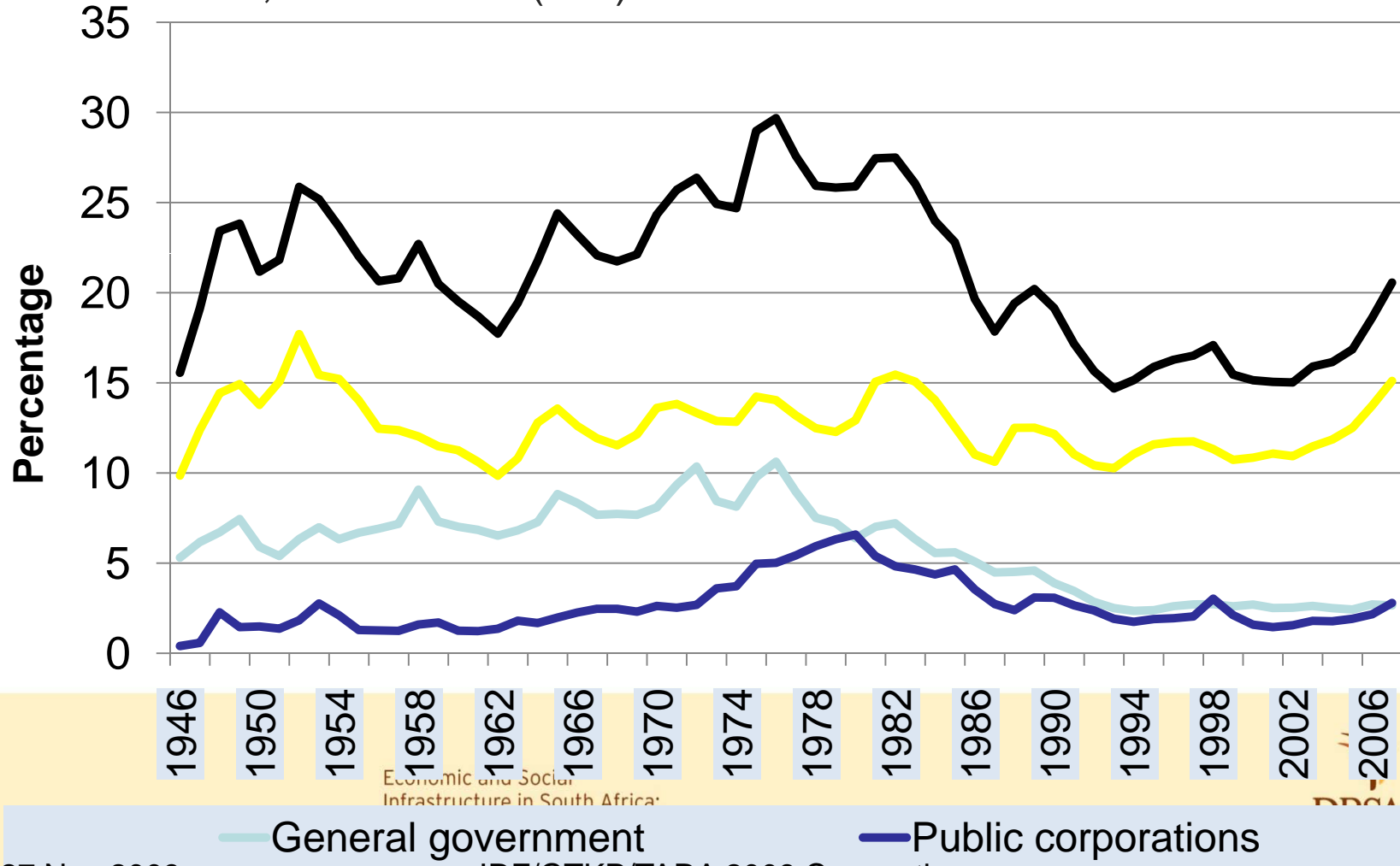
(Quoted from 'World Development Report 1994', The World Bank, Washington DC)

Sector	1974 – 82	1983 – 92
Irrigation and Drainage	17	13
Telecommunications	20	19
Transport	18	21
Airports	17	13
Highways	20	29
Ports	19	20
Railways	16	12
Power	12	11
Urban Development	Not available	23
Water & Sanitation	7	9
Water supply	8	6
Sewerage	12	8
Infrastructure Projects	18	16
All Bank Operations	17	15

The water related rates are financial, not economic, rates of return



# Real Gross Fixed Capital Formation by the South African General Government and Public Corporations on Economic and Social Infrastructure, 1946 -2007 (Rm)



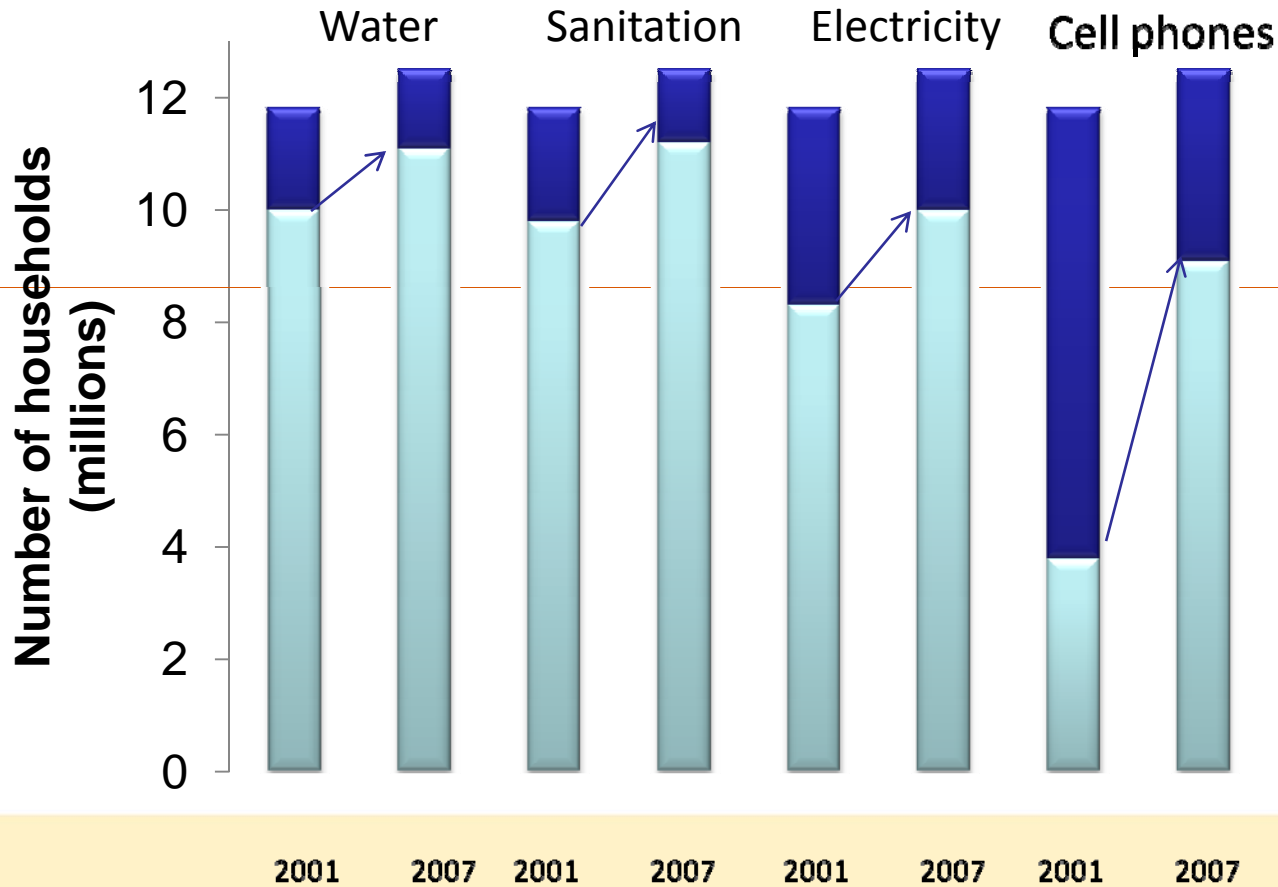
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# Infrastructure Barometer

## Chasing Moving Targets



	Coverage	Backlog
water	10.0	1.8
	11.1	1.4
sanit	9.8	2.0
	11.2	1.3
elec	8.3	3.5
	10.0	2.5
cell	3.8	8.0
	9.1	3.4

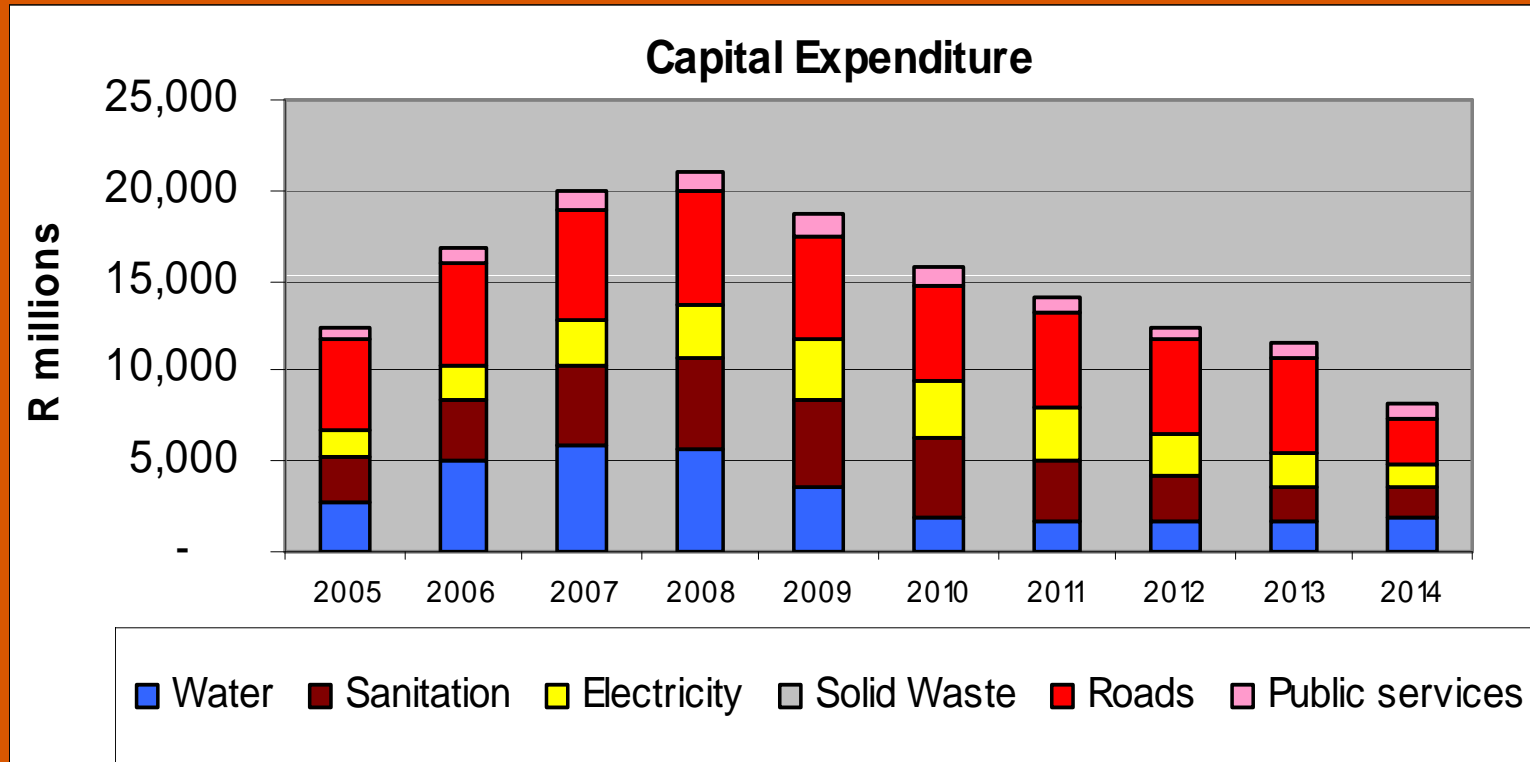
Economic and Social  
Infrastructure in South Africa:  
Scenarios for the future



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# The Municipal Infrastructure Grant (MIG) for Social Infrastructure in general (competing alternatives)





# Dilemma 2 – Finding ways for sustainable funding

- Looking into sources of funding and their pros and cons
- What is a reasonable investment rate

# PPP Funding Options practiced in SADC

	Vehicles	Road	Rolling Stock and Locomotives	Rail	Port facilities	Port equipment	Ports	Pipelines	Aircraft	Airports	Energy	Water
Leasing	Green		Green			Green			Green			
Franchising									Light Orange			Light Orange
Concessioning		Green	Light Green	Green			Green				Green	Light Green
Contracting out					Green	Light Green				Green	Green	
Bond financing		Light Orange	Light Green	Light Green							Light Green	Light Green
Equity investments								Green	Green		Light Green	
Venture capital											Green	

# Which instrument for which aspect?

## Risk/Return expectations

- Equity investors five years at between 17% and 50% per annum (Libor and Jibar rates)
- Commercial banks eight years at prevailing interest rates
- Merchant Banks twelve years at medium term interest rates
- Pension funds fifteen years at long term interest rates
- DFI's 20 year horizons ideally judged on economic as opposed to financial merit

# An indication of viability for self sustaining projects

- Roads in the South African model can start at between 4 000 and 4 500 vpd AADT, with approximately 17% heavy vehicles
- Rail requires 1 m tonnes per annum (South African Freight Rail) cf 300 000 tonnes per annum for the BBR concessionnaire
- Ports appear to require 3 million tonnes per annum
- Airports are difficult but appear to need in excess of 500 000 persons per annum
- Below these thresholds does not imply PPP's can't be developed but other measures of support need to be considered (eg shadow tolls, market guarantees, increasing the revenue base)
- In general, speaking of debt equity ratios of approx 17:83 and DSCR of between 1,0 and 1,5 in year 5 to 8

## Dilemma 3 – Who is responsible?

- Centralization versus decentralization of funds and management
- Community involvement: how does it work and what are pros and cons?
- Capacity to manage and governance issues

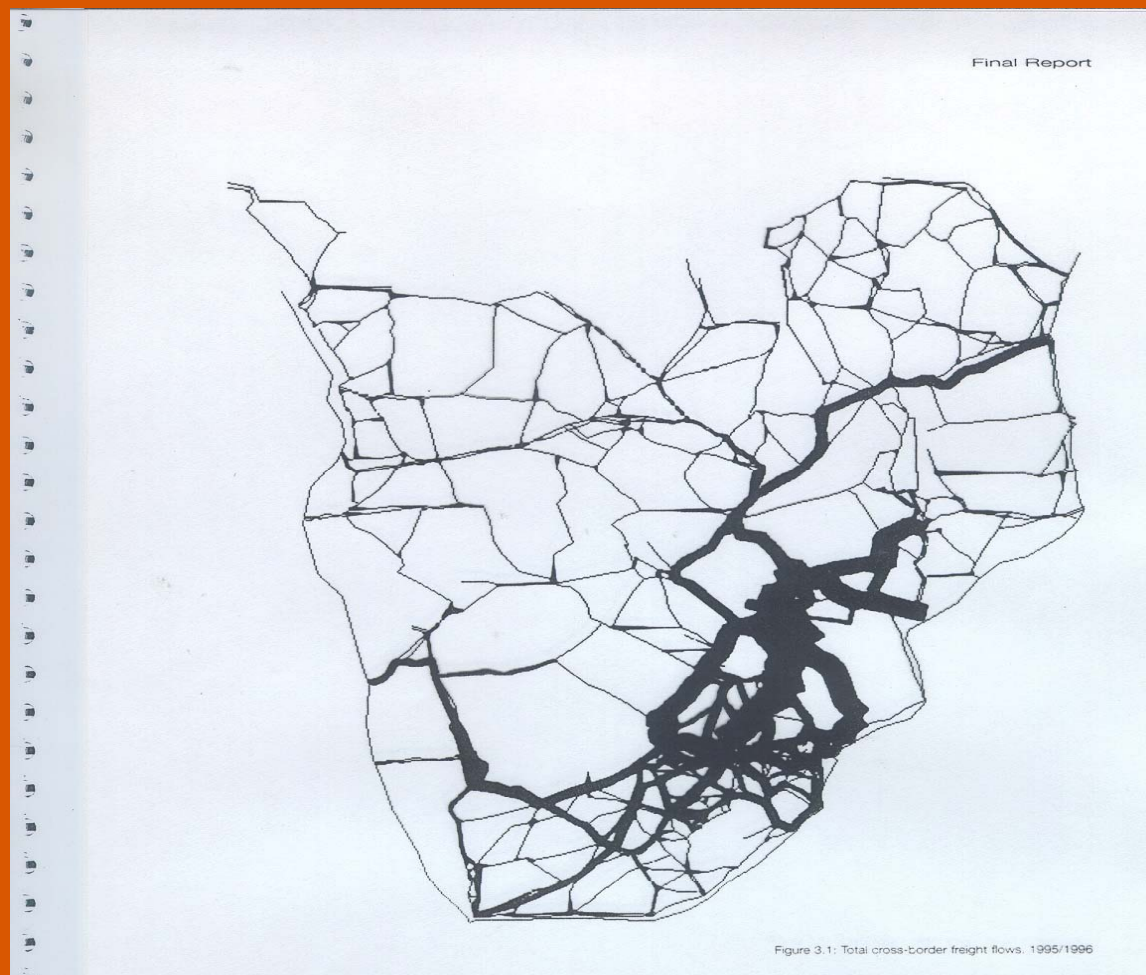
# Thought starters for Dilemma 3

- World Bank suggests, from the Pacific Rim, that there is no material difference between centralised and decentralised management: Recognise practicalities of distance and size of network
- Community involvement embraces both participation and involvement as well as social auditing (eg Press Conferences)
- Recognise difference between economic and social roads, or at least the continuum
- Consensus emerging that agencies operate better than government departments
- Need independent review of funding, both of the Road Fund and of toll roads and of procurement processes
- Ideally report to both public AND private sectors

# Dilemma 4 – How to tackle negative spill-overs

- Investing in one region means decreasing competitiveness of other region
- Roads are said to cause spread of HIV/AIDS → better roads, more infections: how to address?

# SADC Intra Regional Traffic movement



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# DBSA : N-S CORRIDOR TO GREAT LAKES REGION: DEFINITION OF NORTH-SOUTH CORRIDOR

Lobito Corridor - Benguela Line, closed at present. Distance to Copper Belt longer than routes to Dar es Salaam and Beira

Road connection between Kafue and Lions Den. Shorter than rail route through Bulawayo by more than 800km

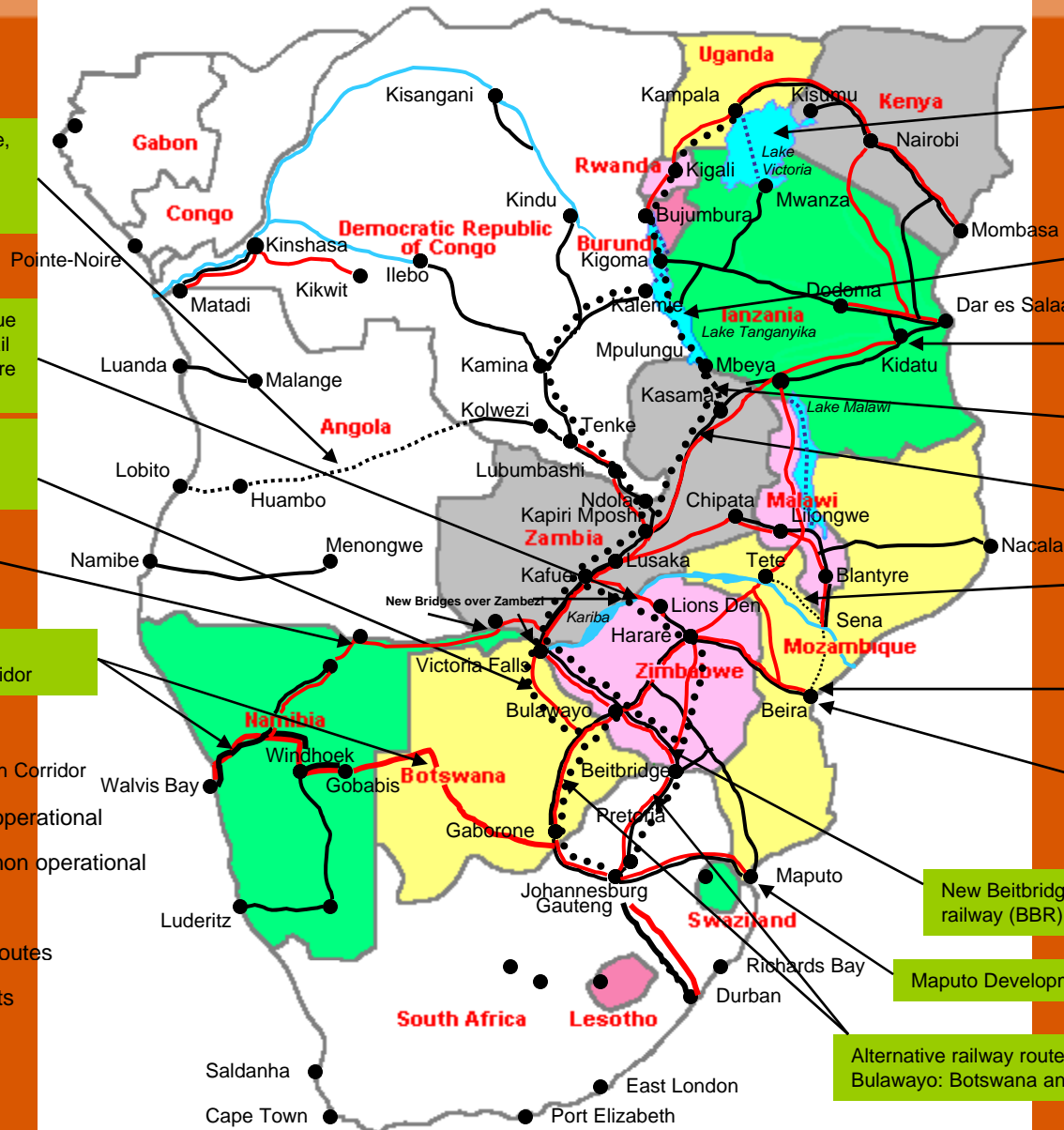
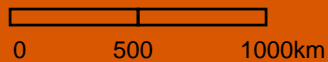
Alternative road route from Botswana to Zambia – new railway under consideration

Trans-Caprivi Corridor  
Final surfaced road section now completed

Trans-Kgalagadi / Walvis Bay  
Transport & Development Corridor

### LEGEND

- ..... Position of North-South Corridor
- Main Rail Routes - operational
- ■ ■ Main Rail Routes - non operational
- Main Road Routes
- Main River / Lake Routes
- Main Centres & Ports



Lake transport operated by AMI/TARC, functioning well

Lake transport by ferry on Lake Tanganyika – ports to be upgraded

Kidatu trans-shipment facility. Changeover from 1067mm gauge to 1000mm gauge (TARC)

Possible new 130km rail link from Kasama to Mpulungu

Tazara Railway system 1067mm

Sena railway line, closed at present. Only regional railway connection to Malawi and Nacala Corridor

Beira Development Corridor

Beira Port: the shortest distance by road / rail from Ndola / Lubumbashi by approximately 600km

New Beitbridge to Bulawayo railway (BBR)

Maputo Development Corridor

Alternative railway routes from Gauteng to Bulawayo: Botswana and BBR routes



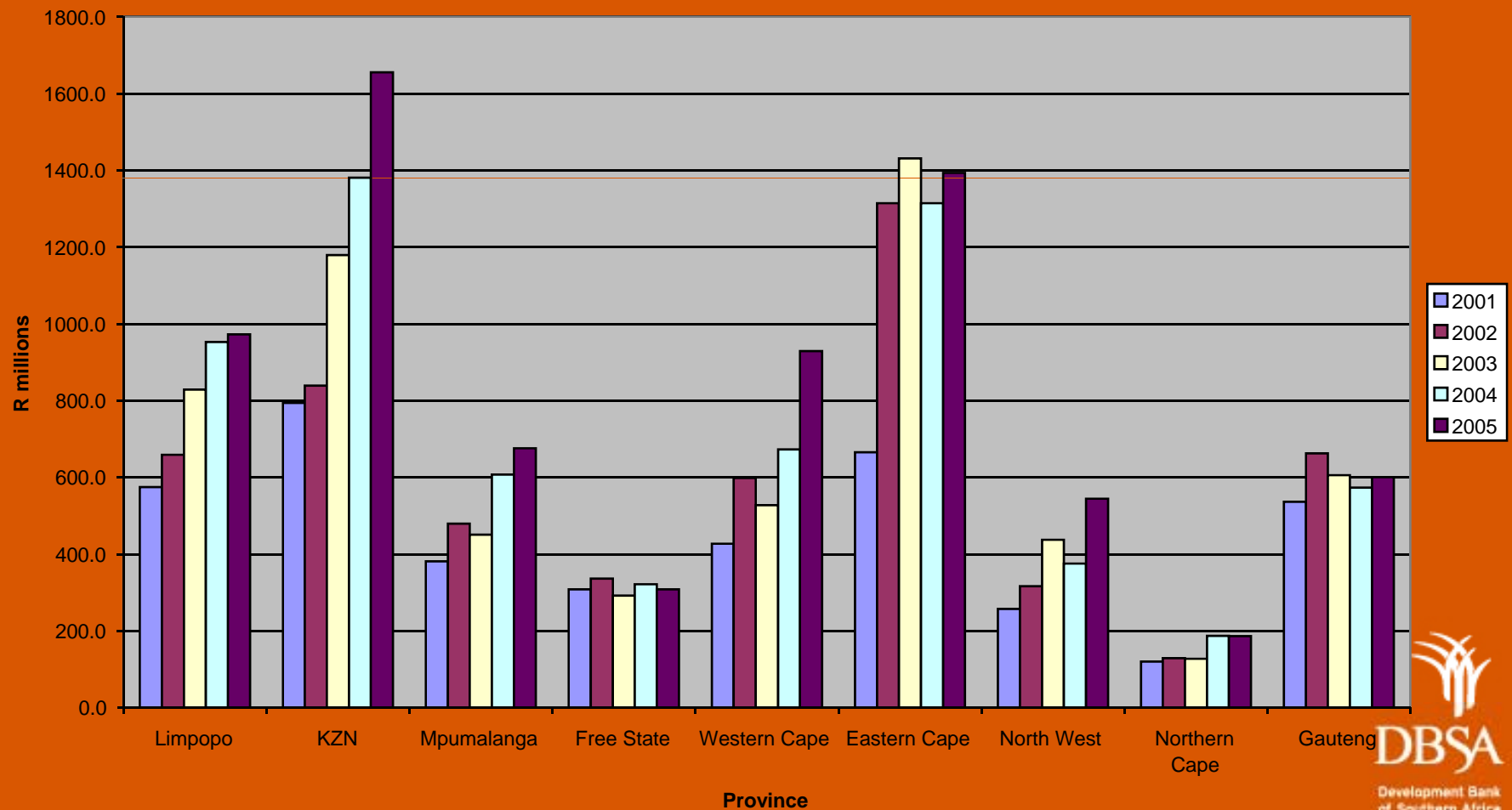
## Dilemma 5 – How do we ensure political acceptance of the need for acceptable maintenance?

- Effective asset management of any infrastructure is never 'sexy' when compared to new projects. How do we change that perception?
- The relative size of any road fund in smaller economies makes it an attractive target for the provision of funds for purposes different to that intended. How do we protect against that and preserve the funds for new construction, rehabilitation and maintenance of ROADS?
- The road maintenance backlog in many countries is so large that some roads can NOT be maintained. How do we decide which roads to maintain to the benefit of the overall network?



# A provincial response (PIG)

Annual Provincial Road Expenditure



# Thank you for your attention....

- I'm personally satisfied that we have a strong case to continue to develop PPP's to provide necessary infrastructure
- Do we start small (e.g. municipal services) and work upwards?
- Or do we start big (e.g. toll roads) and work downwards?
- Fundamentally need long term committed champions from both the public and the private sector sides...and I look forward to the discussion

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