

New forms of Contract

RPF

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Background

- **Paradigm shift in Infrastructure**
 - **Uniformed Clients**
 - Procurement and management of consulting engineers
 - Understanding of quality vs maintenance requirements
 - Understanding Operations and Maintenance
 - Understanding Asset Management
 - **Job Creation**
 - Imperative
 - SMME
 - BBBEE
 - Lack of linkages between jobs and skills
 - NQF and Artisans
 - Unions – “across the board”

Asset Management

- **Pavement Management is changing**
- **Asset management considers the value of the assets and “acquisition” and “disposal”**
- **Treasury enforced!**
- **Assets broken down into components with different expected useful lives**
 - **Surfacing**
 - **Pavement**
 - **Formation**
- **Maintenance budgeted as a % of current replacement cost**
- **2% seems to be the magic number**

Example

- **Road construction cost R800/sqm**
 - Surfacing R100 EUL = 10 years
 - Pavement R300 EUL = 20 years
 - Formation R400 EUL = 80 years
- **2% = R16/sqm per year**
- **Routine R60 000/km year = R6/sqm**
- **Periodic = R100/ sqm every 10 years = R10/sqm/year**
- **Total = R16/sqm**

Job Creation

- **NPWP**
 - All jobs refunded by National
 - Generally unskilled
 - Need to improve this and gain skills and deliver quality as part of the process
- **SMME**
 - Many SMME projects in the past
 - Monitoring of contractor development

Model 1 EPWP Plus - Urban

- **Appoint CE as a programme manager**
 - Experienced in roadworks
 - 15 years min pavement rehab experience
 - Appropriate economies of scale
 - Knowledge Transfer
- **Appoint 2 to 5 CEs to manage EPWP**
 - 125 km per CE each having 5 Supervisors each overseeing 25 “contractors” each maintaining 1 km of road
 - Focus on drainage, weed control and sidewalks



Model 1 EPWP Plus – Phase 2

- **Decide on Materials Depots**
- **PM Assist Municipality to Procure and store materials**
- **CEs identify potential candidates for Bituminous works**
- **Train on Emulsion, crack sealing and patching (Sabita accreditation)**
- **Establish 2 to 3 man SMME teams to carry out work**
- **End result: pre-treated streets ready for resurfacing in 2 to 3 years time**
- **Trained SMME Contractors**



Model 1 EPWP Plus – Phase 3

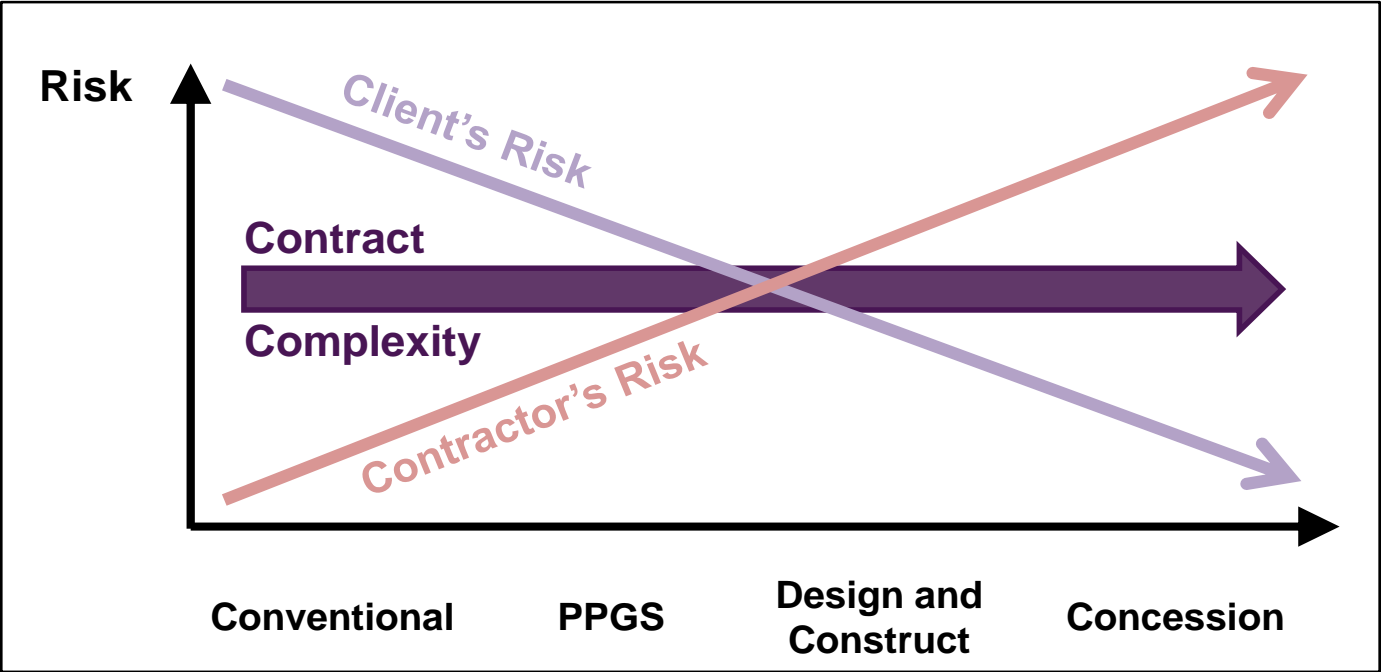
- Slurry and Seal
- Establish larger SMME teams to carry out work (Concrete mixer, aggregate, squeegees, Chippy)
- End result: Resurfaced streets with 7 to 12 year life
- Trained SMMEs



Model 2- Rural Repair Management

- **150 to 200km of road in trouble**
- **Appoint CE to plan, design and procure repairs**
- **Multiple contracts**
 - **Maintenance**
 - **Surface prep and patching**
 - **Aggregate supply**
 - **Reseal and line marking**

Risk Allocation



Model 3: Performance Guarantees

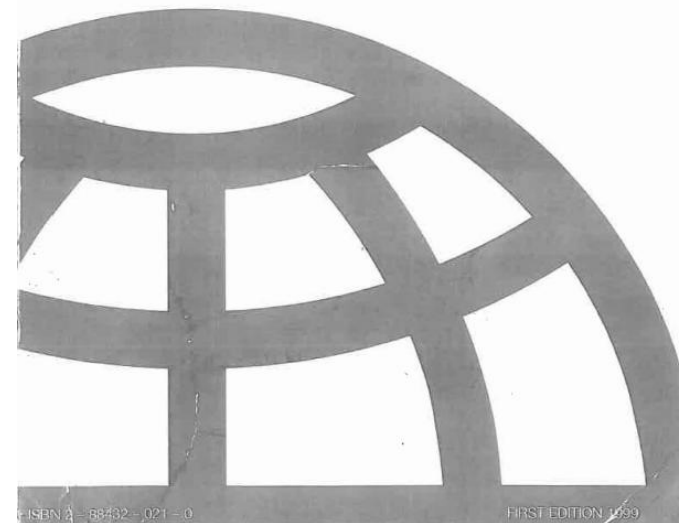
- **Can expand conventional contracts**
 - **Specify performance requirements**
 - **Surfacing - MPD**
 - **Pavement - Visual, Rutting, IRI**
 - **Add performance Guarantee**
- **Examples**
 - **Surfacing Performance Guarantees (3 years)**
 - **Larger Works Performance Guarantees (5 years)**
- **Needs more experience in Practice**

Design and Construct (FIDIC Silver Book)

- **Not applicable for pavements without performance guarantee**
- **Difficult to adjudicate different pavement designs**

Conditions of Contract for **EPC Turnkey Projects**

GENERAL CONDITIONS
GUIDANCE FOR THE PREPARATION OF PARTICULAR CONDITIONS
FORMS OF LETTER OF TENDER, CONTRACT AGREEMENT AND
DISPUTE ADJUDICATION AGREEMENT



Operations and Maintenance

- **Operations**
 - Safety
 - Dead animals
 - Traffic Management information
 - Access Management
- **Maintenance**
 - Routine cyclical
 - Routine Condition-based
 - Periodic
- **Concession Companies understand this!**
- **Not many others**
- **Above programmes will build capacity**

Model 4: Design, Construct and Operate (FIDIC Gold Book)

- **Becoming popular amongst lenders to ensure maintenance is done**
- **Longer term – 15 to 20 years**
- **Suitable for pavements**
- **Expanded routine maintenance requirements**
- **Ensures long term maintenance of new infrastructure**



Conclusions

- **Our roads are in trouble**
- **There are many ways to skin this cat**
- **One size does not fit all**
- **Long term capacity building**
- **It can be done as long as we are serious about it.**