XXIV^th World Road Congress Mexico 2011

Mexico City 2011.

PERFORMANCE-BASED MANAGEMENT OF THE ROAD TRANSPORT SYSTEM IN SOUTH AFRICA

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THE SOUTH AFRICAN NATIONAL ROADS AGENCY LTD

INTRODUCTION

- SANRAL background
- delivery performance cycle
- reasons for performance base management
- base for performance- based management
- areas of application
  - routine road maintenance
  - toll road operations and maintenance

INTRODUCTION / ---

- Product Performance Guarantee System (PPGS)
- operations of interoperable open road electronic tolling
- long term performance based contracts – PPPs

• challenges

• conclusions

SANRAL BACKGROUND

- State owned company mandated to manage the national road network
- Minister of Transport – single shareholder and Regulator
- Board of Directors – 8 members (7 non- executive) & committees
- 13 000 km non toll roads funded by Treasury grants
- 3100 km toll roads comprising State toll roads and PPPs – self funding through user pays

DELIVERY CYCLE

• Public	demand
• Political	Influence
• Government	formulate policy & objectives
• SANRAL Board	set strategic objectives
• SANRAL CEO	manage objectives
• SANRAL Staff	manage & set project targets to achieve objectives
• Service providers	implementation

REASONS FOR STRIVE TOWARDS PERFORMANCE – BASED MANAGEMENT

- traditional procurement provides inadequate risk mitigation to Employer
- lack of ownership – little incentive for contractor to provide better than minimum specification
- unit rates/lowest tender do not necessarily provide best value for money
- need for consistant levels of service

THE BASE FOR PERFORMANCE BASED MANAGEMENT

- develop performance based management from a clear and sound contractual framework
- appropriate forms of contract and procurement rules
- align to legislation and regulation
- clear and user friendly requirements
- ensure that performance based requirements adds value

ROUTINE ROAD MAINTENANCE

- initially carried out on force account basis
- early 90’s – maintenance by contract
- introduction of performance based criteria – hybrid
- compliance audits by Engineer/Route Manager
- simplified - training ground for emerging contractors
- improve efficiency and to encourage responsibility, accountability and self management

TOLL ROAD OPERATIONS AND MAINTENANCE

- operator tenders a fee for fixed and variable scope - no traffic risk
- operator - single line responsibility
- performance requirements primarily around protection of revenue and LOS criteria
- fee is adjusted according to degree of compliance

PRODUCT PERFORMANCE GUARANTEE SYSTEM

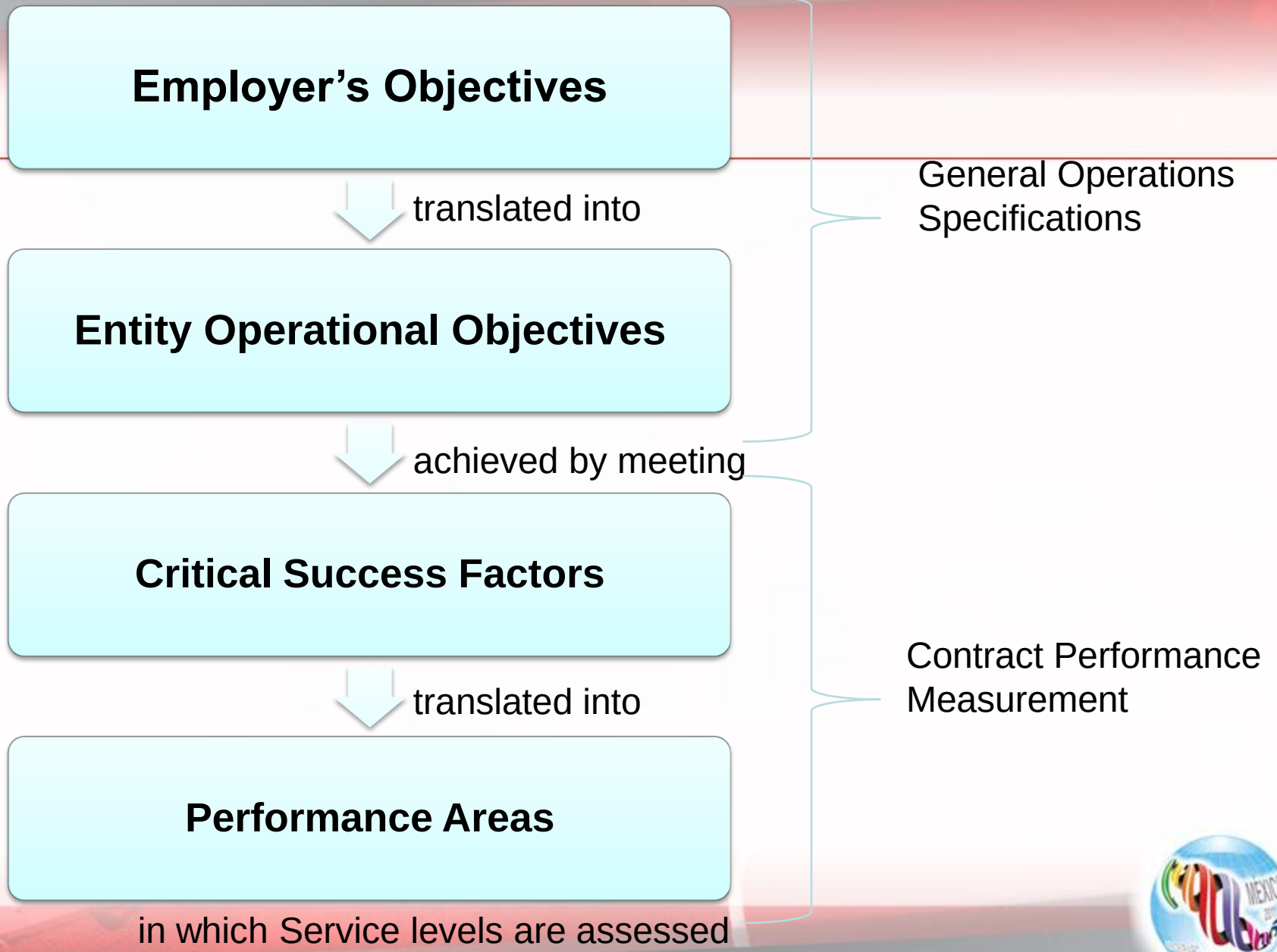
- primarily for rehabilitation and periodic maintenance
- in areas where contractors can reasonably assume and control risk of product performance
- dedicated management of performance warranties and acceptance criteria
- at end of guarantee period, product risk reverts back to employer
- pros and cons

OPERATIONS OF INTEROPERABLE OPEN ROAD ELECTRONIC TOLLING (ORT)

- objective - to deliver integrated ORT solution and centralised Transaction Clearing House (TCH)
- primary focus for performance is on interfaces between roadside system, operator back office, TCH, violation processing, toll agencies and the banks
- payment is based on sum of performance scores under each critical success factor
- five critical success factors are:

OPERATION OF INTEROPERABLE OPEN ROAD ELECTRONIC TOLLING (ORT)

- levels of public compliance;
- revenue optimisation;
- levels of operational performance;
- levels of system health;
- co-operative relationships between SANRAL, the road users, other entities and third parties


Employer's Objectives
translated into
Entity Operational Objectives
achieved by meeting
Critical Success Factors
translated into
Performance Areas
in which Service levels are assessed
General Operations Specifications
Contract Performance Measurement

Area	Name	Basis of Measurement	Measurement Commencement Date	Service Level Bands and Scores			
				Target Service Level	Band 1	Band 2	Band 3
Charging Accuracy (II)	Automatic Vehicle Classification Accuracy	The Accuracy of Automatic Vehicle Classification at each Tolling Point as a percentage of the total Transactions, for the accuracy of the Class allocation, per Tolling Point, in a month. Performance shall be assessed from discrepancies detected by the system that require correcting, or in the event of a missed detection, introducing a classification, by manual means. This accuracy shall be determined by the average of samples collected from all Tolling Points defined by the sampling regime applied to all available Tolling Points.	Commencement of Trial Operations	98.5% (100 pts per 0.1% of avg monthly TRs per TP)	96.0% to <98.5% (-100 pts per 0.1% of avg monthly TRs per TP)	93.0% to <96.0% (-300 pts per 0.1% of avg monthly TRs per TP)	<93.0% (-8 000 pts flat in a month)
Charging Accuracy (II)	ANPR Capture Rate	The ANPR Capture Rate averaged across sampled Tolling Points in a sample shall exceed 92.5%, per sample, in a month.	Commencement of Trial Operations	92.5% (100 pts per 0.1% of sample)	90.0% to <92.5% (-100 pts per 0.1% of sample)	85.0% to <90.0% (-200 pts per 0.1% of sample)	<85.0% (-8 500 pts flat rate per sample)
Charging Accuracy (II)	ANPR Trigger Rate	The ANPR Trigger Rate averaged across all sampled Tolling Points in a sample shall exceed 95.0%, per sample, in a month.	Commencement of Trial Operations	95.0% (100 pts per 0.1% of sample)	92.5% to <95.0% (-100 pts per 0.1% of sample)	87.5% to <92.5% (-200 pts per 0.1% of sample)	<87.5% (-5 000 pts flat rate per sample)
Charging Accuracy (II)	ANPR Correct Read Rate	The ANPR Correct Read Rate averaged across all sampled Tolling Points in a sample shall exceed 90.0%, per sample, in a month.	Commencement of Trial Operations	90.0% (100 pts per 0.1% of sample)	87.5% to <90.0% (-100 pts per 0.1% of sample)	82.5% to <87.5% (-200 pts per 0.1% of sample)	<82.5% (-5 000 pts flat rate per sample)
Charging Accuracy (II)	DSRC Capture Rate	The Proportion of vehicles equipped with a Tag that result in a Transaction Record, per Tolling Point, in a month. Such vehicles shall be determined by constructing missing tolling events from the records of adjacent tolling zones, partial tag detections or other means to be proposed by the Contractor.	Commencement of Trial Operations	99.5% (750 pts per 0.1% of TR per TP per month)	98.0% to <99.5% (-750 pts per 0.1% of TR per TP per month)	97.0% to <98.0% (-2 500 pts per 0.1% of TR per TP per month)	97.0% (-10 000 pts flat per TP per month)

LONG TERM PERFORMANCE BASED CONTRACTS - PPPs

- culmination of other perfomance applications
- transfer of full management function and associated risk under performance based concession agreement
- maintain LOS and pavement condition over concession period – performance based functional criteria
- performance requirements achieved via various mechanisms, e.g. incentives, penalties, performance bonds etc.

CHALLENGES

- to identify performance application opportunities to improve management efficiency in delivery and value for money
- how can performance based management encourage service providers to assume risk and responsibility of infrastructure and service delivery at a reasonable price?
- how do we ensure optimal value for money in the design and application of performance based management?

CONCLUSION

- Prerequisites for successful application of performance based management
  - clear contractual boundaries
  - optimal transfer of risk/responsbility
  - knowledgeable Employer, Engineer & Contractor
  - predictability of product behaviour and receiving environment
  - reasonable requirements - achievability

CONCLUSION / ---

The application of performance based criteria in the management of infrastructure and service delivery **MUST** extend the management capability and improve efficiency of an organisation.

Thank you