



# Made to measure

Photograph by Andrew Pickford

## South Africa's story of economic growth and its critical role in social upliftment has been told many times in the public domain.

Heightened demand for mobility in the Pretoria-Johannesburg corridor within Gauteng (a region that generated over 40 per cent of Africa's GDP), coupled with increasing cross-border commercial traffic has fuelled an explosion in new infrastructure development. Such unprecedented levels of activity lead to some challenging decisions on prioritisation of investments between modes of surface transport; not only roads and local rail networks but also improving the quality and sustainability of its bus networks.

It is reasonably well known that the South African National Roads Agency Ltd (SANRAL) is currently embarked on delivering a substantial transformation of the strategic road network known as the Gauteng Freeway Improvement Project (GFIP). Whilst critical to the economic and social development of the region, a project of this scale (construction, upgrade and improvement of around 560km) could not have been funded efficiently by public money alone.

SANRAL has long promoted the "user pays" principle, which requires eligible road users to pay for the use of designated toll roads and tolled facilities in South Africa. Tolls collected help finance the development, operation and maintenance of the tolled road network and delivery of related services to road users. The construction and management of roads through public and private operations is now largely considered to be routine in South Africa and a good precedent for sub-Saharan Africa.

### New country: new tools

The recent collapse of the international credit market has had mixed effects on the availability of finance for long-term investments that can deliver a steady and predictable stream of income. In

this case, a successful bond issue allowed SANRAL to commence the award of multiple civil works contracts for new and upgraded road segments in Gauteng - delivering significant public benefits early - and prior to the imposition of tolls.

High volumes of traffic on the strategic routes that form the GFIP programme and a desire to maintain traffic flow meant that an incremental expansion of the (well-understood) plaza-based tolling regime would not work. Operationally, the only realistic option was Multi Lane Free Flow (MLFF), here known as Open Road Tolling (ORT), as the basis for a comprehensive tolling and enforcement regime to ensure long-term revenue security to pay the long-term bonds used to raise finance for the scheme itself.

The collection of tolls by ORT ensures high levels of operational efficiency without imposing delays on the current high volumes of traffic. Electronic and automated methods will be used to levy and collect tolls, initially using 42 tolling points on 185km of Gauteng freeways. In taking this approach, SANRAL secures the rapid implementation of the GFIP and ensures the sustainability of a well managed, well operated and well maintained road network.

The GFIP programme also includes a platform for national interoperability known as the Transaction Clearing House (TCH) to enable efficiency savings through economies of scale on this and any future regional schemes. A Violation Processing Centre (VPC) will deliver a standardised approach to debt collection and enforcement. All existing toll roads that offer Electronic Toll Collection (ETC) services will also be integrated. When the systems go live, currently planned to be shortly after the end of the FIFA World Cup in 2010, the project will effectively represent a benchmark demonstration of national interoperability.

As national and regional authorities in other countries have already found, ORT-based charging requires a holistic perspective to be applied to the relationship with road users. Enforcement is oriented towards collection of debts rather than penalties and marketing



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depends on an insight into the many different categories of road users. SANRAL recognises that the contractor finally selected to operate the local tolling regime and national back office in South Africa, is also a critical enabler and will be required to establish operating objectives that align with SANRAL's strategic organisational objectives. This article will now explore the contextual development and establishment of a performance management regime that is central to this African precedence in road user charging.

### New tools: new challenges

“You can't manage what you can't measure”. But how do you ensure alignment between a measurement regime and performance management? Because this is South Africa's first foray into large scale regional tolling and evidential enforcement, the natural tendency is to adopt a highly risk-averse stance. But there are many questions which apply to the apportionment of risk and responsibility between the employer (in this case SANRAL) and the Contractor, so let's consider these in more detail.

Firstly, the employer cannot afford to fail. Therefore the operating contractor must be a partner in every sense of the word, hence the term Public Private Partnership (PPP). Complex projects such as this require the operating contractor to be multi-disciplinary; and orchestrate services provision in everything from billing to on-site security and from customer relationship management to debt collection and enforcement.

The risk of delivering high quality operations through multiple services contracts clearly rests with the contractor. In this case, the risks associated with financing, traffic and the adequacy of the legislation underpinning this high-profile public project, rest with the Employer.

The use of ORT as a means of charging for road use come with its own risks; the image-based evidential strategy must work and user understanding of how and where to pay is also critical to ensuring that operating costs are low, served in part by a well-informed public. The differences between plaza-based and ORT consequently require a different contractor mindset. Some of the risk can be handed to one or more contractors, but the Employer will always retain a residual level of risk, particularly reputation risk, the management of which is paramount.

SANRAL elected to implement a performance measurement regime to incentivise the contractor by using a combination of activity-based payments and performance related adjustments to the nominal monthly service payments. In this case 'performance', defined at the level that it could be measured, was directly related to the strategic objectives of the employer, the operational objectives of each of the business areas forming the project and the (potentially high) service level expectations of the public. Mapping of employer objectives into the performance management regime was a critical design step. The operating units managed by the con-



tractor retain much of the vehicle non-detection and transaction risk of course.

As it is the employer that runs the project, not the contractor, it is essential that the employer's objectives are kept in focus at all times, and that the day-to-day operations do not take on a life of their own or be allowed to diverge from the original project aims over the duration of the operating services contract. Predictability of operations also underpins a stable income stream for bond repayment. An end-to-end systems overview helped to prioritise the contribution of various services to the overall success of the scheme, especially those at the internal and external interfaces. It was also a requirement that cost control, through delivering process and workflow efficiencies, was important to ensure best use of tolls collected.

**“It is essential that P3 contractors be on the same page as their public-sector counterparts”**

### Critical success factors

Ever since the concept was first presented by McKinsey's DR Daniel in a 1961 edition of the Harvard Business Review, Critical Success Factors have become synonymous with strategic performance management. For this project, there are six critical success factors:

1. High levels of public compliance;
2. Revenue optimisation;
3. High levels of operational performance;
4. High levels of system health;
5. Highly cooperative relationships with the employer and road users, between entities and with third parties; and
6. Compliance with Broad-based Black Economic Empowerment (BBBEE) requirements.





Performance requirements and their interrelationships are adequately expressed through these Critical Success Factors. Project success depends on many factors including achieving levels of public compliance, meeting financing targets and the defined economic empowerment goals.

In addition, the Contractor must deliver a high level of operational performance, individual operating units must collaborate well with each other and with third parties, the system must be well maintained, available for use and able to be extended to include new ETC projects.

As an example, we can consider the first Critical Success Factor, Public Compliance, in both its positive aspect (marketing) and negative aspect (enforcement). Public compliance has to do with all aspects of the project which impact on public perception, behaviour, and interaction with the scheme.

Channels for enquiries, account registration and payments must be easily accessible and readily available by means of services that have a negligible downtime. Enquiries are to be handled timeously and concluded satisfactorily.

Tactical marketing executed by the Contractor must align with the corresponding Employer's strategic marketing plans and work positively to educate and influence support for tolling.

Enforcement must be diligently implemented in order to create a deterrent against non-compliance and to collect fines and unpaid revenues due. Activities range from proactive use of resources assigned to enforcement to minimise violations, timely issue of Invoices, Final Invoices, Infringement Notices and effective support to the 'adjudication of road traffic offences' and the courts.





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### Performance approach

Having understood the employer's objectives, and identified the Critical Success Factors, the next step was to create a fine-grained management tool by which the Employer can ensure both initial and continual relevance of the performance management regime. Initial relevance comes through ensuring a common understanding of the performance vision during the tender, negotiation, award and mobilisation period.

The first iteration was to identify and define meaningful KPIs, reflecting the performance areas. Descriptions and measurement thresholds were based on international good practice and a pragmatic understanding of what might be possible from the capture accuracy of ANPR cameras, call centre queuing time maximum time to remedy failures and quality assuring records passed between operating units.

The next step was to codify these measures in a numerical model to visualise how the performance management regime operates and to explore sensitivity to change. A collection of likely scenarios was defined, based on real world examples of difficulties encountered on comparable contracts. The various thresholds and weightings were tested; creating a baseline that reflected the desired apportionment of risk over time. The model will play an important role in the evaluation of alternative offers, in explaining performance impacts to project stakeholders, and as predictive tool to further refine the performance regime.

These measures and related payments to incentivise performance in line with employer objectives, need to be seen in the context of other factors that influence contractor behaviour such as 'activity-based' payments and the fall back to contract remedies – an end point that neither the employer nor contractor would find desirable.

### Innovations

The development of this performance management regime was marked by innovation and contextualisation of good practice. The incentive-based approach to performance management sets the benchmark at 'minimum acceptable' and looks for proactive behaviour from the contractor to deliver a performance above that minimum. The existence of a well-founded KPI regime means both parties stay out of the 'litigation zone' and focus instead on 'performance conversations'. In short, this approach gives room for manoeuvre and keeps the relationship strong.

Occasionally, the measurement framework for a performance indicator required more detail. Scorecards were developed to facilitate this, along with a methodology that ensures objectivity is retained. One such scorecard determines the extent to which the contractor demonstrates ownership of the performance management cycle. Another scorecard looks at the customer interface and related processes that may influence the customer perception of service level provided by the contractor.

Another area of innovation was an upgraded approach to dealing with lost transactions. Changes here mirrored the transition from plaza-based tolling to ORT. A composite approach was introduced, drawing on the traffic measurement techniques previously used for the plazas but incorporating the assessment into a KPI, with a threshold beyond which revenue losses may be recovered directly.

### The future

Local contextualisation is a key part of making new solutions acceptable, especially when drawing on international good practice. SANRAL is increasingly being seen as a facilitator and contributor to economic growth in South Africa. By visibly aligning the operational objectives of the Gauteng ORT programme with those of SANRAL itself, a platform is created for communicating the long-term benefits of the scheme.

Gauteng ORT must develop as a South African solution in order to be locally sustainable and blaze the trail for the rest of sub-Saharan Africa. **E**

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*For further details on SANRAL and the GFIP project, go to [www.nra.co.za](http://www.nra.co.za).*

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