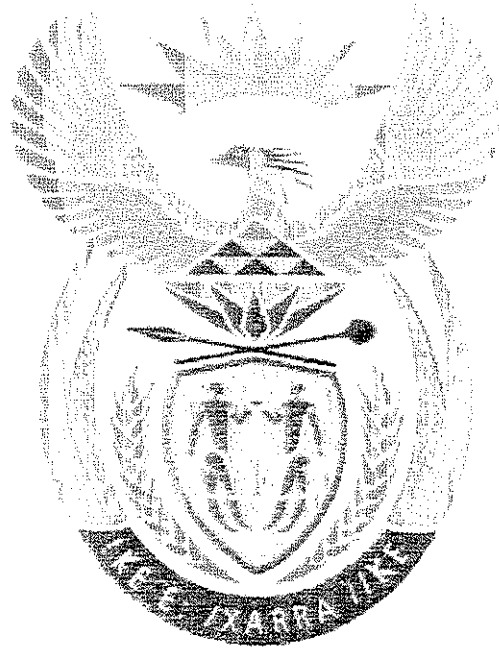


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GAUTENG TRANSPORT NETWORK INTEGRATION PROCESS:
PROPOSAL
FOR A
GAUTENG FREEWAY IMPROVEMENT SCHEME



A joint initiative of the Department of Transport, Gauteng Department of
Public Transport, Roads and Works, Municipalities in Gauteng and
SANRAL
September 2006

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EXECUTIVE SUMMARY

The Gauteng province finds itself confronted by a challenge of diminishing freeway capacity, which threatens rapid and free mobility between business centres, business centres and residential areas and to tourism destinations within the province. This situation is caused by a combination of factors including the marginalisation and under-use of public transport within the province; insufficient road space relative to transport demand within a compact economic powerhouse of South Africa; the increasing use and reliance on private cars within a context of historically sub-optimal public transport systems; and the spill over effects of a failing rail system that has suffered years of under-investment and poor service quality.

Transport policy is however very clear in defining the vision and priorities to be pursued by all transport and roads authorities. The White paper on National Transport Policy calls for the development and maintenance of transport infrastructure and prioritises its development in accordance with sustainable economic and development principles. It indicates that this should happen within the context of a sound financial base. It also refers to the need to encourage more efficient land use, correcting past imbalances and reducing travel distance and time. It further calls for the prioritisation of public transport over private transport. It specifically indicates that future national road network management will be administered through the creation of a Roads Agency, but also acknowledges the statutory roles and responsibilities of provincial and municipal roads authorities and sets clear principles of cooperative governance.

The various spheres of Government have developed strategies and plans that seek to implement the vision and principles of the White Paper, and within Gauteng these include the Department of Transport's draft Road Infrastructure Strategic Framework, which is the blueprint for roads development planning; the Gauteng Province's Strategic Agenda for Transport; the Integrated Transport Plans of municipalities within Gauteng and the SANRAL's Horizon 2010 Vision for the national road system. What has perhaps been lacking has been a degree of aggression in implementing these plans and the achievement of inter-sphere coordination to ensure plan integration and coordination of delivery programmes to avoid duplication, fragmentation and conflict.

In a new joint Government process, the various roads authorities undertook a process of developing a plan for the improvement of the Gauteng Freeway System, guided by a broader intention to ensure Transport (all modes) Network Integration in Gauteng. This process has been conducted with an agreed strategic intention to manage the demand for road network capacity in the province through an integrated system of infrastructure development and travel demand management. The objective of the Freeway Improvement proposal developed was thus defined to be "to provide a safe and reliable strategic road network system which would optimize the movement of freight and passengers, manage congestion and focusing on the promotion public

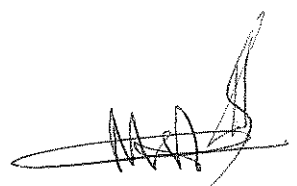
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transport through the efficient and effective use of existing and future freeway road space, in order to grow the economy and enable sustainable development to the benefit of all in the province.

Noting the need to discourage private vehicle use and promote public transport use, and acknowledging the challenge of funding shortages for the required major freeway system improvements that are required, several funding models were investigated and their appropriateness evaluated. The most suitable funding mechanism was identified to be a user payment based toll scheme, with electronic fare collection as a basis to ensure free traffic flow. Care was taken to align the scheme with transport policy by defining a set of principles that should guide such scheme development. As a result the proposed scheme has defined targeted interventions that should form part of the scheme including the prioritisation of public transport on the freeway system; the incorporation of ride sharing to promote high vehicle occupancy; the cross-subsidisation of public transport from toll revenues; the integration of the freeway scheme with Strategic Public Transport Networks (SPTNs) and the Gautrain and the regulation of heavy vehicle movement.


The proposed toll scheme comprises a combination of existing road network capacity expansions and the development of new freeway. The existing road network improvements comprise the ring road network, the Ben Schoeman highway and the R21 and R24 links to the Johannesburg International Airport. The new freeway sections include the construction of essential missing links both in the north-south and east west directions including the PWV9 north and south; and the PWV5 and PWV 14 respectively. The scheme is designed to open up the hitherto "silo" design of the Gauteng Freeway system in order to give more options to the road user and provide multiple routes to any single destination. The proposed scheme however faces some challenges relating to the implementation schedule that should be seriously considered and discussed to ensure that they get addressed before they become serious impediments to scheme success. These include agreement on the total scheme; elements that will comprise the initial construction works (ICW); construction industry capacity in the next 5 years; the FIFA World Cup 2010™ deadline; the environmental compliance processes.

The proposed freeway improvement toll scheme will be used to also implement other Government priorities such as employment creation, skills development and the roll out of Broad Based Black Economic Empowerment (BBBEE), with particular focus on SMME development within the construction industry. It is however emphasised that the success of this initiative depends on the commitment of all three spheres of government to working together to arrive at an agreeable, integrated and demand responsive freeway system for the province, which will not only address current bottlenecks in the freeway system but also contribute to the provision of an adequate and sustainable pro-public transport road network system for the province.

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1. INTRODUCTION

In line with the White Paper on National Transport Policy, which defines a vision for South Africa's transport system, the Department of Transport (DOT) has published various strategies that seek to ensure that the road network system is developed, integrated and adequately maintained; that public transport is prioritised and regenerated; that freight operations are streamlined and that the road network system is geared towards the eradication of past imbalances. Similar processes have been conducted at provincial and municipal levels, and for the purposes of this exercise two examples are isolated, namely the draft Road Infrastructure Strategic Framework for South Africa and the Strategic Agenda for Transport published by the DOT in July 2005 and the Department of Public Transport Roads and Works (GDPRTW) in August 2005, respectively. These documents together with the Integrated Transport Plans of municipalities in Gauteng acknowledge the challenges that face the provision and funding of transport infrastructure in Gauteng.

Over the years there have been numerous proposals for improving the Gauteng freeway system. Now, in the context of having a national and provincial strategic framework, it is becoming imperative to make a decision about an improvement programme for the freeway system in Gauteng. This document proposes such an improvement programme in the context of the overall strategic challenges and programmes for transport in Gauteng.

This document is one of two documents which are produced by the three spheres of government working together in Gauteng under the banner of a "Gauteng Transport Network Integration Process". The second will be a review and proposal around a Strategic Road Network. The two documents need to be seen as two interrelated responses to the need to create certainty on the future of the major road network and accelerate the provision of certain aspects of the transport system.

This process should also be located within the context of national, provincial and local policies, which prioritise public transport, and strong intergovernmental co-ordination and joint action. Thus while this document concerns itself with freeways, the issue of public transport remains central.

This document should be regarded as a JOINT proposal of the DOT, GDPRTW, SANRAL and municipalities in Gauteng for discussion and approval first at an official level and finally at a political level in Gauteng.

2. PROBLEM STATEMENT

The Gauteng province is confronted by a challenge of diminishing freeway system capacity, which is threatening rapid and free mobility between business centres, business centres and residential areas and to tourist destinations. This is due to a combination of factors, including the four listed below.

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2.1. Insufficient road space relative to transport demand

Gauteng, the economic hub of South Africa, is experiencing phenomenal growth due to favourable economic conditions, which demand the rapid movement of commodities and passengers to and from local and international markets and business centres.

The ability of transport systems, particularly the road network system, to cope with this demand is being tested on a daily basis. The public, business and media increasingly complain about the negative impacts of some of the prevailing conditions on the roads e.g. high congestion on most freeways and major arterials, high accident statistics, sub-optimal road maintenance and the high percentage of trucks on the road system.

Traffic volumes on the national freeway network in Gauteng have grown by an average of 5%. This growth against the backdrop of very little infrastructure construction over the past 25 years is the main reason for congestion currently experienced. Apart from the construction of a small section of the N17 between the N3 and Wemmer Pan, and the construction of the N4/PWV2 to the north of Pretoria, existing infrastructure was merely upgraded to cater for the growth in road space demand.

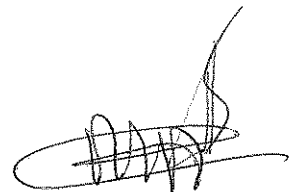
The exponential effect of traffic growth indicates that the province can expect major traffic congestion within 5 years, even if other initiatives to promote the shift from private to public transport take place.

Position	1991	2004	Growth	Annual Growth
N1 Soweto	45000	86000	91%	5.1
N1 H/S	47000	96000	104%	5.6
N1 Allandale	80500	156000	94%	5.2
N1 Olifants	50900	117000	129%	6.6
N1 Atterbury	55000	115600	110%	5.9
N3 Geldenhuys	75000	126000	68%	4.1
Gillfoolys	77000	126000	63%	3.9

Table 1: Traffic growth trends in the Gauteng freeway system

There is also evidence that vehicle ownership is increasing exponentially. Currently Gauteng has 2,55 million registered vehicle owners. A 7% growth was recorded for 2006.

Studies such as the CSIR Nodes and Corridors Study and Gautrain Integration study, indicate that the focus of economic and social development will continue to be the greater Johannesburg, JIA/ Ekurhuleni and Pretoria



areas, and along the N1 corridor (and to a lesser extent the R21 corridor) between them. Thus the pressure on the road network will continue.

The most common negative impacts of insufficient road space include:

2.1.1. Quality of life

Due to the rapid traffic growth morning and afternoon traffic peak periods have extended to almost 3 hours respectively, resulting in increased travel times between home and work, and decreased private time for family, education and leisure.

The bulk of public transport in South Africa is road based. Traffic congestion therefore affects the quality of life of many poor South Africans reliant on public transport who often need to commute long distances.

2.1.2. Productivity

Many productive hours are wasted as a result of increased travel times. Long travel times must also impact on people's productivity when they finally arrive at work.

2.1.3. Economic development potential

Research based on a Sectoral Macroeconomic Model indicates that South Africa has a chance to attain an output growth rate of close to 6% per annum over the medium term, reaching 7,5% over the long term. But a caveat exists, namely the ability of government to address constraints such as the lack of skills and inadequate infrastructure including road infrastructure.

Successive Ministers of Transport have referred to the performance of South Africa's transport system as "poor" and various official documents have warned about the negative effects that inadequate transport infrastructure exert on the country's ability to generate sustained and high economic growth.

Studies have found that transport constrained development can be expected to lag between 0,5% to 1,5% below unconstrained development.

Further, insufficient road capacity negatively affects the profitability of developments in the province. The inability of traffic reaching certain destinations (new developments), or the additional financial burden conveyed to the developer to provide road infrastructure as a condition of approval, makes many of these developments non-viable. As a result of this additional cost burden, business may relocate and/or scale down their local operations.

Lack of sufficient road space may also cast a shadow over South Africa's ability to successfully host the World's premier event, the FIFA World Cup, in 2010.

In addition, the lack of development of the West Rand vs. the East Rand can partially be attributed to the way in which these areas are served with freeways. The East Rand has the N12, N17 and R21, whilst the West Rand is only connected to the Pretoria with the N14 (R28).



consequence of the apartheid system and continuous under-investment in the public transport system. In recent times, expenditure targeted at pro-public transport infrastructure has lagged behind the more commercially driven infrastructure expenditure that caters for the ever increasing demand from both freight transportation and private car use. As a simple example, apart from a few isolated instances, there is no network of public transport dedicated lanes that have been constructed in Gauteng, while there is a well developed rapid transit motorway system suitable for private cars.

Notwithstanding the above, what is not realised is the contribution of the public transport system to the economy of Gauteng as both a mass mover and sector in its own right. The potential that public transport has to consolidate mobility in the province as well as discourage urban sprawl is relatively untapped. Increasingly there is a call for use of a pro public transport and inter-modal approach to address current access and mobility challenges in the province. However, to the contrary road based public transport has been suffering marginalisation, while on the other hand no links have been visible between initiatives on the road and rail sectors.

2.4. Systematic under-investment in the rail system

It has been reported elsewhere that there has been a systematic under-investment in the rail system over the past 30 years, both in terms of the preservation of existing infrastructure and in the development of new rail lines. The true impact of this lack of investment is only beginning to be felt now both in the areas of freight and public transport. Some of the obvious symptoms include ageing rail infrastructure, malfunctioning signalling systems, ageing rolling stock, the closure of certain rail lines, shortage of rolling stock capacity and operational delays and service unreliability.

In Gauteng province, this has resulted in a number of undesirable outcomes including the migration of commuters away from commuter trains into road based public transport; the increased use of road based freight transport in preference to the rail mode; the rapid deterioration of road infrastructure due to the practice of heavy vehicle overloading; competition for road space between private vehicles, public transport and freight vehicles; and an increase in the occurrence of road accidents.

2.5. Insufficient public funds to increase road space and improve existing road space management

The table below indicates road infrastructure provision in Gauteng (2003 figures):



Table 2: Road Infrastructure Provision in Gauteng

Road Type	Provincial Roads (km)	National Roads (km)	Local Roads (km)	All Roads (km)
Freeway	203	432	15	650
Dual Carriageway	331	21	8 276	8 628
Single Carriageway	2 877	13	15 610	18 500
Gravel	1 478	0	4 929	6 407
Total	4 889	466	28 830	34 185

Numerous authoritative research reports and official publications published since the late 1990s indicate a rapidly deteriorating national road network in South Africa. According to research by Sampson and Kruger, it was estimated that in 1988 around 75% of national and provincial roads were in "good" or "very good" condition and only 5% were in "poor" or "very poor" condition. Since then, matters have taken a turn for the worse. Today, several erstwhile bitumen roads have been downgraded to gravel roads and various public transport routes in rural areas have been abolished as a result of the poor condition of certain roads.

Data from the inventory of the Pavement Management System shows that about 80% of the total road network in Gauteng has a pavement structure older than 20 years which is normally considered the design life of a pavement. In other words, 3 100 km have already reached the end of their design life. In the 20 years since 1985, the proportion of sub-standard roads has increased from 4% to 24% and the proportion of those in acceptable or better condition has reduced from 96% to 76%. This is a strong indication that the network of higher order roads is fast reaching the end of its design life. As is often the case, it is the poor that suffer the most when basic infrastructure deteriorates, as the decay of transport infrastructure is most prevalent in rural areas.

Problems relating to inadequate funding for road infrastructure can be traced back to 1988 when the dedicated fuel levy was abolished. Budgets for road projects were reduced significantly immediately thereafter. Hardly any significant new road construction projects have been launched since then, whilst funding for maintenance has been lowered. South Africa has been spending considerably less than half of the international benchmark for road construction and maintenance over the past decade. Between 1980 and



2004, the public sector share in gross domestic fixed capital formation in the South African economy declined fairly dramatically from 50% to 30%.

In addition, to eradicate the apartheid legacy, a huge demand has been placed on public resources to improve the quality of life of the previously marginalised people almost in every sector including water, sanitation, housing, education, health, social security and of course roads (among other transport sub-sectors). These competing demands on the fiscus have meant that Government needed to prioritise interventions, and roads have generally been on the lower end of priority lists. Thankfully with the large infrastructure investment commitments that have recently been made by Government, more funding is beginning to be allocated to roads. However due to the backlog that has been growing over time the allocations are still not sufficient to ensure a significant expansion in capacity and improvement in the overall quality index.

Within the road sector itself there is a need to not only preserve existing primary and urban road networks, but also to expand networks to cover rural communities and previously unserved black townships. Thus public funds are increasingly being prioritised for other parts of the road network including the development of access roads and the upgrading and tarring of gravel roads in rural areas and previously disadvantaged townships respectively.

It is essential that a sustainable and comprehensive financing strategy for continued road improvement in the province is adopted to ensure that transport in the province enables the government to reach its goals for economic growth and social development in the province and the country.

3. OBJECTIVE OF A GAUTENG FREEWAY IMPROVEMENT SCHEME

The Gauteng Transport Intergovernmental Charter sets out a number of objectives to achieve in respect of transport infrastructure. These include to:

- "Manage our existing road space better by shifting our focus to providing capacity for moving people and goods, rather than vehicles.
- Minimise the construction of new major roads, guided by our objectives of promoting public transport, densifying our urban areas and containing urban sprawl.
- Upgrade township and access roads.
- Transform the way in which we deliver road infrastructure including a focus on public- transport-friendly and walking-friendly measures.
- Integrate with the Expanded Public Works Programme, contractor development, BBBEE and rural local economic development approaches in building our transport infrastructure.
- Provide quality public transport infrastructure.
- Ensure maximum road safety for pedestrians and commuters."

In respect of road space management, our objectives include to:

- "Ensure that optimal use is made of existing road space for the effective movement of people and goods with a bias towards public transport.



- Ensure that road space is shared equitably between all its users and that proper provision is made for pedestrians and public transport vehicles.
- Ensure that the costs of transport infrastructure are apportioned fairly among the users.
- Promote a positive public attitude and growing consensus around the need for TDM measures, including the need for alternatives to the single-occupant car."

Drawing from the above, it is proposed that our objective in respect of the Gauteng freeway system is to provide a safe and reliable strategic road network system which would optimize the movement of freight and passengers, manage congestion and focusing on the promotion public transport through the efficient and effective use of existing and future freeway road space, in order to grow the economy and enable sustainable development to the benefit of all in the province.

4. STRATEGIC INTENTION OF A GAUTENG FREEWAY IMPROVEMENT PROGRAMME

The strategic intention of a Gauteng Freeway Improvement Programme is to manage the demand for road network capacity through an integrated system of infrastructure development and travel demand management.

It is proposed that this should involve three elements:

- Introducing a toll scheme on the majority of the freeways in Gauteng which would aim to prioritise public transport users, manage private car use and ensure freight moves efficiently on the freeways system.
- From the funds generated by the toll scheme, provide **new freeway and public transport infrastructure** (dedicated lanes, shelters, lighting, pedestrian walkways etc) on designated public transport roads adjacent, adjoining or affected by the freeway system.
- Introduce **travel demand management measures** such as car pooling and sharing, traffic flow control and incident management to ensure that private car use of the freeways system is more efficient.

It is anticipated that the impact of these three elements would be to:

- Reduce congestion;
- Provide public transport prioritization so that public transport users are prioritized and public transport can become the preferred mode; and
- Ensure that freight moves efficiently around the province.

Critical to the achievement of this balance will be the integration of planning across the spheres involved in road network management in Gauteng, optimization of the use of the different modes of transport and the effective management of road network operations.

5. HOW A GAUTENG FREEWAY IMPROVEMENT SCHEME CAN CONTRIBUTE TO ACHIEVING NATIONAL AND PROVINCIAL PRIORITIES

In the above section we identify that the strategic intention of a Gauteng Freeway Improvement Scheme would be to reduce congestion, promote and prioritise public transport and enable freight to move efficiently around the province. These three objectives are critical for the province and the country to achieve its priorities.

Government's position in respect of transport is that "the provision of accessible, affordable, safe, reliable and efficient public transport system is a necessity for ensuring that the vast majority of our people are able to access social and economic opportunities and freely participate in social and economic life." To this end, national Government committed itself in the current 5 year term to high levels of infrastructure investment that are intended to unlock economic potential, deliberately link the 1st and 2nd economies, and intensify the fight against poverty. This commitment is finding expression in the Accelerated and Shared Growth Initiative of South Africa (ASGISA).

The White paper on National Transport Policy calls for the development and maintenance of transport infrastructure and prioritises its development in accordance with sustainable economic and development principles. It indicates that this should happen within the context of a sound financial base. It also refers to the need to encourage more efficient land use, correcting past imbalances and reducing travel distance and time. It further calls for the prioritisation of public transport over private transport. It specifically indicates that future national road network management will be administered through the creation of a Roads Agency, but also acknowledges the statutory roles and responsibilities of provincial and municipal roads authorities and sets clear principles of cooperative governance.

From a roads perspective, the draft Road Infrastructure Strategic Framework for South Africa provides a blueprint for achieving the White Paper's objectives through integrated roads development planning. Acknowledging current shortcomings in road network management, it proposes a new road classification system to integrate the various road types and eliminate unclassified roads. To address funding challenges, it calls for the adoption of a cluster approach to roads financing e.g. access roads, strategic national roads etc., and it calls for the expansion of the role of the private sector in road network development. While acknowledging successful implementation of toll schemes, it cautions that care should be taken in the identification, planning and implementation of such schemes to ensure that socio-economic benefits are maximised for road users and affected communities.

Consistent with this, the Gauteng Provincial Government in 2004 identified its priorities for this term of office to include:

- Enabling faster economic growth and job creation; and
- Fighting poverty and building safe, secure and sustainable communities

To achieve this, the province committed itself to enabling, supporting and investing in strategic economic infrastructure including the Gautrain Rapid Rail Link, the Innovation Hub and the Johannesburg International Airport Industrial Park. To build sustainable communities, it indicated the need to reduce the use of motorized transport due to its negative impact on the environment and the health of our people.

The Gauteng Growth and Development Strategy (GDS), underlines the need for the provincial transport system, including that of public transport, to facilitate effective and efficient mobility of people as well as that of goods, and services, as a vital element for the growth of any modern economy. It thus identifies the provision of public transport as one of the strategic levers of the GDS. In addition, the Gauteng Infrastructure Summit held last year identifies the need for the maximum co-ordination and integration to deliver transport infrastructure including much needed roads, transport corridors and improved freight and logistics (rail and road) to increase import and export opportunities.

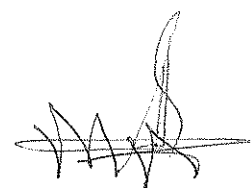
Provincial and municipal government in Gauteng have also committed to grow the province as a globally competitive "city region". In this regard transport infrastructure provision has been identified as a key priority area to ensure success. To implement this commitment various initiatives are currently being implemented including the consolidation of inter-city movement along the North-South corridor through the Gautrain; the linking of the eastern and western parts of Gauteng to the central activity areas; the definition of Strategic Public Transport Networks facilitate home to node and node to node linkages; the linking of historically marginalized townships and settlements in the urban periphery with economic centers, and the discouragement of urban sprawl through the densification of the urban form

The metro's visions for transportation all emphasise the need for enhanced mobility and accessibility with a strong public transport focus.

From the above, there are a number of common and recurring themes relating to the need for strategic economic infrastructure that will enable and support economic growth. A freeway improvement scheme is but one form of strategic infrastructure, among those referred to above, that by reducing congestion and increasing mobility of goods and people can ensure that Gauteng's competitiveness improves and the economy grows.

6. PRINCIPLES TO GUIDE A GAUTENG FREEWAY IMPROVEMENT SCHEME

Above we spelt out the key objectives in respect of transportation infrastructure, which are contained in the Gauteng Transport Intergovernmental Charter. In this section we spell out how these objectives should translate into principles to guide the Gauteng Freeway Improvement Scheme. In Section 8 we apply these principles to the proposed toll scheme.



6.1. Public transport must be prioritised

All spheres of government are committed to the prioritisation of public transport. In metropolitan areas, the use of public transport is essential for integrated and sustainable transport management. In accordance to this principle, the promotion of public transport should be an integral to all transport projects including the proposed freeway improvement scheme.

Thus respect of freeways, the principle could be implemented in the following ways:

- Identification of parts of the freeway and major road network as **public transport corridors** in instances when the major mode/user of the road network is public transport vehicles (buses and mini-bus taxis).
- Designing relevant parts of the network in ways which are **public transport friendly**. This can include provision of dedicated public transport/high occupancy vehicle (HOV) lanes, lighting, shelters, taxi and bus bays, and good links with public transport facilities etc.
- Ensuring that if part of the network is designated as a public transport corridor, **competition with other modes such as freight or private car is minimised**. This may imply in practice that major arterials are designated and designed for public transport while freight and private cars are forced to use the freeway system. In general, the freeway system is not the most desirable for public transport.
- Treating public transport differently in any user charging scheme so that it is more affordable and thus more attractive. SPTN routes could also be subsidised from toll revenue.
- Designing new parts of the road network in a way that in the future it could **accommodate light rail** in the cross section.
- Integrating the strategic road network with commuter rail corridors so that **rail and road complement and do not compete** with each other.

6.2. Recognition of unique functions of different parts of the transport system and the promotion of modal integration and alignment

The draft Road Infrastructure Strategic Framework for South Africa (RISFSA) identifies a number of different road classes with different functions. In Gauteng, particularly as a result of rapid urbanisation, many of the original functions of roads have changed and mobility corridors now serve purposes of 'accessibility'. There are high levels of competition on some roads between freight and public transport as well as inappropriate use of road by some freight sectors that should be using rail. To ensure optimal use of our transport system, it is important that the road network system is reviewed with the intention of ensuring that each road class is designed and used in accordance with its designated function. In addition, to ensure network sustainability, road and rail transport systems should increasingly be designed to complement each other rather than compete.

In Gauteng, the DPTRW together with national and local government have embarked upon an exercise to review the strategic road network. Part of this exercise will include looking at the key functions and appropriate design

standards for different classes of roads in accordance with RISFSA, as well as aligning the relationship between road and rail.

In respect of the freeway improvement scheme, this principle could be implemented to:

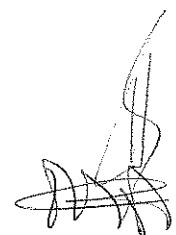
- Promote the movement of freight within designated corridors in a cost effective and seamless manner, using the most appropriate mode.
- Ensure that the different parts of the freeway system perform in accordance with their primary functions i.e. freight movers should have the required strength and durability, while public transport routes should have the required public transport friendly amenities.

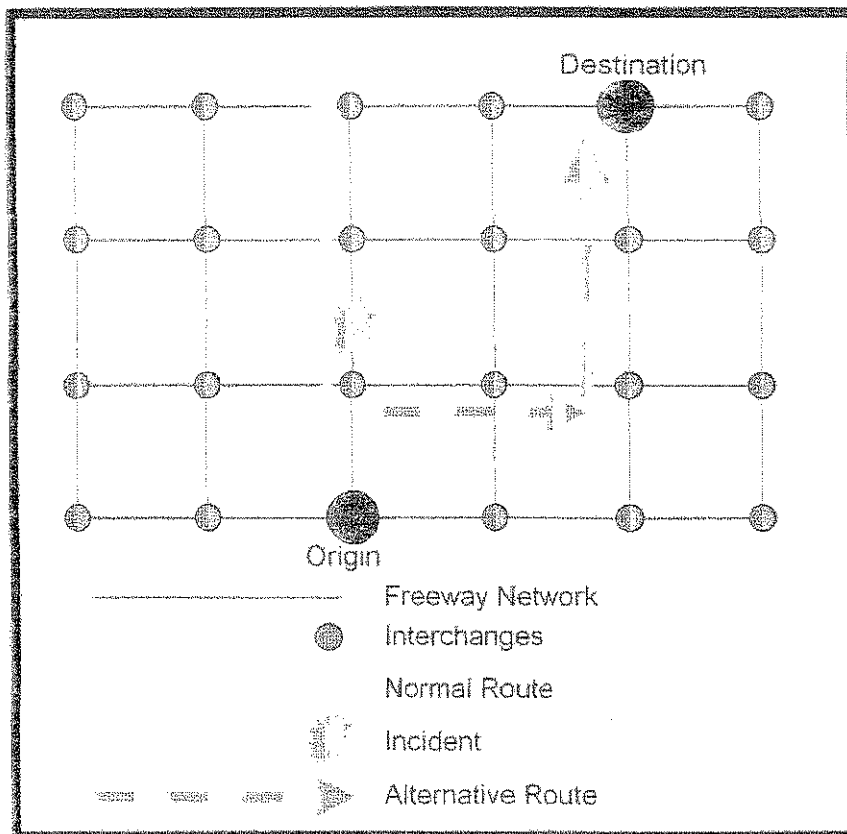
6.3. Optimal use must be made of road space

Gauteng is a small highly urbanised province where land is costly and in short supply. While some new links in the road network may need to be constructed the priority should be to maximise the use of existing road space and optimise the use of any new additional capacity.

This principle can be implemented through the adoption of the following kinds of measures, referred to as Travel Demand Management (TDM):

- **Promotion of trip sharing** through the provision of special lanes for high occupancy vehicles, discounted tariffs for the use of the road in the event of a toll network, dedicated lanes at intersections, the creation of lift club and pool vehicles, etc.
- **Implementation of Intelligent Transport Systems (ITS)** which enables road authorities to monitor the network to identify incidents, effectively manage them and pro-actively inform the public of these events to alter their trip planning. ITS also makes it possible to redirect traffic to other routes by means of Variable Message Signs, Travel Time Estimation etc. (see illustration below).





- **Congestion pricing** to manage travel demand during peak hours and encourage users to rather use public transport. This can be done by increasing toll tariffs for all or specific vehicle classes in congested periods. For example, in the event of a toll system, the toll tariff for heavy vehicles may be increased dramatically in peak periods in order to encourage deliveries to take place outside peak hours. Alternatively, it may not be increased on identified freight corridors, in order to encourage the use of heavy vehicles on those specific corridors.

It should be noted that in order to actively manage the use of road space, it is important that an integrated road network of ring roads and open networks are available to redirect traffic.

6.4. There must be equitable and sustainable maintenance, upgrading and expansion of the road network system

To sustain economic growth in the province, funding streams for infrastructure maintenance, upgrading and expansion should be sustainable and consistent across spheres of government and classes of roads. Well maintained roads reduce the scale and severity of road accidents.

Different funding sources (tolls, developer contributions, rates, fiscus, loans, grants) can be used to fund different classes of road infrastructure and

different kinds of transport infrastructure. Where appropriate, "The user pay principle" is key to achieving sustainable sources of funding for transport. In particular the private car and freight car users should be paying a greater portion of the real costs of using the road network.

6.5. Different transport interventions must be integrated and contribute to the economic and development strategy for Gauteng

The different spheres of government are committed to an integrated transport system including road, rail, Gautrain, taxi and bus operations. Thus any freeway improvement scheme proposal must contribute pro-actively to achieving such integration.

Measures to implement this principle in respect of a freeway improvement scheme include:

- Including congestion management as one of the objectives of a tolling scheme and setting toll prices in a way to achieve this objective;
- Setting the toll price in a way that would push private car users travelling in a North/South direction to use the Gautrain and road based public transport;
- Reaching agreement across spheres of government on relevant action plans for identified national freight corridors;
- Ensuring that where appropriate freight is moved by rail and not road;
- Prioritisation of public transport on the freeway system, thus also supporting taxi recapitalisation and bus transformation; and
- Introducing legislation to encourage high vehicle occupancy through car pools and ride-sharing supported by the provision of HOV lanes; and
- Having a single incident management system for all parts of the major road network.

Similarly, while it has been argued above that a freeway system will contribute to economic growth and transport mobility, this principle also ensures that the freeway system actively contributes to the growth and development priorities of all spheres of government. These include:

- The setting and meeting of BBBEE targets in the maintenance of the freeway network and management of a user charging scheme;
- Maximising the use of EPWP methods in the construction and maintenance of the freeway system;
- Prioritising new links to the network which will facilitate economic activity in previously disadvantaged areas e.g. West Rand;
- Improving links in the network, which provide access to prioritised tourist destinations such as Dinokeng, Cradle of Humankind and Eye of Africa in the South.

6.6. Co-operative governance

In his State of the Nation address in February 2006, President, Thabo Mbeki said: "Integration of planning and implementation across the government



spheres...one of the prime areas of focus in our programme for the next term of local government. In this regard we will be guided by the Inter-Governmental Relations Framework Act. We must in practice respect the system of cooperative governance..."

The Gauteng Intergovernmental Transport Charter agreed to by all MECs and MMCs in Gauteng is a practical manifestation of co-operative governance. It sets out the different roles and responsibilities of local and provincial government as well as areas where joint action should be taken.

It would therefore be important that in respect of a freeway improvement scheme, all three spheres of government should be involved in the conceptualisation, planning and operations/management.

7. MOTIVATION FOR A STATE FUNDED TOLL SCHEME TO IMPROVE THE GAUTENG FREEWAY SYSTEM

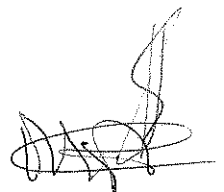
Having illustrated the need to develop and improve economic infrastructure, and understanding that road infrastructure is very expensive both from a capital and maintenance perspective, particularly if the latter is not done timeously, roads authorities need to carefully determine where sustainable funding will be sourced. The following sections give an overview of some of the available funding options:

7.1. Fuel Taxes

South Africa had a "dedicated fuel fund" in the past that ring-fenced funds for road projects. However, the levy was abolished in 1986. Since then, all road maintenance and construction costs for non-toll roads have been funded from the fiscus through local, provincial and national budget allocations. Toll revenue is accounted for separately and is, in terms of legislation, only expended on toll roads.

There is a tax levied on each litre of fuel sold in South Africa. This levy is a major revenue generator for Government, however apart from the allocation to the Road Accident Fund; much of it goes to the central fiscus for allocation across the spectrum according to needs and government priorities. A similar tax is applied all over the world, which is in most instances much higher than the fuel tax in South Africa. From a roads perspective, it is felt that more of this money should be allocated back to roads.

The reinstatement of a "dedicated fuel fund" is debated and demanded by many. It should however be kept in mind that fuel levies do not guarantee a dedicated ongoing revenue stream. Even in the pre 1986 era, the fuel levy was not CPI linked and this resulted in a constant battle to obtain more road funding. The draft RISFSA initially proposed that this funding mechanism be reintroduced, however National Treasury was not in support of the proposal.



The DOT has indicated that it will investigate this matter further with the intention of tabling it again at a later stage.

7.2. Vehicle registration/license fees and traffic fines

In South Africa, income generated from vehicle registration and license fees as well as traffic fines, although collected by provincial and local spheres of Government, is not necessarily available to transport authorities for infrastructure provision. It generally gets absorbed into the central fiscus and is allocated in accordance with provincial or local priority investment areas. It is an important source of 'own' revenue for provincial and local government, and understanding the competing demands at this level, there can never be any guarantee whether it will find its way back to the roads sector.

7.3. Development impact fees

Developer contributions towards infrastructure provision are taking place in South Africa, although not on a formalized, national basis. In some instances, developers make a bulk services contribution, others provide infrastructure as part of the conditions of approval for land use amendment schemes, and others do not provide/pay anything.

Currently, efforts by the Gauteng Provincial Government and some of the bigger metropolitan authorities are underway to formalize a policy for developer contributions. However, current legislation does not allow provincial and national authorities to benefit from these contributions.

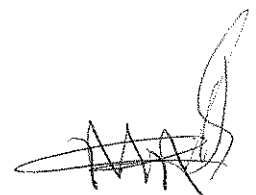
Developer contributions can play an integral role to finance the local supporting road network. It is unlikely that developer contributions will be sufficient to fund upgrading and expansions of the freeway network. A system to determine which developer should contribute is also very difficult to establish. This mechanism may be more applicable to municipal road networks.

7.4. Shadow tolling

Shadow tolls have been used in the UK, Finland and the Netherlands, and the terminology has confused many people. No tolls are levied from road users under this approach. Instead the shadow tolls are paid by Government to the operator, based on traffic counts on the road, an agreed rate per vehicle/vehicle type and an agreed set of performance criteria.

The benefits of this system do not therefore stem from the development of a new source of funds, or from making users internalize the external costs of their travel, but rather from Government commitment to continued financial support over several years.

The shadow toll approach does not require traffic to slow down for toll collection. It does require the Government and private sector to agree the vehicle counts and because of the difficulties surrounding legal arrangements,



the transaction costs can be very high. The current PPP framework in South Africa has not been tested in this regard, but more importantly extensive lobbying will need to be made at National Treasury to get commitment of public funds for repayment of the private investment over a concession period of typically thirty years.

7.5. Tolling

Tolling is a user based funding mechanism for road infrastructure development. It enables the mobilisation of substantial capital funds upfront, usually through debt equity, for the construction of infrastructure such as freeways. The implementation of toll roads by governments in developing countries and countries in transition is becoming an attractive option since:

- It allows fast implementation of infrastructure projects necessary to stimulate much needed economic growth.
- It does not require the government to make available additional funding from their current revenue base for these projects.
- It allows them to rather spend the funds for essential services such as health and education and other parts of the transport system such as upgrading of gravel roads in townships.

Toll financing has a distinct advantage of accelerating the availability of initial funding for construction as compared to traditional tax-supported highway finance. The initial capital cost for a project could therefore be financed over a shorter period than through limited tax based budgets. As a result, the benefit of increased roadway capacity is available to the public sooner. Therefore, tolling is an equitable way of implementing the user-pays principle and does not compromise fiscal integrity.

Under a toll scheme two options are available for raising debt, namely private project financing and a state toll scheme.

With private project financing, a complex process of risk identification and cost detailing is undertaken prior to the preparation of concession agreements. Risks and costs can usually be offset by benefits, and the ratio of these normally determines the feasibility of such ventures. For the Gauteng freeway system, an unsolicited bid proposal for the upgrading and expansion of the freeway network was considered and evaluated. In the end, it was concluded that the proposal was not feasible.

The second option is for application of the 'state toll road' option. This option will allow road authorities to provide a balanced toll and not only focus on the more profitable sections. The scheme can be implemented systematically, as and when demand requires it, and when all land acquisition and environmental processes are completed.

It is thus proposed that improvements the Gauteng freeway network be financed as a State Toll Road. A preliminary financial analysis of the scheme

8.4. Principle 4: There must be equitable and sustainable maintenance, upgrading and expansion of the road network system

The proposed scheme will generate toll revenue that will ensure that acceptable levels of services are maintained.

The road network will also be safer as a result of an effective maintenance programme and measures such as ITS. This could reduce user resistance to paying tolls.

8.5. Principle 6: Co-operative governance

In accordance with the principles of the Constitution of the Republic of South Africa, the White Paper on National Transport Policy and the Gauteng Intergovernmental Charter, roads authorities in Gauteng need to jointly plan and agree on the development and management of the province's freeway system. The respective authorities should recognise and respect each other's roles and the scheme should serve to meet the objectives and interest of the province.

To this end the Department of Transport, the Gauteng Department of Public Transport, Roads and Works, the South African National Roads Agency Limited, and all municipalities in the province must contribute to scheme development, agree on the scheme implementor, and agree on a framework for application of scheme revenues that are intended for public transport subsidisation.

Scheme approval should be obtained from political heads in all spheres of Government including the Minister of Transport, Gauteng EXCO, the SANRAL Board and ultimately national Cabinet.

9. FEATURES OF THE PROPOSED TOLL SCHEME

9.1. Open road free flow tolling

A conventional toll collection on urban freeways where all vehicles are stopped and payment is by means of cash, credit or electronic card will result in unacceptable delays or large toll plazas.

It is therefore proposed that toll collection takes place using Electronic Toll Collection (ETC) tags, such as those being used for the Bakwena toll concession.

In order to encourage ETC usage, ETC users will receive a substantial discount, or alternatively, non ETC users will be penalized to make provision for the back office costs to collect toll charges from them.

9.2. The strategy should not affect route choice

In order to ensure good distribution of traffic throughout the network, it is proposed that toll points be positioned in such a way that they do not affect

route choice. For example all freeway routes from Johannesburg to Pretoria would be tolled and at the same tariff. Users would also be able to switch routes without any affect on the toll charged (Figure 1)

9.3. Directional tolling in corridors

It is proposed that a directional toll system should be used to provide more fairness (Figure 1). Tolls charged to users using a portion of the route will be minimised. For example, users travelling between Pretoria and Midrand will be charged once travelling southbound. For the return journey, they will not be charged. On the contrary, users travelling between Pretoria and Sandton will be charged for both journeys since they may utilise the full extent of a new or upgraded section.

Although the directional toll seems to be fair and viable, other options such as closed toll systems will also be evaluated.

9.4. Equal toll tariff at toll points based on 20km of travel

It is proposed that the toll charge be based on a cent per km rate related to approximately 20 km of travelling on the network. Thereby, the same toll tariff will be charged at all the mainline toll points for the same vehicle type.

10. PROPOSED TOLL SCHEME

10.1. Scope of proposed upgrading and expanded network

The proposed toll scheme comprises a combination of existing road network capacity expansions and the development of new freeway. The existing road network improvements comprise the ring road network, the Ben Schoeman highway and the R21 and R24 links to the Johannesburg International Airport. The new freeway sections include the construction of essential missing links both in the north –south and east west directions including the PWV9 north and south; and the PWV5 and PWV 14 respectively. The scheme is designed to open up the hitherto "silo" design of the Gauteng Freeway system in order to give more options to the road user and provide multiple routes to any single destination.

Note: The detailed section descriptions below should be read in conjunction with Figure 1

- Sections to be upgraded as part of the initial construction works (ICW):
 - N1
 - N3
 - N12
 - N14
 - R21
 - R24

- New Sections to be constructed as part of the initial construction works (ICW):
 - PWV 5 (between PWV 9 and the R21)
 - PWV 9 (Between the N1 and the N14), and
 - PWV 14.
 - Possible extension of the N17 to the West Rand
- Future Expansions that form part of the total scheme:
 - PWV3
 - PWV 5 further extended to the south
 - PWV 9 (North of the N14)
 - K54

Apart from the new and upgraded sections, a large portion of the network is proposed to be integrated in the scheme for purposes of maintenance, ITS, the provision of lighting and future upgrading. These routes include the N14, N1 Eastern Bypass (Pta), N4 up to Hans Strijdom and the N12 south of Johannesburg.

The above proposal is still preliminary and will be subject to agreement on the total freeway toll scheme, the ICW, modelling studies that still need to be conducted and national and provincial priorities.

10.2. Funding requirements

The estimated initial construction costs are shown in table 2

Extent	Length (km)	Cost (R.m)
Widening	154 } 392 new lane km's	2 750
New Freeways	55 }	3 550
Maintenance only	150	
Total ICW (Road Length)	359	6 300

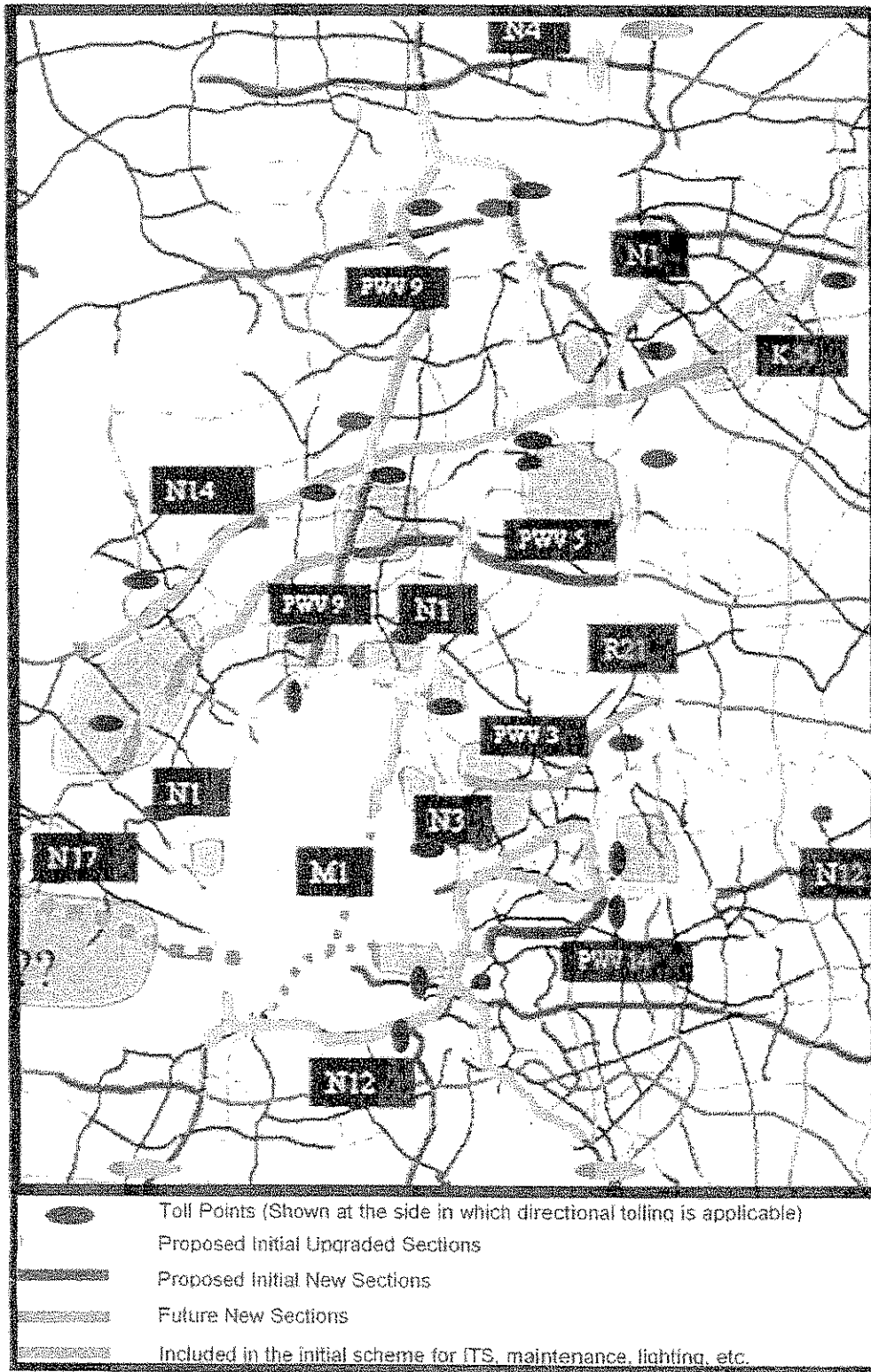
Notes: Costs excludes VAT, Include provisions for specific projects, 2006 Rand

New construction cost = R 60 m/km (Excl VAT)

Widening cost = R20 m/km (Excl VAT)

The final Scheme (after the 30 years analysis period), has a total construction investment of up to R25 billion construction investment (2006 Rand, Excl VAT) and will potentially include an additional 111 km (55km initially & 66km further on in analysis period) of freeways.

Figure 1: Proposed Toll Scheme



The yearly estimated operations and maintenance costs amounts to R200m (Excl VAT, 2006 Rand).

It is estimated that the cost for e-tag users will amount approximately 30 to 35c/km (2006 Rand) to travel the network. It is based on an average distance of travelling on the network of 20km. Non e-tag users can be allowed on the network, but at a substantial increased tariff to allow for the additional effort to collect the toll charge from them.

Apart from the initial improvements and expansions of the freeway network, the cost for periodic maintenance actions, such as resurfacing and rehabilitation of the road pavement are included in the scheme. These costs amount to at least R800m (2006 Rand) per annum. Routine road maintenance actions (grass cutting, pothole repairs, guardrail repairs, etc.), as well as the toll collection operational costs are financed through the scheme.

The income generated at such a tariff seems adequate to finance the capital, maintenance and operational costs of the scheme. It still needs to be confirmed by means of specialist studies, which will commence after the principles of a freeway improvement scheme have been agreed upon.

10.3. Implementation programme

The implementation programme and timeframe will depend on a number of factors including:

(a) Capacity of the Civil Engineering Industry

During the lead up period to the 2010 FIFA World Cup, various construction activities will be ongoing in the province. Projects such as the Gautrain and stadium improvements will put significant strain on the availability of skills. It is possible that skills will not be available or only at a very high premium to focus on the freeway improvement scheme.

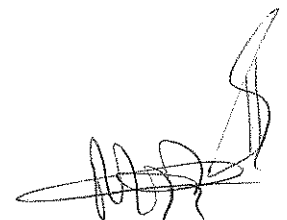
(b) Impact of construction activities on traffic conditions

The freeway system is already at capacity and the closure of any lanes for construction purposes will be unacceptable. Therefore, traffic accommodation needs to be planned such that the impact on traffic operations will be minimal. It is anticipated that the bulk of the works will take place at night or over week ends.

(c) Confederation and World Cup Soccer Tournaments

Present travel demand studies do not indicate that additional freeway road space is required for the movement of spectators and visitors during the World Cup. This is on the basis of a pro-public transport scenario and assuming that there would be significant investment in rail and road based public transport.

However if these assumptions change and the Gautrain is unable to meet its deadlines, additional freeway road space may be desirable and an



accelerated programme for certain sections of the freeway system may need to be considered.

The timeframes of the freeway improvement scheme would also have to bear in mind that the freeways can't be a 'construction site' during the Confederation Cup in 2009 or the World Cup in 2010.

(d) Environmental Impact Assessment and Toll Declaration Processes
Various public participation processes are required to get approval for the implementation of a toll scheme including the normal EIA process, the toll declaration process, and a process where the toll tariffs and possible discounts for specific users are determined. These processes can be lengthy and could delay the commencement of the scheme.

(e) Composition of the actual ICW and total schemes
As discussed above, the proposed freeway improvement scheme comprises a combination of existing road upgrades and new road construction. The ICW as proposed is not final and will be reviewed to ensure that all imperatives are incorporated in the final selection of roads that will make up the scheme. Depending on the combination of upgrades and new road works, the scheduled completion will vary and may or may not be before 2010.

Acknowledging the potential impact of the above factors, it is proposed that the following milestones be agreed:

- Announcement of the project by the Minister of Transport, MEC and MMCs: October 2006
- Completion of the toll declaration process: January 2008
- Completion of studies, designs etc: January 2008
- Environmental approval (ROD) for upgrading works and priority new work: January 2008
- Construction commencement: May 2008
- Construction completed of new sections: July 2012

11. TARGETED INTERVENTIONS WITHIN THE GAUTENG FREEWAY IMPROVEMENT SCHEME

As spelt out in the 'strategic intention' section, it is proposed that the following interventions be incorporated into the toll scheme.

11.1. Prioritisation of public transport on the freeway system

In order to ensure that public transport receives the priority it deserves in the planned freeway improvement toll scheme, the following features need to be incorporated:

- Construction of public transport /HOV lanes on the freeway toll scheme;
- Designing of a public transport preference/discount regime;

- Designing of a punitive congestion charge targeted at single occupant vehicles on the freeway toll scheme;
- Incorporation of park and ride facilities in appropriate sections of the freeway system to ensure ease of transfer from private cars to public transport; and
- Integration and alignment with the Gautrain and SPTN's of local government

This approach will ensure alignment with government policy to promote public transport use over private car use, not only in public transport routes that are adjacent to the freeway, but also on the freeway system itself.

11.2. Ride sharing

It is proposed that the Gauteng Freeway Improvement Scheme include a government initiated and facilitated ridesharing scheme. Cars that are part of this scheme would then be able to travel at a reduced toll tariff and/or on HOV lanes on the freeway system.

Ridesharing refers to either car pooling or 'vanpooling'. Carpooling uses participants own cars while vanpooling uses rented vehicles which could be 8, 12 or even 16 seater. Vanpooling is an overseas term and we would need to find our own appropriate term.

It is proposed that either local or provincial government (or specific agency) would facilitate ridesharing through:

- providing ride-matching services (e.g. through a website or call centre)
- introduce an appropriate regulatory environment including addressing issues of insurance and licenses;
- interact with the private sector to respond to ridesharing e.g. through pay-as-you-go insurance, asking employers to facilitate ridesharing at work.

The City of Joburg has already done some initial work in this regard. If the proposal was accepted, more work would need to be done and a more detailed proposal put forward.

11.3. Subsidisation of public transport from toll revenues

At 8.1.1 it is proposed that to provide extra resources for public transport infrastructure, the financial model would be adjusted to achieve financial returns above 0% to the benefit of public transport.

It is proposed that the surplus funds generated be used for:

- Introduction of HOV or Bus Priority Lanes on existing major arterials;
- Existing SPTN's; and
- Public transport infrastructure such as lighting, shelters, taxi lay byes.

A practical framework that could be used for the disbursement of these funds is that similar to the Urban Transport Fund mechanism of the Department of

Transport, with a clear intention of funding public transport infrastructure development.

11.4. Integration of toll scheme with SPTNs and the Gautrain

In determining the routes to be tolled as well as the toll price consideration will be given to incentivising the use of public transport.

The success of the Gautrain and buses or taxis on the SPTN rests on maximising the number of commuters who use these as their preferred mode during the peak. Therefore parts of the freeway system that go in the same direction as these would need to 'penalise' private car uses in the peak or 'incentivise them' to use Gautrain or a bus and taxi on the SPTN instead of their private car.

For private car users to move to public transport to avoid paying tolls, there would need to be intergovernmental co-ordination and commitments to deliver an equitable standard of public transport as well as increase in facilities such as park and rides.

11.5. Heavy vehicle regulation - Overload control

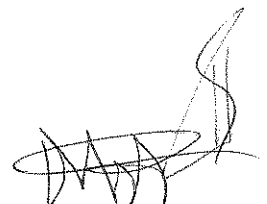
Overloaded trucks have a serious detrimental effect on road pavements. In order to protect Gauteng's road network, minimize maintenance costs, and ensure compliance with loading regulations, an aggressive pro-active overload control strategy will need to be implemented across the province.

The emphasis will be on the provision of weighbridge infrastructure on strategic routes such as the freeway system, a deployment of mobile weighbridges across the remainder of the network, and the intensification of law enforcement activities to restrict heavy vehicle movement to designated corridors and other heavy vehicle routes while ensuring compliance with load limits.

Overload control operations will need to be integrated with freight logistics interventions in order to ensure a balance between heavy vehicle control and the facilitation of seamless movement of cargo to intended destinations.

12. SOCIO-ECONOMIC IMPLICATIONS AND BBBEE

It can be proven through input/output table analysis (of the national accounts) that increased expenditure on road building activity generates multiplier effects in the economy that eventually warrant the fiscal resources necessary for such expansion. The draft report "BL110: Macro-economic analysis and projections relating to road infrastructure provision in Gauteng, prepared for the Department of Public Transport, Roads and Works, September 2005", indicates that the total impact on GDP of every rand spent on road building involves a multiplier effect of almost 1.27 times.



Approximately 24,000 jobs are created in the economy for every R 1 billion spent on road projects. In addition, from a government revenue perspective the combined taxation effect of road building activity results in a combined fiscal backflow effect of R298 million to the Exchequer for every R 1 billion (R 1 000 million) spent on such activity.

On the basis of the above, the following macro benefits of the Freeway Improvement Toll Scheme can be projected, assuming an estimated initial construction cost of R8,5 billion:

Job Creation: 204 000 jobs can be created.

Fiscal backflow into the economy: R2,5 billion.

Detailed socio economic impact studies will be performed to determine the project specific impact of the proposed scheme on socio economic development in the Province.


The construction of the toll scheme will be implemented in full compliance with the BBBEE Act and codes, the GPG BBBEE Strategy, and the CIDB and Construction Charter prescripts.

Realising that Government has committed itself to high infrastructure investment, and realizing that part of the main objectives of this Government's term are to accelerate transformation and eliminate the dual economy challenge – a lot of pressure will be placed on all planned key infrastructure projects, including the toll scheme, to contribute to achieving these objectives. In this regard not only will the proposed toll scheme need to be a significant job creator, but it will also need to meet the second economy needs of skills development and SMME empowerment. A clear skills development and contractor development framework will thus have to be applied, backed by a practical monitoring tool to measure impact over time.

A critical factor to achieving true industry transformation is broadening the scope of small contractor involvement in large-scale projects to enable growth e.g. from sub contractors to joint venture partners. This can be aligned to contractor grading and development instruments to ensure sustainability. The Construction Charters set very clear targets in terms of black ownership, women empowerment, procurement and enterprise development, and this should be used as a starting point to define key transformation performance areas for the proposed toll scheme.

Linking these with sector specific requirements in the following areas can ensure meaningful socio-economic contribution of the proposed toll scheme to the province's development, i.e.:

- Leveraging project funds to build capacity within the construction industry, particularly in the areas of engineers and technicians.
- Maximising the use of labour intensive construction methods where appropriate as a tool to achieve multiple objectives including infrastructure provision, job creation and skills development.



13. WAY FORWARD

This freeway improvement toll scheme proposal will undergo several processes before all necessary details of the scheme are finalised. Of priority will be the granting of approval for scheme go-ahead by political principals at the various spheres of government.

The next step will be the incorporation of the scheme in the various planning processes of the various spheres of Government, to enable plan integration. These will include the scheme's integration in Municipal Integrated Transport Planning processes under the broader Integrated Development Planning framework, and its integration in the provincial strategic road network review.

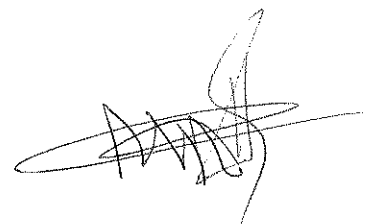
In terms of processes relating to scheme further detail planning, the following will be conducted:

- Agreement on the total freeway improvement toll scheme to be rolled out over the next 30 years;
- Review and finalisation of the Initial Construction Works (ICW);
- Detailed design of the targeted interventions of the toll scheme including public transport prioritisation on the toll scheme, subsidisation of public transport from the toll scheme, integration of the toll scheme with SPTNs and the Gautrain, and overload control.
- Agreement on the institutional arrangements for joint scheme planning, surplus toll revenue apportionment for public transport, and scheme implementation.
- Execution of specific studies such as traffic modelling, toll strategy analysis and financial modelling.
- Environmental studies; and
- Engineering design processes.

Consultation at all levels will be an important cross cutting element in all of the above processes, both within and outside Government. The most critical will be public consultation, which will be particularly necessary in the following areas:

- The principle of tolling;
- The planned Initial Construction Works;
- The nature and price of the planned toll scheme.

Finally, the success and timely delivery of this proposed scheme depends on the commitment of all three spheres of government to working together to arrive at an agreeable, integrated and demand responsive freeway system for the province, which will not only address current bottlenecks in the freeway system but also contribute to the provision of an adequate and sustainable pro-public transport road network system for the province.



IN THE CONSTITUTIONAL COURT OF SOUTH AFRICA

Case No.

In the matter between:

NATIONAL TREASURY

First Applicant

**THE SOUTH AFRICAN NATIONAL
ROADS AGENCY LTD**

Second Applicant

**THE MINISTER, DEPARTMENT OF
TRANSPORT REPUBLIC OF SOUTH AFRICA**

Third Applicant

**THE MEC, DEPARTMENT OF ROADS
AND TRANSPORT, GAUTENG**

Fourth Applicant

**THE MINISTER, DEPARTMENT OF WATER
AND ENVIRONMENTAL AFFAIRS**

Fifth Applicant

**THE DIRECTOR-GENERAL, DEPARTMENT OF
WATER AND ENVIRONMENTAL AFFAIRS**

Sixth Applicant

and

OPPOSITION TO URBAN TOLLING ALLIANCE

First Respondent

**SOUTH AFRICAN VEHICLE RENTING
AND LEASING ASSOCIATION**

Second Respondent

**QUADPARA ASSOCIATION
OF SOUTH AFRICA**

Third Respondent

**SOUTH AFRICAN NATIONAL
CONSUMER UNION**

Fourth Respondent

NATIONAL CONSUMER COMMISSION

Fifth Respondent

Handwritten signature and initials, possibly 'AA' and 'US', in the bottom right corner.

SUPPORTING AFFIDAVIT

I, the undersigned

NAZIR ALLI


do hereby make oath and state:

- 1 I am the Chief Executive Officer of the South African National Roads Agency Limited (*SANRAL*), duly employed as such at 48 Tambotie Avenue, Val de Grace, Pretoria.

- 2 The facts contained in this affidavit are within my own knowledge and are, to the best of my belief, both true and correct.

- 3 Where I depose to allegations of a legal nature I rely on the advice of *SANRAL*'s legal representatives.

- 4 I am duly authorised to depose to this affidavit on behalf of *SANRAL*. This affidavit is filed in support of the affidavit deposed to by the Minister of Finance in support of the application for leave to appeal to



the Constitutional Court against the decision of Prinsloo J handed down on 28 April 2012.

5 I have read the affidavit deposed to by the Minister of Finance and confirm the correctness of the contents thereof insofar as it applies to SANRAL.

6 In deposing to this affidavit, I adopt and make use of the same abbreviations and definitions as are contained in the affidavit of the Minister of Finance.

7 This affidavit addresses three issues:

7.1 First, it provides further detail of the irreparable harm which is being suffered by SANRAL as a result of the interdict.

7.2 Secondly, it deals with further aspects of Prinsloo J's judgment which are not addressed in the main affidavit.

7.3 Thirdly, it deals with the proper limits of the courts' powers in interim interdict applications.

Irreparable harm

8 At the outset, I wish to deal with the impact that the interim interdict has on SANRAL and the effect which it will continue to have on SANRAL until such time as it has been set aside.

8.1 In paragraphs 37—44 and 48—50 of the Minister of Finance's founding affidavit the Minister sets out the immediate aftermath of the judgment on SANRAL's credit rating and the knock-on effects for SANRAL.

8.2 In addition to the R270 million which is referred to in the main affidavit and which SANRAL will incur on a monthly basis in respect of the interest and repayment of the R20 billion it borrowed for the capital expenditure on the GFIP, there are further costs, including approximately R28 million per month payable on other contractual commitments associated with GFIP, including monies payable to the operator.

8.3 Moreover, for as long as the interdict is in place, SANRAL will not recover the costs of ongoing maintenance to the GFIP. These costs will also have to be funded by SANRAL without any income.

8.4 The Minister of Finance, in his annual budget, allocated R5.75 billion to SANRAL, which was to be used as a balloon payment to reduce the capital liability on GFIP and thereby also reduce the amount of toll that was payable. It was as a result of this capital contribution that significant savings in the form of a monthly cap on toll fees became possible, as well as the lowering of the toll rate.

8.5 As is set out in the main affidavit, SANRAL is now using this capital contribution to fund ongoing monthly costs associated with the GFIP. The utilisation of these monies to offset the impact of the interdict has the inevitable result that, in the long run, motorists will be required to pay more for the upgrade to the freeway system than they would have had to pay if the interdict had not been granted, tolls could have been collected, and the balloon payment from government could have been utilised to reduce SANRAL's overall capital liability.

8.6 I point out too, that for so long as the interdict remains in place and uncertainty persists around e-tolling and SANRAL's future generally, it is practically impossible for SANRAL to borrow any

further money in the market. That is, SANRAL cannot raise any further funding through its bond programme to tide it over in the short or medium term. This, in turn, means that when current reserves are exhausted, SANRAL will not be able to operate as a going concern.

- 8.7 In addition and perhaps even more troubling for SANRAL and for the Republic of South Africa generally, is that all other capital infrastructure projects, including greenfield developments and upgrades, improvement and maintenance projects on the existing network must be postponed indefinitely. SANRAL cannot commit to new projects unless it is in a position to secure funding. This means that future growth of the road network and planning and projects must be delayed. Delays of this kind are inimical to economic growth generally—a priority for our Government's employment initiatives and poverty alleviation programme.

Prima facie right

9 I have been advised that it is also necessary for me to give some consideration to the grounds of review that were relied on by the first to fourth respondents in support of the application for interim relief in order to establish the applicants' prospects of success in the appeal.

9.1 These review grounds, to be relied on in Part B of the Notice of Motion, were set out as disclosing the basis on which it was contended that the decisions to declare the roads as toll roads should be reviewed and set aside.

9.2 In this regard, it is important to note that the first to fourth respondents have never sought to challenge the decision to upgrade the highways of Gauteng as proposed and implemented under the GFIP. The review application is confined solely to the decision—made in 2008—to declare the roads as toll roads and the environmental authorisations which preceded that decision.

9.3 Moreover, the question before Prinsloo J of whether or not these decisions *prima facie* fell to be reviewed and set aside by a court hearing the review application, was unrelated to the cost of tolling. At the time that the application for interim relief and review had been launched, the amount of toll that would be



levied was—on the first to fourth respondents' version—not known to them because the toll tariff determination of 13 April 2012 had not yet been published.

9.4 The merits or demerits of the decisions to declare the roads as toll roads was therefore to be adjudged solely on the basis of the information that was before SANRAL and the Minister of Transport *at the time* that the decisions were taken.

9.5 Regrettably, this was not the basis on which the matter was ultimately determined.

10 In the judgment (at pages 22—25), Prinsloo J dealt with the main review ground relied on by the first to fourth respondents: that the decision to implement open-road tolling on the GFIP was so unreasonable that no reasonable decision-maker could have arrived at this decision.

11 In particular, Prinsloo J was concerned first, that the costs of collecting toll, over a twenty-year period, equated to the cost of upgrading the GFIP and, secondly, that there would be high rates of default that rendered the system practically unworkable. These two

considerations weighed heavily in Prinsloo J's decision to grant the interdict.

12 I have been advised that Prinsloo J's approach in this regard was, with respect, premised on an incorrect understanding of and appreciation for the relevant principles of law pertaining to review and therefore fundamentally flawed. His findings cannot stand scrutiny on appeal for the following reasons:


12.1 At all times, it was common cause between parties arguing the application for interim relief that it was necessary for the roads and highways around Gauteng to be upgraded and for the congestion that was being experienced to be addressed.

12.2 It was also common cause—and, it has to be said, is a matter of common knowledge—that the costs of the upgrades are extensive. SANRAL did not have R20 billion to finance the capital outlay, necessitating that the money be borrowed—as is the case with most major capital infrastructure projects. This money is repayable and the use of the money in the interim necessarily entails a cost.

12.3 Against this background, the capital cost of the project is not—as Prinsloo J, with respect, rather simplistically put it—the R20 billion initial outlay. The cost of the project is the R20 billion, together with the financial cost of raising that R20 billion in the form, mainly, of interest, as well as the ongoing maintenance and repair and upgrade costs of the GFIP for the duration of the project. These costs are reflected on the table annexed hereto marked “NA1”. I return to this table below.

12.4 As the Minister of Finance has stressed in his founding affidavit, therefore, the question is ultimately not one of whether or not the GFIP should be paid for, rather it is a question of how it should be paid for. The decision on the part of SANRAL—taken in conjunction with the Minister of Transport and with the knowledge and approval of Cabinet in 2007—was therefore a decision as to how the GFIP should be funded and the outcome was that it would be funded through tolling.

12.5 At the time that the decision to implement open road tolling on GFIP was being contemplated, during the period 2006 to 2008, SANRAL undertook an extensive inquiry into open road tolling,

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including as to its costs, benefits and risks. These inquiries formed part of a reasoned and informed process that was undertaken not only by SANRAL and its employees but by consultants employed on behalf of SANRAL.

12.6 I must immediately point out that a significant portion of the documents that informed these inquiries or which were generated during the process were in the possession of the first to fourth respondents prior to the launching of their application, formed annexures to their application, and were commented on by them in the founding affidavit and replying affidavit. These documents therefore served before the High Court and were debated in argument.

12.7 As part of these inquiries, estimates were made as to the costs of tolling and the overall costs as compared with the capital costs. The estimates that were made at the time were that the average costs of collection and recovery would be approximately R447 million (in 2007 Rand) per annum over the life of the project which includes the costs associated with the transaction clearing house, open road tolling back office, maintenance of the

toll system and the violation processing centre. SANRAL also undertook studies of default rates applicable to comparative international experiences of open-road tolling. Studies at the time indicated that a default rate of between 5% and 10% could be anticipated.

12.8 At no stage have the first to fourth respondents challenged the veracity of these inquiries or their outcome in relation to these issues of costs of tolling and anticipated default rates. Hence, it can be accepted by this Court that the figures that SANRAL arrived upon were the correct figures at that time.

12.9 SANRAL applied its mind to this consideration and, additionally, the information was put before the Minister of Transport in the form of the initial proposal and was considered by him. The decision at the time, on the basis of this informed approach, was that the cost per annum was not unreasonable and that tolling was therefore justified and justifiable. Moreover, it was considered that the anticipated default rate was an acceptable risk and that mitigatory measures would also be available to minimise this risk as far as possible.

12.10 Special consideration was given to the additional benefits to be derived from tolling as a means of funding GFIP, including numerous socio-economic advantages and the opportunities that it presented to encourage road use patterns. These advantages were perceived to significantly compensate for any disadvantages and risks associated with open-road tolling.

12.11 On the strength of this information that was available during 2007 and 2008, it was decided that open road tolling, in the form of e-tolling, should be implemented on the GFIP. At the time this decision taken, it was reasoned, rational and fully justifiable. The reasons why this decision was taken—why the benefits of e-tolling were perceived to outweigh all of the risks and adverse consequences associated therewith—were spelt out in detail in the answering affidavit filed on behalf of SANRAL in the interim interdict application and in the lengthy annexures attached to that answering affidavit.

12.12 I have been advised that in assessing the *prima facie* prospects of success of the review application it was incumbent on Prinsloo J to confine his consideration of the merits of the decision to the

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information that was before SANRAL and the Minister of Transport *at the time* that the decision was taken. Had he done so, his Lordship would have seen that the decisions were, on the strength of the information properly before SANRAL and the Minister of Transport, fully reasoned, rational and justifiable. Far from the decisions being such that no reasonable decision-maker could have taken them, the decisions were precisely what a reasonable decision-maker should have taken.

12.13 This is not what happened. Instead, the first to fourth respondents put before the High Court a toll collection figure of R20 billion, which Prinsloo J used as the yardstick to measure the reasonableness of e-tolling. This figure of R20 billion, which assumes a default rate of 60%, was first calculated during the course of a steering committee process conducted *in 2011*. The figure bore no relationship to the information before SANRAL and the Minister in 2007 and 2008 when the relevant decisions were taken. Moreover, the default rate of 60% underpinning that figure was also wholly out of keeping with the information before the decision-makers in 2007/2008.

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12.14 Put simply, the R20 billion point was irrelevant to the issues in dispute before Prinsloo J. Despite this, he based a substantial aspect of his judgment on this figure.

12.15 Had Prinsloo J properly approached the matter with reference to the information before the decision-makers at the time, he could never have arrived at the conclusion that there were *prima facie* prospects of the review succeeding on the grounds that the decisions sought to be set aside were so unreasonable that they could never have been taken by a reasonable decision-maker.

12.16 I turn now back to the table “NA1” hereto, which reflects current figures. The table reflects that the total expenditure over 24 years is nearly R90 billion, of which approximately R18.4 billion would be toll operating costs. These operating costs are based on an assumed default rate of close to 30% in the initial years of the project and then stabilises to 7%—a generous figure for the first two years of operation and 7% thereafter, that is not in keeping with international norms. Given all of the enormous advantages to be garnered through collecting the cost of GFIP through tolling and the corresponding reasons why a ring-fenced

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fuel levy is not a viable option, it can hardly be contended, even using current figures, that the cost of collection as a proportion of the overall costs is so unreasonable that no reasonable decision-maker could have decided in favour of open-road tolling.

12.17 I point out, finally, that insofar as Prinsloo J found that there was merit in the argument that enforcement of tolling would be practically impossible, he elevated unlawfulness as to a barrier to future administrative conduct.

12.17.1 It can never be said that Government or parastatals should not implement a vital and necessary programme because of the potential for unlawfulness.

12.17.2 If this were the case, then the risk of default on the part of consumers would paralyse all future development and growth: Eskom could not build new power stations if it were not assured that electricity consumers across the country would pay for the electricity; the SABC should not provide new broadcast services because of the non-payment of television licenses; and the traffic authorities should




abandon law enforcement because of a high incident of non-payment of traffic fines by errant motorists.

12.17.3 These examples only need to be cited to realise that the reasoning is unsound.

12.18 The premise on which the judgment is based is in any event logically flawed. SANRAL would not need to issue 70 000 summonses per day or 2.1 million summonses per year. It need only issue one summons every three years per defaulter, recovering in one action, the cost of all of the instances of non-payment of toll by that commuter in the preceding period. Moreover, there are other enforcement mechanisms that SANRAL can, if so advised, seek to implement.

12.19 Finally, as SANRAL's answering affidavit and the annexures to it showed, SANRAL and the Minister had considered this aspect at the time that the decisions were taken and, on the basis of an international average for default, were nonetheless satisfied that the benefits of e-tolling outweighed the consequences of not undertaking GFIP at all.

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13 The learned Judge accepted that there were two other grounds of review that were *prima facie* established. I deal briefly with each of these in turn.

14 The first that I will deal with (the third ground considered in the judgment—at page 25) related to the alleged failure on the part of SANRAL to give proper notice as required by section 27(4)(a) of the SANRAL Act.

14.1 Insofar as Prinsloo J seemed to accept the argument that the notice was inadequate because it did not disclose that open-road tolling was contemplated and did not disclose the amount of the toll that would be payable, he similarly erred: the process of declaring a toll road as such under section 27(1) read with section 27(4) is a distinct statutory function—carried on by SANRAL—from the determination of the toll that is payable under section 27(3)—a statutory function of the Minister.

14.2 In the circumstances, this review ground is also lacking in merit and Prinsloo J, with respect, wrongly perceived it to give rise to a *prima facie* case.

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YAD

15 The final review ground dealt with in the judgment is the question of whether or not the Minister of Transport was misled by SANRAL in relation to the availability of public transport (judgment at pages 25—26).

15.1 At the start, it must be mentioned that this is a particularly damning accusation to make of and about SANRAL. It is all the more startling an accusation to make given that the Minister himself did not contend that he had been misled, SANRAL denied that the Minister had been misled, and the evidence which was relied on for this finding was flimsy at best.

15.2 The report referred to by the learned Judge at page 25 paragraph 4 of his judgment was one amongst a myriad of reports and papers that lay before SANRAL at the time that it was considering tolling. It was not the only report that dealt with the question of availability of public transport as a factor in determining whether or not tolling should be adopted so as to pay for the cost of GFIP. Indeed, the report in question was not even primarily directed at the question of whether or not



adequate public transport was a necessary precondition to tolling being implemented.

- 15.3 Yet other reports and recommendations proposed tolling as a means of encouraging commuters to look to public transport, thereby providing the necessary push towards public transport and promoting opportunities for the development of a more extensive public transport network.
- 15.4 All of these competing considerations were considered and the Minister at the time was under no illusions as to the relative merits and demerits of the arguments for and against.
- 15.5 In the circumstances, the finding that the Minister was misled is simply not borne out by the papers that lay before the High Court—not on a *prima facie* basis or at all.
- 16 In the result, the review application as presented for purposes of the interim relief application was entirely lacking in merit. Given the irreparable harm that SANRAL stood to suffer, the fact that the interim interdict would be final in effect, the delays associated with the bringing of the application, and the overwhelming balance of

convenience in favour of SANRAL, I respectfully submit that the High Court erred in finding that the prospects of success in the review application warranted the grant of the interim order.

- 17 In the light of the above, the applicants enjoy very good prospects of success on appeal and of persuading the Court that the decision of the High Court falls to be set aside.

The limits to the courts' task

- 18 The Court below, in its assessment of the grounds of review and in determining whether an interdict should be granted, failed to have regard to the appropriate remit of the courts in these circumstances. The decisions brought under review and the interdict sought bear upon the fiscal policies and decisions of the state and its agencies. The Courts should proceed, I am informed, with considerable circumspection when exercising their powers in this terrain for two reasons.

18.1 First, decisions that concern how public projects are to be funded inevitably involve judgments that Courts should not readily revisit.

18.2 Secondly, the fiscal consequences of an interdict of the kind sought and granted by the Court below are far-reaching and a Court should not run these risks, save in cases of the most exceptional and imminent harm. The Court below, by granting the interdict, trespassed upon the separation of powers and assessed the case for the interdict without proper regard for the limitations appropriate to the exercise of the Court's powers upon this terrain of fiscal judgment and consequence. These are constitutional issues of importance that should, in the interests of justice, be entertained by this Court.

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NAZIR ALLI

NAZIR ALLI

I certify that this affidavit was signed and sworn to before me at Pretoria on this the 21st day of May 2012 by the deponent who acknowledged that she knew and understood the contents of this affidavit, had no objection to taking this oath, considered this oath to be binding on her conscience and uttered the following words: 'I swear that the contents of this affidavit are both true and correct, so help me God.'

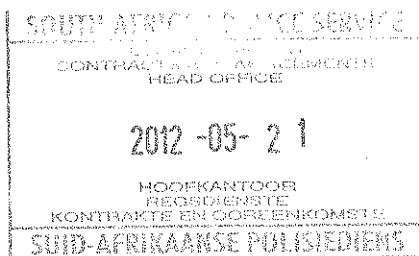
ARTHUR MTHAMERE

COMMISSIONER OF OATHS

Name: ARTHUR MTHAMERE

Address: 255 PAUL KRUGER STREET, PRETORIA

Capacity: Brigadier, SAPS.



"NA1"

GFIP: LATEST TARIFFS (EXPENDITURE DURING LOAN LIFE CYCLE) - 24 YEARS (in Millions of September 2011 Rands)		
Expenditure Item for 24 years	Expenditure	Percentage
Initial Capital Cost	R 20,629.99	22.99%
Road Maintenance	R 10,669.45	11.89%
VPC Operating Expenditure	R 6,194.06	6.90%
Toll Related Operating Expenditure (excl VPC)	R 12,170.13	13.56%
Other Operational Expenses	R 1,727.11	1.92%
Interest	R 38,331.23	42.72%
REVENUE OVER 24 YEARS	R 89,721.97	100.00%

