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**AIDS HELPLINE: 0800-0123-22 Prevention is the cure**



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## GOVERNMENT NOTICE GOEWERMENTSKENNISGEWING

DEPARTMENT OF TRANSPORT  
DEPARTEMENT VAN VERVOER

No. 526

30 April 2002

**DIE SUID AFRIKAANSE NASIONALE PADAGENTSKAP BEPERK  
THE SOUTH AFRICAN NATIONAL ROADS AGENCY LIMITED**

### **PUBLICATION OF BUSINESS AND STRATEGIC PLANS**

In terms of section 35(5) of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No 7 of 1998), the South African National Roads Agency Limited herewith publishes its Business Plan entitled "Declaration of Intent: Financial Years 2002/2003 to 2004/2005" and its Strategic Plan entitled "Horizon Twenty Ten".

The Agency also herewith calls on all South Africans, particularly those with a direct interest and involvement in transport to comment on the Business Plan and Strategic Plan within 60 (sixty) days of the date of this notice. Both documents are also available at [www.nra.co.za](http://www.nra.co.za). Comments must be sent to :

The Chief Executive Officer  
SOUTH AFRICAN NATIONAL ROADS AGENCY LIMITED  
P O BOX 415  
PRETORIA  
0001

or hand delivered to

The Chief Executive Officer  
SOUTH AFRICAN NATIONAL ROADS AGENCY LIMITED  
CELTIS PLAZA NORTH  
1085 SCHOEMAN STREET  
HATFIELD  
PRETORIA  
0002



N ALLI  
CHIEF EXECUTIVE OFFICER

No. 526

30 April 2002

**DIE SUID AFRIKAANSE NASIONALE PADAGENTSKAP BEPERK  
THE SOUTH AFRICAN NATIONAL ROADS AGENCY LIMITED**

**PUBLISERING VAN BESIGHEIDS EN STRATEGIESE PLANNE**

Kragtens artikel 35(5) van die Suid Afrikaanse Nasionale Padagentskap Beperk en Nasionale Pad Wet, 1998 (Wet No 7 van 1998) publiseer die Suid Afrikaanse Nasionale Padagentskap Beperk hiermee sy Besigheidsplan getiteld "Declaration of Intent: Financial Years 2002/2003 to 2004/2005" en sy Strategiese Plan getiteld "Horizon Twenty Ten".

Die Agentskap nooi ook alle Suid Afrikaners, veral die met 'n direkte belang en betrokkenheid in vervoer, om kommentaar te lewer op beide die Besigheids en Strategiese Planne binne 60 (sestig) dae vanaf die datum van hierdie publikasie. Beide dokumente is ook beskikbaar by [www.nra.co.za](http://www.nra.co.za). Kommentaar moet versend word aan:

Die Hoof Uitvoerende Beampte  
SUID AFRIKAANSE NASIONALE PADAGENTSKAP BEPERK  
Posbus 415  
PRETORIA  
0001

of per hand afgelewer word aan:

Die Hoof Uitvoerende Beampte  
SUID AFRIKAANSE NASIONALE PADAGENTSKAP BEPERK  
CELTIS PLAZA NOORD  
SCHOEMAN STRAAT 1085  
HATFIELD  
PRETORIA  
0002

  
N ALLI  
HOOF UITVOERENDE BEAMPTE



# **HORIZON 2010**

*The Strategic Vision  
of the  
South African National  
Roads Agency Limited  
for the Year 2010*

The Strategic Vision of the South African National Roads Agency Limited for the year 2010

*"....this is an emphasis that cannot continue for too long, because the curve that describes the decay of inadequately maintained economic assets becomes dangerously steep if relative neglect persists beyond a few years."*

Minister of Finance, Trevor Manuel, 1999

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## MESSAGE FROM

## THE MINISTER OF TRANSPORT

For transport to be a driving force for economic growth and social development, the requisite road infrastructure must be in place for it to be efficient and effective. It must meet the needs and demands of all transport users within the present constraints of our resources. Without an integrated transport network, no country can play an effective role in our global economy. For without infrastructure, there is no movement of goods or people, resulting in an economy becoming stagnant. Therefore, a well-planned and developed road system plays a pivotal role in creating global competitiveness and economic wealth for the benefit of the country and its people.

In accordance with Government's commitment to transform the Public Sector, The South African National Roads Agency was formed to deliver and maintain a world-class primary road network in South Africa. This has been no mean feat, given the inequities of the past. The challenge for the Agency is to break out of the mould of considering only immediate, short-term solutions to the major structural problems, which are inhibiting our ability to deliver on the major goals of the Reconstruction and Development Programme.

Sadly, neglect in infrastructure development in South Africa's rural areas, the most affected in our country, has led to an unacceptable lack of basic needs, thereby harshly affecting the quality of life experienced by the communities living in these areas. So, in its efforts to counter the detrimental affects of discrimination on historically disadvantaged citizens of our country, the Agency's strategic plan of developing our country's road network is in accord with the aims of the Reconstruction and Development Programme.

I am delighted to present this document, which outlines the Agency's strategy for infrastructure development in South Africa for the next ten years. Horizon 2010 demonstrates the effective investment in developing human capital, the accord with Government's objectives and the modus operandi of the Agency, whilst satisfying the requirements of an ever increasing and more discerning investor base, the road user.

I call on all South Africans, particularly those with a direct interest and involvement in transport to join me in supporting the Agency's vision. South Africa can play a major role on the international economic stage. It is, therefore, our collective responsibility to ensure that we protect and expand our national assets – the road network – for the good of our nation.

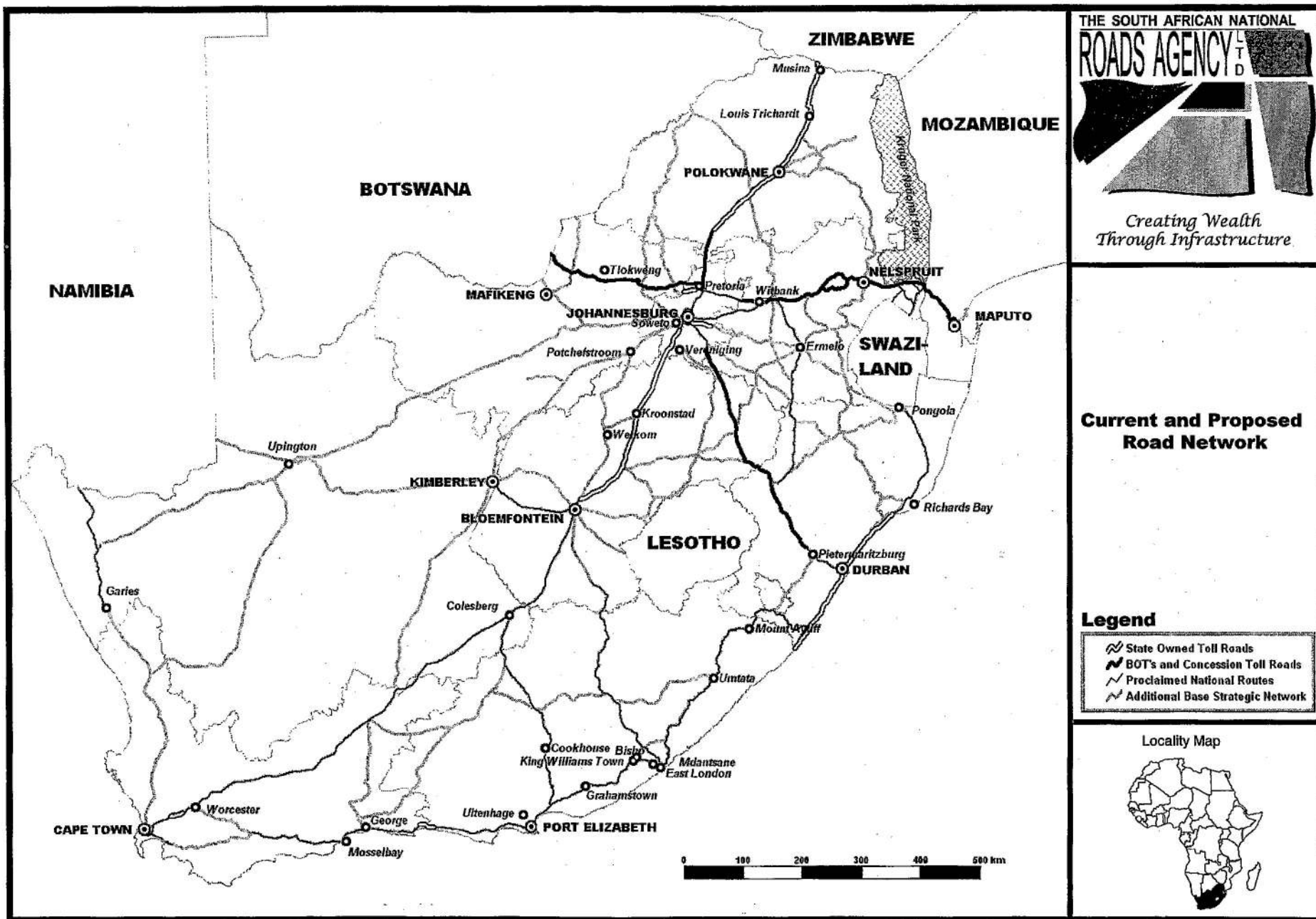
I look forward to the realization of this strategy and its concomitant impact on economic development and growth that will benefit all our people.



Dr Abdulah M Omar  
Minister of Transport

April 2002





## FOREWORD

Excellence costs, but in the long run mediocrity costs far more. This could ring true in South Africa if the need for transport infrastructure development and maintenance is not addressed efficiently and expeditiously. For a country to be socially, economically and financially sustainable, transport, and specifically roads – as one of the major economic influencing factors – must be cost effective and continuously responsive to changing demands.

In this millennium, South Africa faces a formidable task in attempting to be on par with the leading developing regions of the world, on economic, welfare and social inclusion. We are faced with a multi-layered crisis, the solution of which can only be found by looking toward new frameworks and approaches. We are further faced with the crisis of meeting and ensuring access to the basic needs of our society, their wellbeing, health, housing, food, education, transport and jobs. The basic needs concept is a reminder to us all that our ultimate goal is to provide all citizens in our country the opportunities for a full life, with dignity and self-respect. To achieve this goal, our economic recovery, growth and development are the most important ingredients to the solution. The challenge is to invigorate the common good with a mixture of government, business and labour that breaks out of the existing mould. It is imperative that we embrace new ways of thinking in delivering social goods to our people. This approach goes beyond the provision of money, income or employment, not that these elements do not have their place and function. These elements should not be abandoned, but they are meaningless if they disguise or conceal the specific, concrete objectives that are being sought. In order to deliver on basic needs, we need a shift from the abstract to the concrete, from the aggregate to the specific.

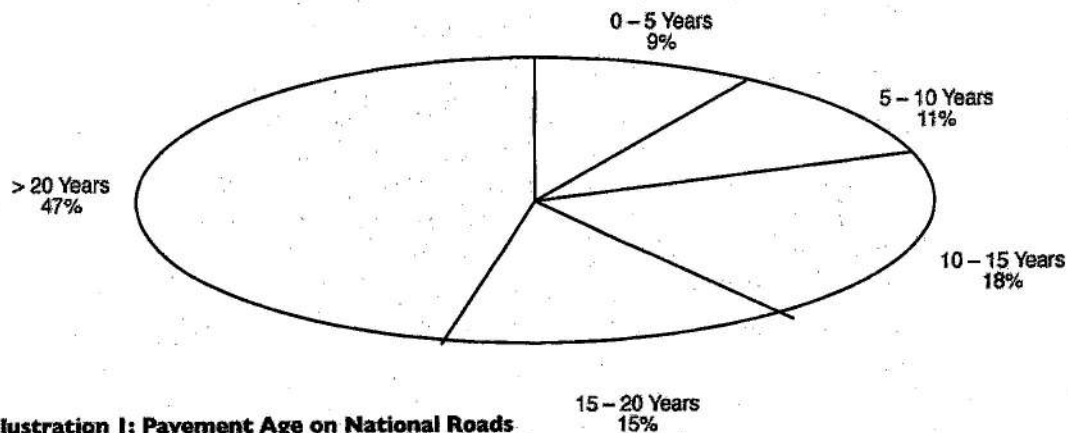
One merit of the basic needs concept is that it provides a powerful basis for organisational analysis and policy making. It can mobilise political support, as well as integrate thought and action in different fields. This concept could be illustrated through coordinated and complimentary endeavours in the areas of transport, energy, the environment, raw material utilisation, consumption patterns, urbanisation, rural-urban migration, international trade development, the balance between dominance and dependence, and how corporations operate in our societies. A host of technical, apparently disparate problems become connected and form part of a grander solution, once it is accepted that the ultimate purpose of development is to meet the basic needs of citizens.

Further to this, attention must be focussed on the public square – the common good that underpins our national and global destinies. The vitality of any public square ultimately depends on how much we care about the quality of our lives together. The neglect of our public infrastructure, or in some cases the lack of it, for example – our bridges, tunnels, water and sewage systems, highways and railways – reflects not only our shortsightedness, but also the low priority we place on our common life. Faced with these realities, how do we expect ever to constitute a vibrant society?

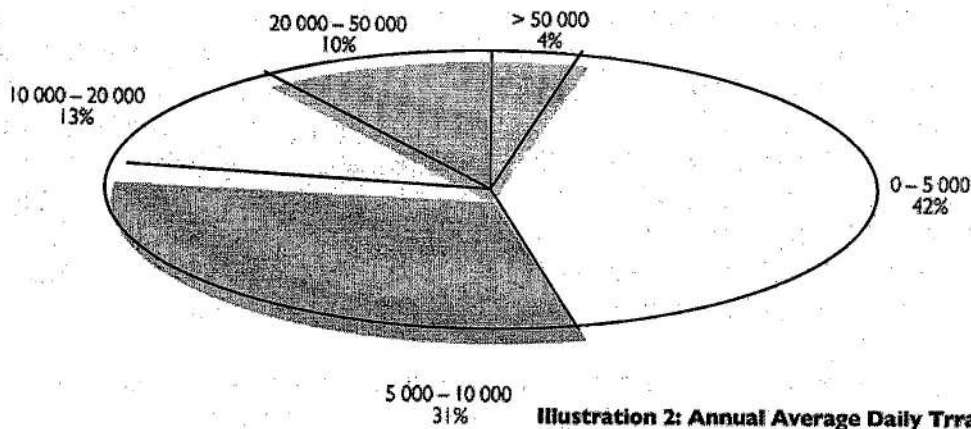
Although this question demands answers, The South African National Roads Agency Limited ("the Agency") believes that the arithmetic we employ to decide whether to spend

or not largely depends on the predicted behaviour of our expenditure patterns ten years from now. This is rather different from the daily adjustment in shelf-orders in the modern retail supply chain and will demand of us – more than we would like – to rely on market analysts' reports rather than timely market signals. However, our investment will also demand of us some difficult social arithmetic – demographic modelling, understanding urbanisation, projected income distribution trends, and the like. But this analytical period cannot continue for too long, because the curve that describes the decay of inadequately maintained economic assets becomes dangerously steep if relative neglect persists beyond a few years. This rings especially true for roads in South Africa.

The pressure, on roads can be traced back to the transition of South Africa's economy and society. The challenge to Government is to maintain and enhance a sophisticated state-of-the-art roads network while overcoming developmental inequalities that arose during the Apartheid years (see Illustrations 1&2). Although we recognize that the country's commercial welfare depends on well-maintained national roads, it is also recognized that there is a tremendous need for transport development in the historically disadvantaged urban townships, peri-urban residential areas and rural areas. In order to address this, the Agency has a mandate from Government to operate and maintain the national roads. In light of scarce resources, the Agency is also faced with the task to be innovative and resourceful to ensure that South Africa will be able to compete and excel not only in regional trade but also take its rightful place in the Global Village of Commerce. It is in this sense that William James said: "the nation blessed above all nations is she whom the civic genius of the people does the saving day by day".



**Illustration 1: Pavement Age on National Roads**



**Illustration 2: Annual Average Daily Traffic on National Roads**

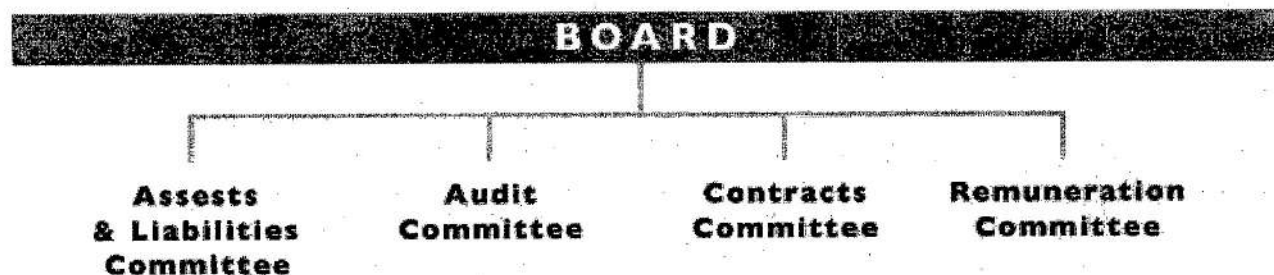
Moving South Africa (MSA) was an innovative consultative process in which stakeholders in our nation's transport sphere were consulted to establish a vision, set the playing field, define the rules of the game, enable company-level choices and target national and customer objectives. The MSA calls for the unwinding of the legacy of the past policies and transport system and building a platform for sound and effective transport management. At the same time it also creates an environment in which the public together with the private sector will innovate and upgrade services in order to meet the needs of all citizens of our country. Among the most important goals is the creation of customer facing systems, skills and technology building, broadening the participation in the economy through representative ownership of transport assets and ensuring competition by providing the highest level of service at the lowest level of costs. This document has as its origin and business philosophy the attainment of these goals.

Corporate governance is of paramount importance in the conduct of those associated with the Agency – be they the Board of Directors or management. The Agency has implemented, and will improve, measures designed to ensure a high level of corporate governance compliance. Apart from complying with the King Code of Corporate Practices and Conduct, the Protocol on Corporate Governance in the Public Sector and the various legislative requirements, the Agency also subscribes to the values advanced by Transparency International. The Agency is an active member of Transparency International – South Africa (IT-SA).

Few CEOs have the privilege of setting the scene for our country's roads in the new millennium. In this light, comments on the past and future gain a whole new dimension. It is a humbling experience for any manager to see things from the perspective of our pained history and to envision a future for the country's infrastructure – especially roads. That is why it is a pleasure and a privilege to present this vision.

## BACKGROUND

In line with Government's commitment to transform the Public Sector, the South African National Roads Agency Ltd ("the Agency") was established in April 1998 by an Act of Parliament as an independent statutory Company operating along commercial lines and at arm's length from Government. As a registered company (in terms of the Companies Act) the Agency is governed by a Board of Directors.



The Board is accountable to its shareholder, the Minister of Transport. The primary role of the Board is the following:

- To set objectives, goals and strategic direction for management, with a view to maximising the "returns" to its shareholder and customers;
- To ensure the existence of adequate internal controls and to monitor for compliance and probity;
- To approve an annual budget and monitor financial performance together with effectiveness of expenditure;
- Ensure that significant business risks are identified and appropriately managed; and
- To provide education, advice and counselling to members of the Agency regarding integrity issues.

Assisting the Board and exemplifying the above guiding principles are various committees, as follows:

The purpose of the company is to maintain and develop South Africa's 7 200km National Road Network and to manage assets with an estimated value of more than R5 billion (excluding land). Its principal tasks are as follows:

- To strategically plan, design, construct, operate, rehabilitate and maintain South Africa's national roads;
- To deliver and maintain a world class primary road network for South Africa;
- To generate revenues from the development and management of its assets;
- To undertake research and development to enhance the quality of South Africa's roads;
- To advise the Minister of Transport on matters relating to South Africa's roads; and



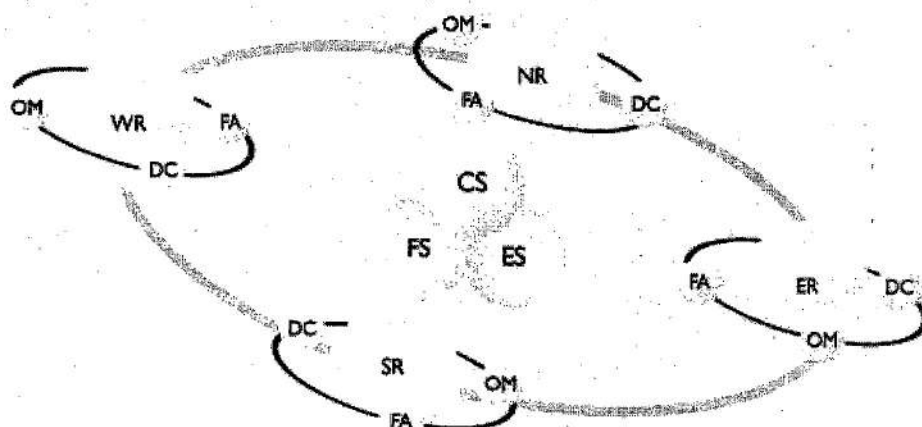
- Upon request from the Minister of Transport and in agreement with a foreign country, to finance, plan, construct, acquire, provide, operate and maintain roads in that country.

A significant aspect of this transformation of the role of Government in road management is the recognition of the disparate demands and needs of our country and our people and the apportionment of responsibility in addressing them to the party best able to deal with it.

One of the transformation imperatives was to transform our organisational structure. The Agency has moved beyond organisational structure that typifies bureaucracy. Our internal capabilities and attributes have now been factored into our organisational design and the way in which we interact with each other in the working environment. It is well known that "logical" groupings of activities lead to the establishment of organisational structures or so-called "departments". However, the activities of the Agency consist of a series of interrelated sequential steps to accomplish a task. This relates to competencies and activities normally placed in different "departments" within an organisation. These competencies and activities need to be coordinated and managed to attain our goals. We therefore operate in "clusters" which are constituent of a combination of talent and skills so that expertise, vision and experiences are harnessed into a holistic, multi-disciplined approach to our core experience. This coordinative power of knowledge, skills and expertise of the participating specialists in a cluster reduces the vagueness and complexities, and apportionment of blame associated with formal organisational relationships. The organisational structure shown in Illustration 3 captures the ethos and distinctive spirit of our multi-disciplined approach and links between the various components.

#### STRUCTURE OF THE SOUTH AFRICAN NATIONAL ROADS AGENCY LTD

WR= Western region  
 SR= Southern region  
 NR= Northern region  
 ER= Eastern region  
 DC= Design and Construction  
 OM= Operation and Maintenance  
 FA= Finances and Administration  
 CS= Corporate services  
 ES= Engineering services  
 FS= Financial services



The Agency harnesses more than 600 years of core skills and experience in road development and management within a highly motivated, professional and commercially driven team of people operating out of its Pretoria head office and four regional offices located in Pretoria, Cape Town, Pietermaritzburg and Port Elizabeth.

A fundamental consideration underlying the Agency's strategic planning process is support for the aims and objectives of the Reconstruction and Development Programme (RDP). To this end, the Agency factors in RDP considerations into all infrastructural development, particularly in respect of the historically disadvantaged citizens of our country.

The Agency has firmly established itself in the sphere of Public-Private sector partnerships in terms of which innovative financial instruments are used to finance the maintenance, upgrading and expansion of the national road network. With regard to meeting the challenges posed by a constrained fiscal allocation for roads, the Agency applies the Build-Operate-Transfer (BOT) model, while in the case of rehabilitation projects, it looks towards the Finance-Rehabilitate-Operate-Maintain (FROM) model. Current sources of finance for national roads include the following:

- **Toll Income** – The 'user pay principle' is now well established on major limited-access national roads. The toll concept has facilitated the early implementation of a facility through private sector funding on commercial grounds, not only for the initial construction of the roads but for their ongoing maintenance and expansion which usually exceed the initial construction cost over the life span of the road.
- **Borrowing Powers** – Section 33(2)(a) of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No 7 of 1998) entitles the Agency at any time, with the approval of the Minister of Transport and in consultation with the Minister of Finance, to raise funds by means of loans from any source including the money and capital markets.
- **Private Sector Borrowings** – In view of the borrowing powers of the Agency, financing is procured from the private sector and/or through Concession Contracts and the toll income provides the income stream to service these loans. All toll-road projects are structured so that all private sector borrowings plus interest can be repaid within a 30-year time frame.
- **Treasury Allocations** – The Agency also receives an annual budget allocation from the National Treasury to finance non-toll roads.

The current 7 200km of national roads under the Agency's jurisdiction, comprises of both toll and non-toll roads. While toll roads are funded through the user pay principle, non-toll roads are funded through the National Treasury. The challenge faced by the Agency in this regard, specifically in relation to non-toll roads, is that while road use continually grows, road funding declines. The current funding level from the National Treasury, unfortunately, has fallen to such a level that it cannot fully finance the maintenance needs of the existing network, let alone provide for extensions required to meet the growing traffic demands. With an assumed funding level of R800m per year for the non-toll national road network – and the non-realisation of the toll road programme – it can be deduced that the existing road network will rapidly deteriorate over the next eight years to a forecasted backlog of

approximately R8,5bn (2000 Rand). In other words, this implies that the assumed funding levels are only sufficient to effectively maintain approximately 40% of the non-toll network.

As the Agency's principle key strategic challenge is the long-term sustainability of a primary road network, a programme needs to be developed to finance road provision to cater for the whole nation rather than for a few. However, by understanding the needs and concerns of road users, the motivation for using national roads, their expectations of what constitutes a fair return and how the Agency can improve road safety clearly suggests a primary road network consisting of both toll and non-toll roads. However, taking the disparate demands on tax-based revenues into account, the expansion of the primary road network needs to be strategically programmed and funded under a private sector borrowing/concessioning programme reducing the pressures on the National Treasury to meet the basic needs of the citizens of our country. Entering the new millennium, the Agency is not only faced with the existing funding backlog and continued deterioration of road pavements, but also the new challenges this new millennium places in our path. This programme, with its holistic vision firmly set on a ten year horizon, is the Agency's answer to the demands and challenges of not only our past but our future. A programme designed to better the quality of life and prosperity of all citizens in this country.

However, this programme is of no use if not supported by the public at large and all relevant stakeholders. One of the biggest challenges facing the Agency is the inaccurate perceptions, both from the general public and transport operators, as to the advantages and challenges of roads, and in particular, the user-pay principle. The Agency will therefore embark on a strategy to inform, educate and communicate with all concerned to rectify these misperceptions and, at the same time, stimulate interactive relationships. This creation of an awareness plan will also ensure that the Agency remains a strategically focussed organisation able to respond to the needs of road users.

## **VISION**

To be recognised as a world leader in the provision of a superior primary road network in Southern Africa.

## **MISSION**

We are a commercially driven organisation committed to achieving its vision for the economic benefit of the Southern African community through:-

- a highly motivated and professional team;
- state-of-the-art technology;
- proficient service providers; and
- promoting the user pay principle.

## **CORE VALUES**

We will always act with integrity

We are committed to service excellence

Our people are our most valued asset

We subscribe to participative management

We will be pro-active to the needs of our customers and other stakeholders

## **PRINCIPLE KEY OBJECTIVES**

- The management of a primary road network ensuring best value for money.
- Continuously improving the efficiency of business practices.
- Maintain market confidence.
- Carry out Government's targeted programmes to better the life of all citizens.
- Safe roads for all.
- To work in partnership with road users, transport providers, relevant authorities and the private sector.
- To be a good employer managing the Agency's business efficiently and effectively and seeking continuous improvement.
- Achieving international best practices.
- Encourage innovation in knowledge and practice.
- Research, discover and excel.
- Marketing of our solutions to road users.

## **1. INTRODUCTION**

During its heyday, the Roman Empire brought technology and culture to large parts of the then known world, thanks to its road systems. These roads allowed communication throughout the Empire to reach unprecedented levels, bringing the Anglo Saxon, Gallic and Semitic races under Roman control into contact with new ideas, injecting fresh energy into their cultures.

In this day and age of information highways and Internet superways, the importance of roads has not changed. In developing countries such as South Africa and its neighbours, the provision of roads remains the first crucial step in bringing communities into the mainstream of development.

For South Africa, bringing our communities in this mainstream will require of us to consider the following:

- The importance of a primary road network, i.e. a network which combines what is presently termed as National and Provincial Roads;
- The funding requirements and the consequences of a deteriorating road network for the economy of the country;



- The need to retain and develop our human capital in the transport sector.
- The use of innovative – non-tax based revenues – funding mechanisms for roads through public-private partnerships in the implementation of toll roads.

Recognizing the constraints within which Government has to achieve its objectives, inter alia, the challenges of meeting Basic Needs, the Agency has developed a Programme for the next ten years to meet these challenges. The successful implementation of this Programme, together with the appropriate funding levels as contemplated from the National Treasury, will result in the containment and elimination of the funding backlog – roads in poor and very poor condition – on the remaining non-toll national road network. The main objective of the Programme is to facilitate the following:

- The establishment of a primary network;
- Acceptance for the implementation of the proposed expansion of the toll road network and the related financing plan;
- Bolster economic growth through better road infrastructure;
- Rectify disparities created by the legacies of the past;
- Equitable share of national assets amongst communities.

This will require a strategic road network of approximately 20 000km that are optimally managed and adequately maintained. The establishment of the primary network of approximately 20 000km, will safeguard the economic arteries of our country. Furthermore, this will assist the Provinces in meeting their own challenges. It is envisaged that approximately 7000 kilometres of this network will be tolled. This programme also assists Government to obtain maximum leverage without compromising fiscal integrity.

## **2. STRATEGIC AIMS**

### **KEY STRATEGIC CHALLENGES: GENERAL**

The current changes of the economy at large and the social environment will significantly influence the transport industry and South Africa's transport system. The Agency thus has to align itself by primarily focussing on our customers and trends in the markets. It therefore follows that the Agency has to examine the gaps and challenges pertaining to, inter alia, freight, passenger and tourist transport while at the same time analysing and programming for the cross-cutting issues across all transport modes mainly pertaining to financial sustainability, safety, the environment and building our human capacity. Based on this analysis and the primary road network's current and forecasted future performance against customer and national objectives, the identification of 30 key strategic challenges needs to be addressed.

The key strategic challenges are clustered into two categories:

- Those that are outside the transport system, or require prior choices to be made by others outside the transport sector in order to reach a resolution; and



- Those within the transport system, and are more within the direct control of the Agency's shareholder, other governmental transport entities, or other transport providers or stakeholders.

In all, Table 1 (over page) shows 10 upstream key strategic challenges and 20 transport-specific key strategic challenges.

Table 1: The 30 Key Strategic Challenges Facing the Transport Sector

Key Strategic Challenges		
	Upstream Choice / Coordination Challenge	Transport Strategic Challenge
Tourism /Long Distance	1. Co-ordination with macro-tourism strategy	(i) Road institutional policy and capacity management (ii) Coach industry sustainability (iii) Cost structure of public transport operators (iv) Service quality upgrade
Rural	2. Co-coordinated rural infrastructure strategy	(v) Long term road investment sustainability
Urban	3. Integrated spatial planning	(vi) Affordable basic access for stranded (vii) Attractive public transport system by making roads public transport "friendly" (viii) High system cost public transport system (ix) Manage 2020 car usage (x) Transport planning and regulation
Freight	4. Alignment with industrial strategy 5. Integrated spatial planning — industrial location 6. Coordination with SADC	(xi) Poor cost and service (xii) SADC transit times and cost premia (xiii) Maintain and develop advanced factors
Safety and Environment	7. Balance of user cost with externality minimization 8. Balance of job creation with externality minimization	(xiv) Improve risk alignment (xv) Fragmentation of enforcement and regulation
Sustainability	9. Balance between sustainability & user cost & service	(xvi) Adequate public funding for non-toll roads (xvii) Rationalize road authorities (xviii) Improve feedback mechanisms
Capacity	10. Alignment of the institutional supply chain for capacity (align both institutions and strategy)	(xix) Address basic skills gap (xx) Create a capacity for new roles in government and private sector

From the above it is envisaged that the Agency will be faced with the following key challenges for the next ten years:

- To put the necessary roads infrastructure in place, will demand huge financial implications on Treasury and our human capital;
- We are also faced with the challenge to consolidate our human resources and institutional arrangements to ensure effectiveness and a single point of responsibility;
- We need to create institutions that will be responsible for every millimetre of road in this country. This is to ensure a well-maintained road infrastructure and of such standard that it enhances economic growth within the different regions;

### THE KEY CHALLENGES OF THE AGENCY FOR 2010

- In view of our scarce financial resources, it is of utmost importance to establish a primary road network in order to close or satisfy the funding gap between demand and National Treasury allocations;
- The Agency must continue to implement a toll road programme and enhancing it by introducing toll roads consisting of previous roads under the jurisdiction of the Provinces;
- Enhance and promote public-private partnerships in the delivery of roads – for both toll and non-toll roads;
- Integrate all Management Systems with the budget process. This will result in a greater value for Rand/km spent;
- Different funding mechanisms must be investigated and appropriately used. The use of these mechanisms will not only relieve Treasury of financial commitments but also relieve the Provinces of financial and institutional constraints; and
- Promote the “user-pay principle” to allow for the self-funding of road infrastructure.

### KEY OBJECTIVES

In addressing these challenges, three key objectives have been identified for the Agency to deal with. These objectives are:

- Expand and maintain a primary road network: the expansion and maintenance of the network is urgently needed to support socio-economic development. Lack of timeous maintenance increases the cost of reconstruction by a factor of 18.
- Access alternative funding sources: Alternative sources allow government to obtain maximum leverage without compromising fiscal integrity.
- Direct traditional funds to non-toll roads and other social needs: using alternative funding mechanisms to expand and maintain economic arteries – implementing toll roads - allow the limited funds to meet the disparate demands made on tax based-revenues.

## 3. ROAD SAFETY

### INCIDENT MANAGEMENT

In the past few years, road safety has been the subject of various debates and programmes. However, road safety to the Agency is more than just a crash or reducing high speeds on Highways. For this reason, the Agency refers to incidents on National Roads. An incident may be defined as the occurrence of any extraordinary condition or event that results in a reduction in road capacity, or creates a hazard for road users for a prolonged period of time. Any incident, no matter how minor, has the potential to disrupt traffic flow, thereby causing a hazard to motorists. Incidents may therefore take the form of any disruptive occurrence including, for example, sporting events, cattle on a high-speed road, or crashes.

The management of these incidents is called Incident Management, a term used to describe the process whereby a set of co-ordinated activities is initiated when an incident occurs on a road (usually a freeway). The main purpose of managing these incidents is to

minimise the direct and secondary effects of the incident, as well as to restore normal capacity and safety levels to all affected road facilities as quickly and efficiently as possible.

### **NON-MOTORISED TRANSPORT AND ROAD SAFETY PROJECTS**

Non-motorised traffic in South Africa also poses a challenge and needs to be addressed by the Agency. Non-motorised traffic is defined as all forms of mobility without the use of an engine, i.e., in which locomotion is based solely on muscle power. The most common forms are walking and cycling. Worldwide research has shown that younger and older road users have a relatively high rate of accident involvement and the need for a strategic programme, especially aimed on the younger road users, is evident. For this reason the Agency has embarked on road safety courses already under way in the KwaZulu/Natal, Western Cape and Northern Provinces. The Agency's aim, for the year 2010, is to reach teachers and learners throughout the country with road safety campaigns and presentations. It is also imperative that teachers be trained to teach their learners about road safety to ensure proper use of the road by pedestrians and those who use non-motorised modes of transport. Although seven Road Safety Education Programmes have already been developed encouraging learners to take responsibility for road safety and behaving responsibly when using roads, further research and development of these programmes are of utmost importance.

The Agency is an active player in the "Arrive Alive" campaign championed by our sole shareholder, Minister Omar. This programme's specific emphasis falls on the major causes of crashes, namely speed enforcement, fatigue management, roadworthiness of vehicles and the use of seatbelts.

### **SOS EMERGENCY CALL SYSTEM**

The SOS Emergency Call system was introduced along all toll roads to aid the road user in cases of emergency or breakdown. This system provides the user with immediate response and assistance 24 hours a day. The equipment used for this service mainly consist of radio-based and telephone landline systems using batteries and solar panels to power the equipment. One of the biggest problems with this system is vandalism and theft of equipment. With the advent of cellular and GSM technology this problem can be overcome and the Agency is currently investigating and re-designing the system. Most Toll Roads already use a new system based on cellular technology and signs alongside roads provide emergency numbers to be dialled from a cellular phone for immediate response and assistance.

### **VEHICLE PATROL SERVICE**

A vehicle patrol service is available on toll roads. The basic service consist of:

- Assistance to motorists and radio control notifying the appropriate authorities such as police, ambulance service, breakdown units and traffic authorities.
- The vehicles are all equipped with emergency items such as fuel, water, jumper leads and tools for minor repairs.
- These units are also essential in providing travel information and assistance to lost or stranded motorists

## **ROAD MAINTENANCE**

For a traveller on any road, among the biggest hazards are road surface conditions (potholes, rutting etc), live and dead animals on the road, other debris on the road surface, distracting or improper advertisements and other hazards. As the Agency, we are aware that the above can lead to unnecessary crashes. The vision of the Agency is to cover every millimetre of road under a routine road maintenance programme to ensure timeous action to avoid unnecessary loss of property and life. These contracts entail that each portion of road be inspected at least once in every seven days. This allows the speedy identification of possible hazards and the necessary actions to be taken within the shortest possible time. It is due to these inspections that for example potholes can be fixed within a short time of occurring, debris be removed and as soon as notified fencing repaired. As signage is one of the most important road furniture for the user of a road, signage receives special attention to ensure that they are correctly placed, maintained and repaired as soon as possible. Although the main objective of these contracts is to ensure a safe journey for road users, it also lends itself extremely well to SMME development and development of skills of both managers and contractors.

It is envisaged that SMMEs, especially from the historically disadvantaged categories be allocated at least 80% of all contracts let on National Roads.

Special attention should also be given to women and at least 50% of all Routine Road Maintenance Managers should be women while 35% of all SMMEs appointed should be run by women.

Another issue, especially during winter, is veld fires. Each year grass is cut at the most appropriate time to ensure that the occurrence of veld and grass fires is minimised. But also to ensure that we are responsible neighbours to adjoining landowners. Finally, litter (paper, bottles, plastics and the like) is regularly collected within the road reserve not only to ensure road safety but also as part of our endeavour to be environmentally friendly.

## **PERFORMANCE PARAMETERS**

For routine road maintenance, the Agency envisages to put in place performance parameters consisting of the following:

- Every millimetre of national road to be inspected at least once every seven days.
- Action to be taken on any problem within twenty four hours after discovery.
- User-friendly communication channels to be established between road users and Road Managers to react to complaints within twenty-four hours and to assist road users.
- Development of SMMEs and especially women owned companies to undertake road maintenance.
- Enhancing and developing skills of historically disadvantaged individuals and more specifically women to allow them to become Route Managers and to establish businesses capable of sustained employment.
- Ensuring safe travel for the road user on all national roads.



### **THE HUGUENOT TOLL TUNNEL**

The Huguenot Tunnel, situated on the N1 near Cape Town, is approximately 4 kilometre in length through Du Toits Kloof providing access between the peninsula and the interior. Safety has always been a high priority in this tunnel with its sophisticated electronic monitoring systems measuring from carbon dioxide levels to visibility. However, accidents still occur within the tunnel causing major traffic disruption mainly due to the behaviour of road users. The Agency's efforts to ensure safety include the following:

- Providing road users with more detailed information of special demands on behaviour in road tunnels;
- More intensive controls of heavy goods traffic and transport of dangerous goods;
- The use of safety installations; and
- The use of international guidelines for safety in tunnels.

### **LAW ENFORCEMENT**

Roads safety cannot be achieved if law enforcement is not being done on our roads. Law enforcement, being the jurisdiction of the provinces and the local authorities, renders the Agency hapless. However, the Agency has not bemoaned this fact and has pro-actively engaged the law enforcement agencies. To this end, the Agency has entered into agreements with provinces, the first being the Province of Kwa-Zulu Natal, to ensure law enforcement on a specific network that encompasses National and Provincial roads. These agreements not only enabled the Provinces to re-allocate resources to the specific network, but also enabled the Agency to ensure that law enforcement on National Roads be used as an instrument to improve road safety. One of the biggest problems experienced on National Roads is that of overloading. Overloading not only causes serious damage, but also compromises safety on our roads. Overloaded vehicles become a road hazard, particularly with regard to the vehicles' braking system and the additional braking distance involved.

In an effort to safeguard the national assets – the roads – the Agency is funding the construction of Traffic Control Centres. These centres include weighbridge facilities and other support systems to deter hauliers from overloading their vehicles. It is the ardent wish of the Agency to see the much vaunted Road Traffic Management Corporation (RTMC) being established.

### **KEY CHALLENGES**

Incident Management is required to be implemented and maintained on all proclaimed National Roads focussed on detection, response, management and follow-up. It follows that actions taken to prevent incidents from occurring would lead to a better quality of life for the road user.

The challenges faced by the Agency to ensure an effective system are, as follows:

- The identification of the most practical and logical area to fall under a System;
- The identification of all emergency service role players, the extent of their human, financial and equipment resources, and the manner in which and the constraints under which they operate;



- Bearing in mind the above, the development of incident management protocols between the various emergency services in the area, in order to extract the best performance from all role players in respect of who should respond to what, where, with what, and how. The entering into inter- authority agreements to extend areas of operation by removing the constraints imposed by areas of jurisdiction;
- The establishment of a Central Communication Centre (CCCs), to which all calls for assistance would be routed, notwithstanding the origin of the call and to whom it was made, and from which incident responses are initiated and managed until such time as a management team is established at the scene of the incident, at a Forward Control Point. CCCs have been responsible for the collection and capturing of incident data.
- The vast amount of data that has to be collected in respect of all crashes and incidents;
- The demanding analysis of incident data to provide the Road Manager with information pertaining to road safety and to traffic management concerns;
- The timeous analysis of incident data to ensure that any need to modify incident response protocols is timeous and the necessary steps taken in time; and
- The adequate maintenance of roads to enhance road safety and properly and timeous assistance with road clearing and cleaning up after incidents.

#### **KEY OBJECTIVES**

- The establishment of an Incident Management system on all National Roads including those roads to form part of the Primary Road Network.
- The development of new protocols, and/or the modification of existing protocols.
- Improvement of traffic operations and safety, using changes in road environment and measures to influence driver behaviour.
- The maintenance of all roads including those forming part of the Primary Road Network to ensure road safety including road clean up and clearing after incidents.
- Improve traffic sign and road marking visibility.
- Continued and expanded training programmes especially for young road users and the rehabilitation of traffic offenders.
- Lobbying for stricter penalties, as a deterrent for repeat offenders.

## **4. OVERLOADING**

The blatant disregard for the law and disrespect for a national asset – the road network – has required a greater than necessary effort by the Agency to control overloading. The situation was compounded when permissible axle loads were increased without a commensurate increase in the monetary allocations to roads authorities. This has compounded the problem of the current funding backlog for South African roads. It is estimated that R600m of damage is caused to pavements annually due to overloading. Overloading not only causes serious damage to National Roads, but also contributes to the problem of maintaining road safety on our roads. Overloaded vehicles become a road hazard especially regarding the vehicles' braking system and the additional braking distance involved. The operational safety of overloaded vehicles is sorely tested on steep downhill slopes and sharp curves.

Unscrupulous operators deliberately overload their vehicles to gain an unfair advantage over their law-abiding competitors. However, it is ironic that trucks which are overloaded to earn a price advantage damage the road surface to such an extent that operating costs increase. Strong intervention will be required from the law enforcement agencies to create a fair operating environment.

The slowing down of the implementation of the overloading control infrastructure, by those responsible for it (Provincial and Local Authorities),— both physical and administrative - has resulted in the existing facilities easily being by-passed or circumvented, as few alternative routes are policed and few of the main weigh bridges are manned adequately.

Furthermore the remainder of the required infrastructure has simply not been constructed.

### **KEY OBJECTIVES**

- The financial feasibility of overloading control infrastructure needs to be augmented by creating weighbridges with opportunities for value addition.
- The economic feasibility of individual weighbridges needs to be considered in the wider context of the road network, rather than on a road-to-road basis.
- Partnering with the private sector, which depends on best management practices to survive in a competitive world, will ensure that the necessary skills are made available to address overloading in an efficient and cost effective manner.
- Modern technology should be thoroughly investigated with a view to constructing less expensive facilities and providing a more expansive overload control network.
- The economic feasibility of weighbridges should be calculated against the background of their value in a complete system, rather than against the background of the location of a single facility on one particular road.
- Making use of the private sector in providing technology and modern management solutions in combating overloading.
- Assisting with the establishment of the Road Traffic Management Corporation and the Administrative Adjudication of Road Traffic Offences system.

## **5. FUNDING**

Funding of roads has always been a controversial subject. This is not only true from a fiscal point of view – tax based revenues need to serve a large number of disparate demands – but also from a road user point of view in having to pay tolls. It is important to note that the Agency manages approximately 80% of its total network as non-toll roads. This places a large financial burden not only on the Agency but also on National Treasury. It is for this reason that alternative funding instruments be used and developed to address the infrastructural needs of our country while at the same time reducing the stresses on tax based venues. The importance of this approach cannot be over stated and the Agency will proactively pursue and seek alternative financial resources. However, as part of this reality, the user-pay-principle has become more and more important in developing alternative funding instrument and its use and acceptance has become one of the biggest challenges facing the Agency.

### MULTIPLIER EFFECT OF INVESTMENT IN ROADS

It is important to note the impact that the multiplier effects of road provisioning has on economic growth. Although a saving can be attained on Treasury allocations to non-toll roads, what is sometimes more important is the impact of the investment, and with PPPs, the impact of investment from the private sector on the economic growth of the region. Figure 1 gives a diagrammatical outline of the effects produced:

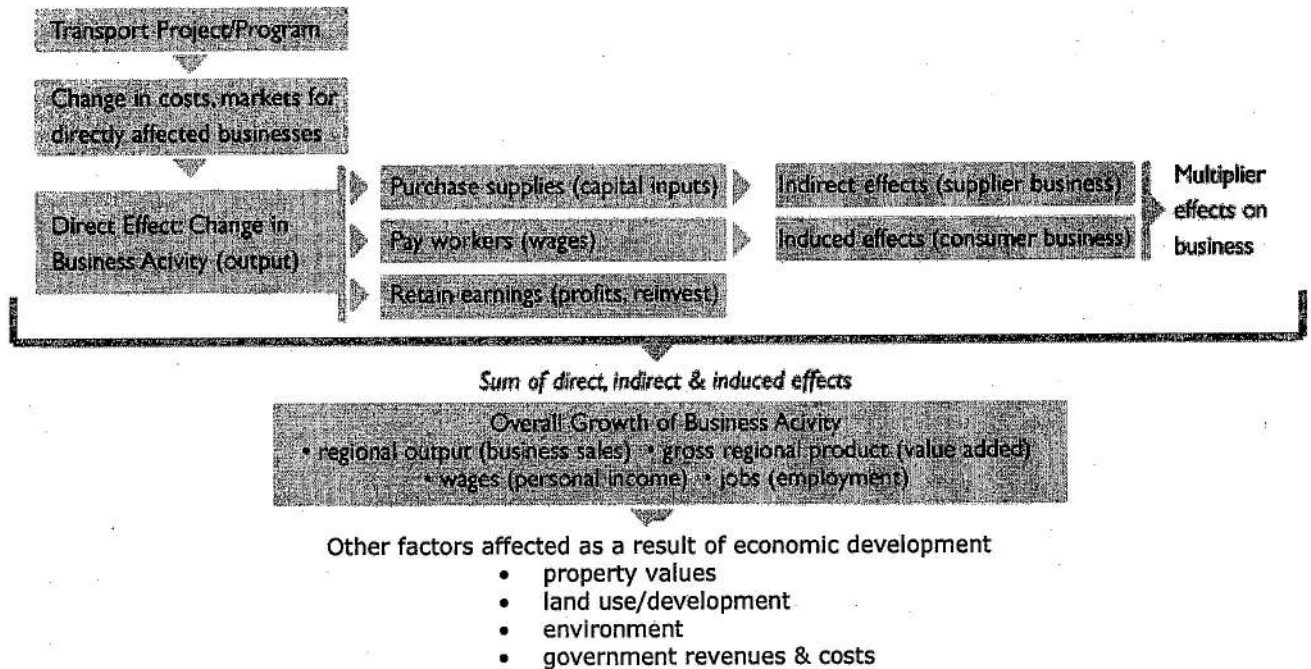


Figure 1

Source: NCHRP Synthesis 290, 2000

From the illustration above (Figure 1) it is clear that road provisioning will have a positive impact on economic growth and it also illustrates the economic impacts that can be attained:

- Direct effects – on business growth for businesses directly affected by the changes in operating costs and markets.
- Indirect effects – on business growth for suppliers to the directly affected businesses.
- Induced effects – on economic growth for businesses affected by the re-spending of additional worker income.
- Additional Induced effects – on economic growth from the shifts in population, workforce, labour costs and prices.

### THE SUM OF ALL EFFECTS REPRESENTS A CONTRIBUTION TO:

- Job creation;
- Productivity increases;

- Increases in the Income per capita in a region;
- Increases in Business output;
- Increase of Tourism potential;
- Increase of the tax base for government;
- Decrease in the cost to government for providing infrastructure; and
- The maintenance of fiscal integrity. Broad Consequences of Historic Funding Levels

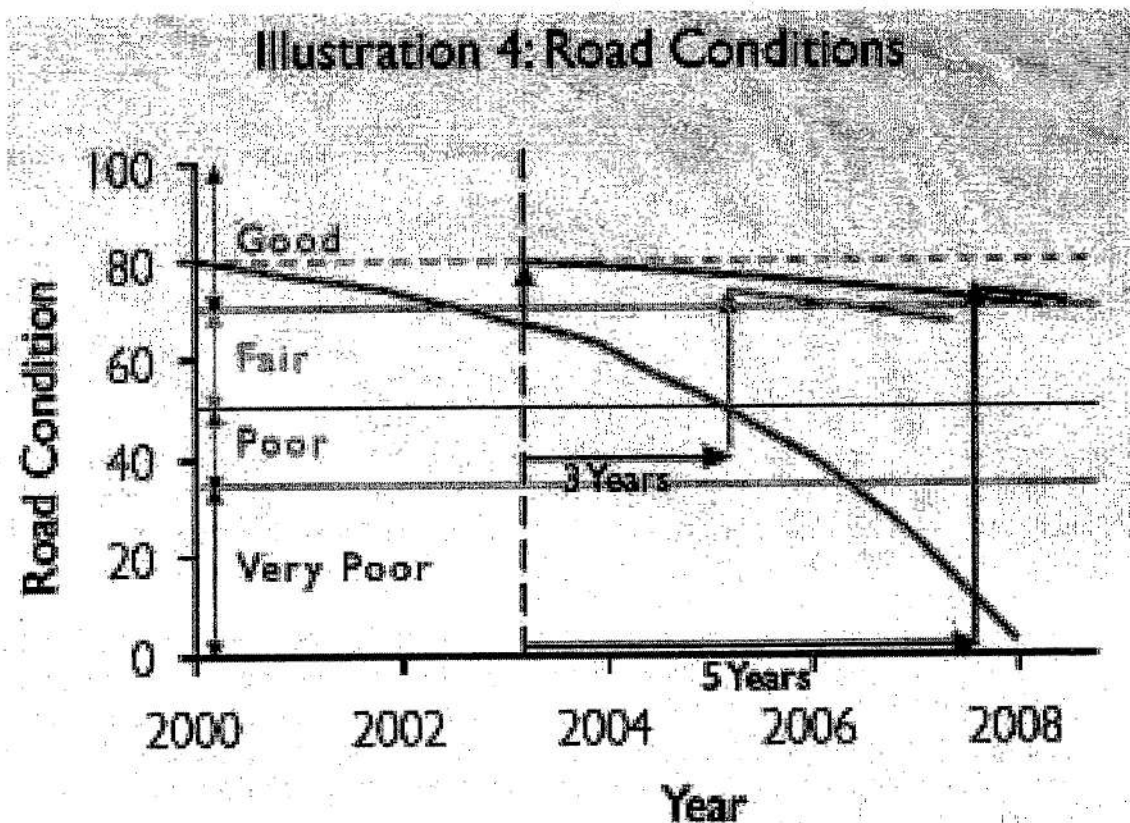
### **BROAD CONSEQUENCES OF HISTORIC FUNDING LEVELS**

Road performance depends on what, when, and how maintenance is performed. Roads deteriorate over time due primarily to traffic and environmental influences (i.e. weather, Ultra Violet Radiation, overloading etc.).

For these reasons roads have to be maintained throughout their design life to ensure that they deliver the performance envisaged. The timing of this maintenance is crucial, and if not optimally performed the consequences can be disastrous as illustrated by the following actual examples:

- **Ideal Maintenance:** If maintenance is performed as and when required based on technical assessments of the road as illustrated in Appendix 4, at this stage there will be no visible signs of distress on the road for the road user, and it might even seem to him that limited resources are not effectively being utilised. The typical cost of maintenance at this stage is R 0,1 million/per km (2000 Rand).
- **Maintenance Delayed 3 Years:** If the maintenance is not performed when required based on technical assessments, and the road is allowed to deteriorate for a further 3 years, as shown in Illustration 4, visible signs of distress might become apparent to the road user, and thus the need for maintenance will be more acceptable to the motorist. The typical cost of maintenance at this stage is now R 0,6 million/per km (2000 Rand) for the same road. In other words, to repair this road will now be 6 times more expensive compared to 3 years ago when the maintenance was actually required. With limited budgets this also implies that for every 1 kilometre of poor road that needs to be maintained at this level, 6 kilometre of good road cannot be maintained, resulting in these good roads further deteriorating with associated increase in future maintenance requirements.





- Maintenance Delayed 5 Years:** If the maintenance is not performed when required based on technical assessments, and the road is allowed to deteriorate for a further 5 years, as shown in Illustration 4, the levels of distress will severely be affecting the road user. The typical cost of maintenance at this stage is now R 1,8 million/per km (2000 Rand) for the same road. In other words, to repair this road will now be 18 times more expensive compared to 5 years ago when the maintenance was actually required. With limited budgets this also implies that for every 1 kilometre of very poor road that needs to be maintained at this level, 18 kilometre of good road cannot be maintained, resulting in these good roads further deteriorating with associated increase in future maintenance requirements.

The economic costs of inadequate road maintenance are borne primarily by road users. When a road is not maintained – and is allowed to deteriorate from good to very poor condition – each R1.00 “saved” on road maintenance increases vehicle-operating costs by R 2.00 to R3.00. Far from saving money, cutting back on road maintenance increases the cost of road transport and raises the net costs to the economy as a whole. Thus, postponing road maintenance because of ill-conceived budget constraints results in a significant financial penalty, which currently is unfortunately the reality for the South African road network.



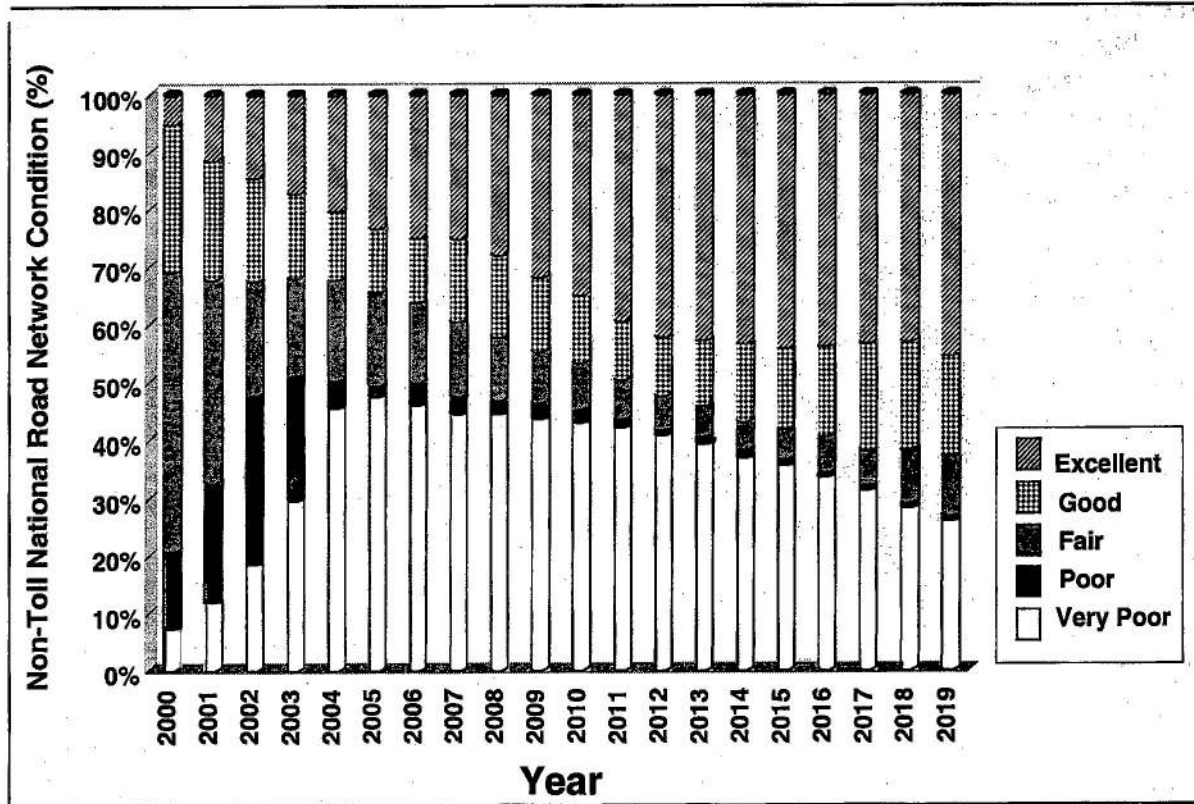
## **FORECAST CURRENT NON-TOLL NETWORK CONDITION – CURRENT FUNDING LEVELS**

The primary source of funding for the non-toll national roads in South Africa is the general state budget through National Treasury. The revenue pool is however hard pressed to meet demands of all other public goods and service, with the result that the funding made available to national roads provision has fallen to a level where it cannot fully finance the maintenance needs of the existing network, let alone provide for the upgrades required to meet the growing traffic demands imposed on them.

This is apparent when studying Illustration 5, which shows the forecasted condition of the current non-toll network for a current allocation of R585 million as was for the financial year 2000/2001, followed by R 900 million per year thereafter. It can be deduced from Illustration 5 that with the assumed funding level of R 900 million per year the non-toll national road network would continue to rapidly deteriorate over the next 8 years, after which it will stabilise at a forecasted backlog of approximately R 8,5 billion (2000 Rand). In other words, this implies that the assumed funding levels is only sufficient to effectively maintain about 40 % (2 100 km) of the current non-toll network length (5 300 km) in the long term.

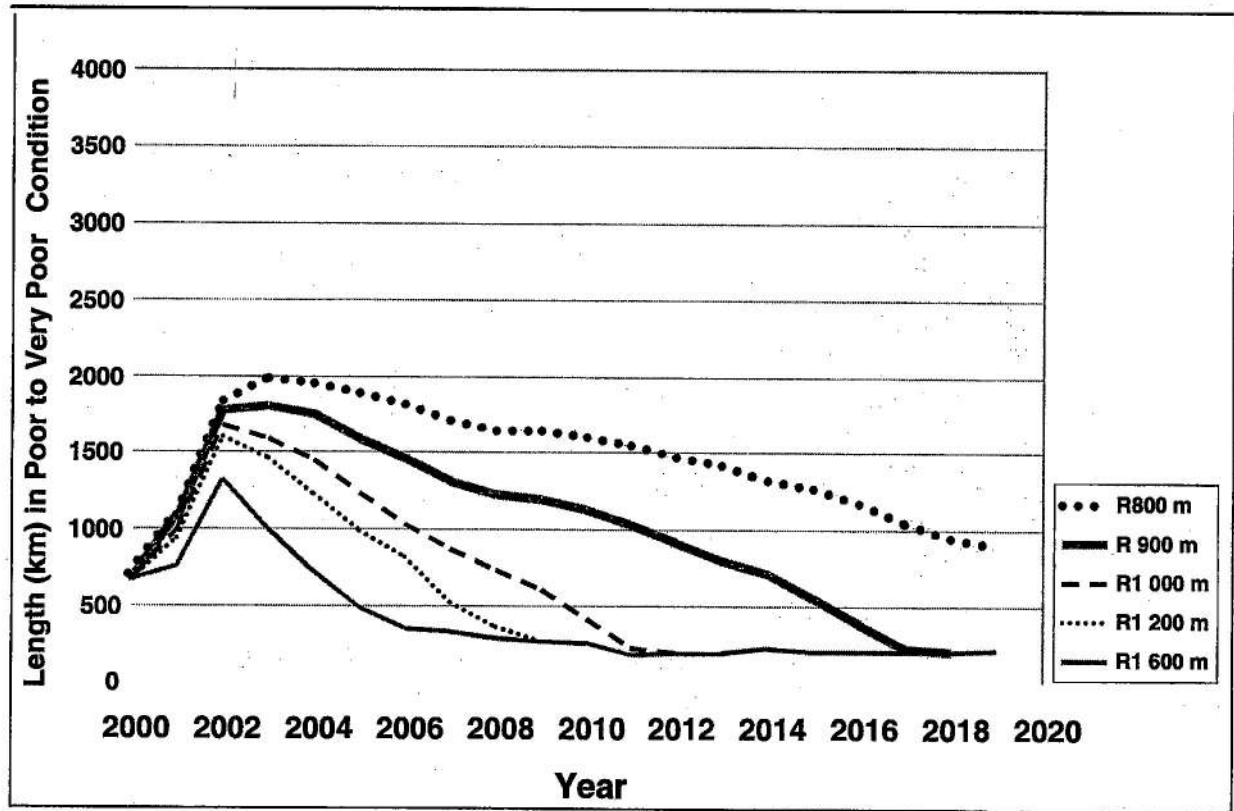
The forecasted effect of various funding levels on the current non-toll road backlog – length of roads in a poor to very poor condition – is shown in Illustration 6. As seen for the budget levels investigated the current rapid rate of deterioration will continue for the initial two years, where after the length in backlog will change depending on the funding level. Even at R 1 600 million per year it is forecasted that it will take 8 years to reduce the length in backlog to levels generally accepted in most countries (less than 10 % of primary network in poor to very poor condition). From this it is evident that National Treasury would not be in a position to provide the necessary funding to effectively address this situation. It is thus for this reason that the Agency embarked on a programme to fund roads through various instruments on the user pay principle. This principle will not only allow for the necessary maintenance to be done to arrest the deterioration of the existing network, but also release additional funds to non-toll roads to ensure their preservation. It should also be borne in mind that even with the new proposed expanded primary network of approximately 20 000km, 70% of the network will still remain non-toll roads. It therefore speaks for itself that through innovative financing instruments based on the user-pay principle, "off-balance sheet" to government, the non-toll network would be preserved and still maintains approximately 70% of all roads of economic importance to the country without the additional user charges (see Illustration 5b & 7).

ILLUSTRATION 5: FORECASTED NON-TOLL NATIONAL ROAD NETWORK CONDITION  
R900M/YEAR FISCUS FUNDING – NO NEW TOLL ROADS



Current Fiscus Funding: 2000/2001 R585 million – cut by 38% from R952 million to fund SARCC  
 Future Fiscus Funding: 2001/2002 and onwards R900 million per annum

ILLUSTRATION 5B: FORECASTED NON-TOLL NATIONAL ROAD NETWORK LENGTH IN BACKLOG  
VARIOUS FISCUS FUNDING LEVELS – WITH NEW TOLL ROADS



## ALTERNATIVE FINANCIAL INSTRUMENTS FOR TOLL ROADS

### Public Private Partnership Projects

- As already stated, funds from the National Treasury, to develop, manage and maintain the National Road network have drastically reduced over recent years to the point where the Agency is hard pressed to maintain the road network without the use of alternative financial resources. Recent developments in Public Private Partnerships (PPPs) have already made a significant contribution to reduce the pressure on tax-based revenues for non-toll roads.

The Agency has sought innovative solutions and has introduced a number of measures that are revolutionary in both South Africa and global contexts. Based upon the "user pays" principle two types of toll roads have been introduced since 1995:-

- Toll roads which are funded by loans raised directly by the Agency through bond issues from the capital markets; and
- Toll roads that are financed, maintained and operated by private sector companies through concession agreements with the Agency.

Although the former approach has not been entirely discontinued, it is largely being eschewed in favour of the latter. Concession agreements are also being favoured because they offer a number of other benefits:

- During the concession period the roads are both built and maintained at no cost to the State.
- At the end of the concession period, the State is therefore left with an improved asset that is not only of greater value, but also entirely debt free. Further, since the roads are funded without recourse to a government guarantee and their existence brings both tangible and quantifiable economic benefits, South Africa's international credit rating is improved thereby.
- Perhaps most importantly, every Rand that the Agency saves the government from having to spend on maintaining and expanding the road network, is another Rand which the government can fruitfully use on its social development and equalisation programmes without jeopardising its long-term fiscal objectives. What's more, the positive results these independently funded roads achieve, are precisely in sync with the governments objectives. In other words, by executing its mandate in a financially and contractually innovative fashion, the Agency is able to play an enormously positive role in uplifting the country as a whole in both the social and economic spheres.

A good example can be found in the three Concession Contracts currently underway. Table 2 hereunder indicates some of the benefits derived through the use of the PPP instrument.

To fully appreciate the figures reflected in the above table, the required equivalent annual funding demand (R355 million) of the above concession projects (total length = 1 214 km) needs to be brought into context. The direct benefit, inter alia, from these three projects is a saving of R355m per annum on the allocation from the National Treasury, thereby releasing additional funds to be used on the non-toll road network.

TABLE 2: REDUCTION IN ANNUAL CAPITAL AND MAINTENANCE EXPENDITURE

Project	Project Length	Reduction of Non-Toll Primary Road Network (km)		*Reduction in Annual Capital and Maintenance Expenditure (R) million
		National	Provincial	
N3 Cedara – Heidelberg	420	80	—	105
N4 Witbank – Maputo	410	350	60	120
N4 Platinum	484	124	260	130
TOTAL	1314	654	320	355

\* Calculation of average annual capital and maintenance expenditure

**FOREIGN DIRECT INVESTMENT**

Public-private partnerships also plays a large role in attracting Foreign Direct Investment. Foreign Direct Investment (FDI) is widely recognised for its contribution to economic development and integration into the world economy.

But why are FDIs so important. Firstly FDI stimulate economic growth. It has been shown that an increase in FDIs in a country increases a country's production base, introduces new skills and technologies and creates employment. It has also been found that FDI increases productivity and serves as a catalyst for domestic investment and technological progress.

Secondly, FDI has a positive impact on social development within a country. Not only does FDI impact on labour markets, but also creates new employment opportunities. Although the relationship between investment, job creation and the impact thereof on the labour markets are very complex, it is a well-known fact that FDI assists in the fight to reduce poverty in developing countries. FDI has proven itself through the years to accomplish a rise in prosperity and living standards alleviating poverty and the social and environmental damage that poverty engenders.

Thirdly, FDI entrench the principle of free flow of capital across national borders. This principle is favoured by most economists as it allows capital to seek out the highest rate of return. This offers unique opportunities and advantages for South Africa in that international flows of capital reduce the risks faced by its owners by allowing them to diversify their lending and investment creating a market inductive to investment. FDI also plays a large role in the transferring of skills desperately needed in our country while at the same time contributing the spread of best practices in corporate governance, accounting and legal traditions.

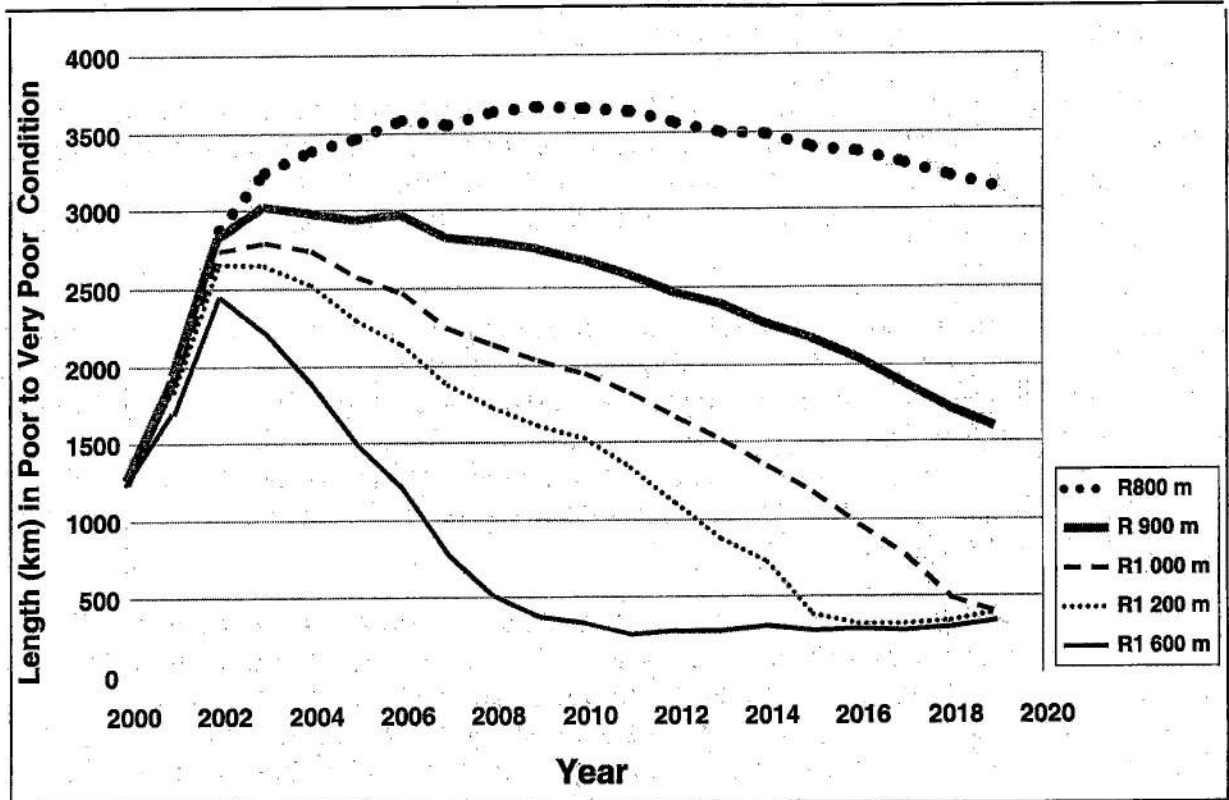
The final advantage, especially to government, is the tax revenues generated by profits from a project funded by FDI. It is said that the profit margin for FDI in African countries are the highest in the world thereby creating additional funds to the fiscus that could be used on just as deserving other social needs.

The inflow of foreign direct investment generated by projects such as shown in Table 2 thus not only serves to fund the project in total, but also will have various positive spin-off rewards to the country as a whole. The advantage of public-private partnerships thus spans over far more than just establishing infrastructure, but also stimulating investment, economic growth and sustainable development.



ILLUSTRATION 6:

FORECASTED NON-TOLL NATIONAL ROAD NETWORK LENGTH IN BACKLOG  
VARIOUS FISCUS FUNDING LEVELS – NO NEW TOLL ROADS



### UNSOLICITED BIDS

The Agency has also developed an innovative policy - titled "Policy of the South African National Roads Agency in respect of Unsolicited Proposals, May 1999" (Appendix I) - for dealing with initiatives identified by the private sector. This policy was developed in view of Government's strong commitment to develop and maintain infrastructure and services in partnership with private sector, thereby drawing on benefits of private sector funding, innovation, efficiency and skills. This policy aims to encourage the private sector to propose self-funding road infrastructure projects to the Agency for consideration. Under this policy regime, several exciting and attractive projects have been proposed which the Agency is prepared to adopt and implement. The proponents of the projects below have been awarded "Scheme Developer" Status in terms of the unsolicited bids policy and are in various stages of development.

- N1 between R300 and Hex River and the N2 from R300 to Bot River, 142km;
- N2 between George and Port Elizabeth, 300 km (N2 Garden Route) 300km;
- N21 (R300) Peninsula Expressway in Cape Town (Cape Town Ring Road) 68km;
- The N1 corridor scheme between Pretoria and Johannesburg;
- The John Ross Highway between Empangeni and Richards Bay, approximately 15 km of road;
- N2 Wild Coast Toll Road between East London and Durban 540km.

In these types of public-private partnerships the Agency negotiates the sharing of costs associated with design and development work – prior to the project being put to international competitive tender - with the proponents of the unsolicited bids. Equitable cost recovery provisions are provided in the Scheme Development Agreement to mitigate the risks borne by the parties during the development and procuring phases.

There are also alternative financing for toll roads available to the National Roads Agency, and they are:

- **The Build-Operate-Transfer (BOT) Concession Instrument**

The funding of projects entirely by the private sector with no debt being incurred by the Agency is the attractive feature of this instrument. However, like all instruments, this instrument also has its limitations.

- **State Guaranteed Agency Capital and Money Market Loans**

The Agency has an existing approved State guaranteed capital /money market loan facility of R6 billion and, at the end of the 2000/2001 financial year, R4,5 billion of this facility had been used.

It is important to note that, at an 8% per annum real interest rate, the existing Agency funded toll projects are predicted to require a State guaranteed loan facility of more than R6 billion by 2006/7 and of about R10 billion by 2018/19 before the projects will be capable of reducing and repaying their debt by 2027/28.

The Department of Finance is endeavouring to minimise State guaranteed debt. Based upon preliminary indications of the Department of Finance regarding a possible higher level of Agency State guaranteed loans of R10 billion, the Agency is faced with the challenge to procure additional funding as so not to breach the R10bn State guarantee.

- **Non State Guaranteed Toll Road Funding**

Since the required funding for the implementation of the planned toll projects will be over and above the loans required for the existing Agency toll projects, the target State guaranteed debt level of R10 billion will definitely be exceeded if the new toll projects are merely funded by procuring additional State guaranteed capital and money market funding. It will, therefore, be essential to fund the requirements above R10 billion from non-State guaranteed funding.

- **Securitisation**

An important potential source of non-State guaranteed funding is the securitisation of the nett income of the existing and planned toll projects.

This essentially involves the procurement of loans from private sector investors against the security of the nett income (after operating and maintenance costs) of the projects.

- **Structured Finance**

Structured finance can be arranged for various projects meeting appropriate Debt Service Cover Ratios (DSCR) through e.g. creating a Special Purpose Vehicle (SPV), credit enhancement involving the creation of tranches of debt i.e. senior debt and subordinated debt, placement by rating the securities in the SPV and placing with investors and deal origination by selling the rights to the cash flows.

## KEY OBJECTIVES

- Although some of the sections of the 3 400 km of planned new toll projects may be financially viable as BOT concession projects, it will not be possible to include the full network into a BOT concession approach, since provision also has to be made for taxation and private sector returns in a BOT project. It is, therefore, considered advantageous from the point of view of maximising the part of the network that can be funded in a sustainable manner to first explore other avenues of non-State guaranteed funding.
- The Agency has an existing State guaranteed capital and money market facility of R6 billion and, at the end of the 2000/2001 financial year, R4,5 billion of this facility had been used. The Department of Finance must be approached to increase the Agency State guaranteed loan level to R10 billion.
- The State guaranteed debt levels may be reduced through the procurement of non-State guaranteed funding. A potential source of non-State guaranteed funding is the securitisation of the nett income of the existing and planned toll projects.
- Another potential non-State guaranteed funding source that could be pursued is non-State guaranteed Agency bond issues that will require a credit rating for the Agency's debt.
- The Agency should enter into discussions with multi-lateral funding agencies to test their appetite to fund toll roads in South Africa.
- Attract foreign direct investment.

## 6. THE PRIMARY ROAD NETWORK

The South African Road Network can be classified by recognising the authorities primarily responsible for the provision of such roads and its functionality. The classification is as follows:

- National roads – Roads providing mobility of national importance. These roads are usually associated with longer travelling distances at high speeds with minimum interference to free flow of traffic. These roads are primarily provided for economic reasons and to improve and support economic growth.
- Provincial roads – Roads providing access and mobility in a regional context. These roads usually form links between towns not situated along national roads.
- Urban roads – Roads providing mobility and access in urban areas.
- Rural roads – Roads providing mobility and access to remote communities and areas.

There are currently certain N-route sections that are provincial road sections but that have been identified together with the Provinces as part of the long-term strategic national road network. This relates to approximately 13 000 kilometres of National Routes under Provincial government control that needs to be incorporated into the existing national road network. The vision of the Agency is thus to extend its jurisdiction in the medium and long term to include all national roads of strategic and economic importance – the primary road network – a total of approximately 20 000 kilometres. In view of the severe road funding constraints experienced by the Provinces an understanding has developed between the

Agency and the Provinces to work together to declare some provincial road sections as national roads.

Currently, a number of provinces have already or are in the process of handing over various other routes to the Agency for incorporation into the primary road network. The Free State and Western Cape Provinces have already indicated various routes to be handed over whilst routes in the Mpumalanga Province have as far back as 1999 been handed over.

### **ADVANTAGES OF A COMPREHENSIVE ROAD NETWORK**

A sound balance between addressing the social and economic interest in roads provision is essential for ensuring that the gap between the poor and the economically advantaged sectors of society is reduced. Road authorities, in the past, have unwisely differentiated between social and economic roads in an attempt to motivate protected sources of funding and to allocate responsibility between themselves. This has led to various inadequacies in the delivery of infrastructure responsive to both economic and social needs. Road provisioning and planning also became compartmentalized resulting in various institutions and departments but without any one taking responsibility for a holistic, integrated and need responsive road network.

It is thus evident that roads provision should be approached on a network basis, and schemes justified, at least partially, on the grounds of the secondary benefits that stand to be generated. This means that, irrespective of the location of the road, or its current or envisaged future standard, its function in the greater social and economic planning of the country should be the prevailing criteria which determines who should be best positioned to manage it.

It follows that, a roads authority, such as the Agency, responsible for a network of Primary roads, should be tasked with delivering the road infrastructure that links individual economically and socially beneficial spatial programmes and developments on a National scale. A Provincial Roads Authority should take the process a step further and ensure that locally important spatial developments are linked to both the Primary network and to the local spatial development network.

The Agency thus promotes the concept that each and every roads authority should see its role in terms of needs that need to be addressed rather than in terms of a class of road that it should manage. By so doing, road authorities will be given a stronger hand to leverage private sector involvement and to encourage them to be part of new schemes, or be part of solutions, as the case may be.

Following this concept, roads of major economic importance should thus form part of a primary road network managed by the Agency, whilst other economic roads should be managed by other authorities.

Institutional arrangements and human capital enhancement is of serious concern in our country. We will need to strive to enhance and retain our human resources and recognize



that our human capital possess the skills that are important to the well being of our country.

We are also faced with the challenge to consolidate our human resources and institutional arrangements to ensure competitive-ness and a single point of responsibility.

This implies that the institutional arrangements, to ensure delivery of much needed infrastructure, must have integrity and be beyond reproach. The challenge is to avoid fragmentation and inaction due to a lack of coordination between transport, land use and development programmes. This can only be rectified by Good Governance. To meet this challenge we require a strategy that will remove the constraints of disjointed and fragmented development. Our challenge is to remove the supply of transport infrastructure from the realm of energy sapping exercising of power between road authorities.

The challenge we are faced with demands that steps are taken towards better government that sets the economy on the upward path. The consequence of ineffective government and fragmented development not only leads to postponed growth and social development but also to the disintegration of stability, productive capacity and human life.

The most important institutional constraints, however, relates to Human Resources. These constraints can be summarized as follows:

- Institutional capacity constraints brought about by rapid staff turnover and a sequence of changes following too soon upon each other have robbed the roads authorities of their impetus and their internal will to perform;
- Bloated labour forces (provincial construction/maintenance units), coupled with a shortage of adequate management structures continue to deny road authorities funds which should be applied for maintenance; and
- Current institutional arrangements tend to entrench divisive procedures and to control rather than encourage innovation, delivery and progress. Institutional reforms, in which the often competing and yet complimentary functions of regulation, policy and standards setting, service provision, funding and monitoring would be re-allocated, need to be addressed in order to create a more efficient and effective delivery system.

The human resource base of our country needs to be preserved and developed. How we use our citizens as "employees" and how we ensure that an adequate talent reservoir exists, is government's ultimate challenge.

The main objective with a programme to expand and maintain a comprehensive road network is to facilitate through the appropriate channels, acceptance for the implementation of a proposed toll road expansion programme and related funding plan, in order to close or satisfy the funding gap between demand and National Treasury allocations for the non-toll National Roads Network, by illustrating:-

- The current condition of the non-toll National Road Network and the funding demand.
- Further deterioration of the non-toll National Road Network, should funding levels from the fiscus remain at the current level, and consequential financial and economic implications.



- How the proposed toll road expansion and related funding plan will be able to reduce the shortfall.
- A conservative financing methodology and phasing strategy that will minimise finance risk for both the Agency and the National Treasury.
- Assist in the establishment of a primary road network, thus alleviating the pressure on Provincial Governments

### PROPOSED ADDITIONAL ROAD NETWORK AND FUNDING REQUIREMENTS

Investigations into the upgrading, reconstruction and maintenance works required by the selected national and provincial roads indicated that the initial construction, engineering and maintenance costs in Table 3 below have to be incurred over the seven to ten year financial period to upgrade and preserve these important sections of the primary road network. Although the figures in Table 3, therefore, do not reflect future upgrading and maintenance works beyond the dates indicated, these future costs are provided for in the financial evaluation of the projects as potential toll projects.

TABLE 3: NATIONAL ROADS SCHEMES – FUNDING REQUIREMENTS

Road section	Distance	Period	ICMC** (in 2000 Rand)	Road section	Distance	Period	ICMC** (in 2000 Rand)
<b>N1/N5/N8/N12 Scheme:</b>				N11 Newcastle – Ermelo	154 km	2000-2005	R 486 m
N1 Kroonstad – Bloemfontein	185 km	2000-2005	R 303 m	N11 Ermelo – Middelburg	94 km	2002-2007	R 306 m
N1 Bloemfontein – Trompsburg	133 km	2001-2002	R 130 m	<b>N11 Ladysmith – Middelburg</b>	<b>349 km</b>	<b>2000-2007</b>	<b>R 1 098 m</b>
N1 Trompsburg – Colesberg	112 km	2001-2005	R 169 m	<b>N12 Edenvale – Daveyton</b>	<b>27 km</b>	<b>2000-2002</b>	<b>R 330 m</b>
N1 Colesberg – Three Sisters	241 km	2000-2002	R 103 m	N17 Springs – Trichardt	87 km	2000-2003	R 254 m
<b>N1 Kroonstad – Three Sisters</b>	<b>671 km</b>	<b>2000-2005</b>	<b>R 705 m</b>	N17 Trichardt – Ermelo	93 km	2001-2007	R 187 m
N5 Winburg – Bethlehem	134 km	2001-2003	R 435 m	<b>N17 Springs – Ermelo</b>	<b>170 km</b>	<b>2000-2007</b>	<b>R 441 m</b>
N5 Bethlehem – Harrismith	90 km	2002-2005	R 90 m	<b>N2/N11/N12/N17 scheme</b>	<b>982 km</b>	<b>2000-2007</b>	<b>R 2 756 m</b>
<b>N5 Winburg – Harrismith</b>	<b>224 km</b>	<b>2001-2005</b>	<b>R 525 m</b>	<b>Other projects:</b>			
<b>N8 Kimberley – Bloemfontein</b>	<b>150 km</b>	<b>2000-2004</b>	<b>R 205 m</b>	N1 Great North Toll Road and Louis	108 km	2000-2003	
N8 Bloemfontein – Thaba Nchu	59 km	2002-2003	R 259 m	Trichardt – Beit Bridge extension			R 286 m
N8 Thaba Nchu – Maseru	77 km	2003-2004	R 123 m	ICMC** of extension			R 517 m
<b>N8 Bloemfontein – Maseru</b>	<b>136 km</b>	<b>2002-2004</b>	<b>R 382 m</b>	Estimated private sector loans			R 803 m
N12 Johannesburg – Potchefstroom	102 km	2002-2003	R 335 m	Total funding requirements			
N12 Potchefstroom – Klerksdorp	47 km	2002-2003	R 152 m	N2 Tsitsikamma Toll Road and its Extension	54 km	2000-2002	
N12 Klerksdorp – Bloemhof	150 km	2002-2004	R 312 m	ICMC** of extension			R 107 m
N12 Bloemhof – Kimberley	175 km	2003-2004	R 292 m	Estimated private sector loans			R 65 m
<b>N12 Johannesburg – Kimberley</b>	<b>474 km</b>	<b>2002-2004</b>	<b>R 1 091 m</b>	Total funding requirements			R 172 m
N12 Kimberley – Strydenburg	176 km	2003-2005	R 229 m	N3 Mariannhill Toll Road and its Extension	86 km	2000-2005	
N12 Strydenburg – Three Sisters	251 km	2003-2005	R 154 m	ICMC** of extension			R 623 m
<b>N12 Kimberley – Three Sisters</b>	<b>427 km</b>	<b>2003-2005</b>	<b>R 383 m</b>	Estimated private sector loans			R 164 m
<b>N1/N5/N8/N12 scheme</b>	<b>2 082 km</b>	<b>2000-2005</b>	<b>R 3 291 m</b>	Total funding requirements			R 787 m
<b>N2/N11/N12/N17 Scheme:</b>				N4 Pretoria – Gauteng/Mpumalanga Border	71 km	2000-2002	
N2 Richards Bay – Hluhluwe	96 km	2000-2001	R 75 m	ICMC** of extension			R 150 m
N2 Hluhluwe – Pongola	87 km	2002-2006	R 158 m	Estimated private sector loans			R 92 m
N2 Pongola – Piet Retief	143 km	2002-2007	R 332 m	Total funding requirements			R 242 m
N2 Piet Retief – Ermelo	110 km	2002-2007	R 322 m	GRAND TOTAL			
<b>N2 Richards Bay – Ermelo</b>	<b>436 km</b>	<b>2000-2007</b>	<b>R 887 m</b>	- total including existing loans	3 383 km	2000-2007	R 8 051 m
N11 Ladysmith – Newcastle	101 km	2000-2007	R 306 m	- total excluding existing loans	3 383 km	2000-2007	R 7 213 m

\*Note that only initial construction, engineering and maintenance costs to be incurred and, therefore, funded after 1 March 2000 are indicated here. The funding requirements shown include existing private sector loans against existing toll projects \*\*ICMC – Initial Construction, Engineering and Maintenance Costs

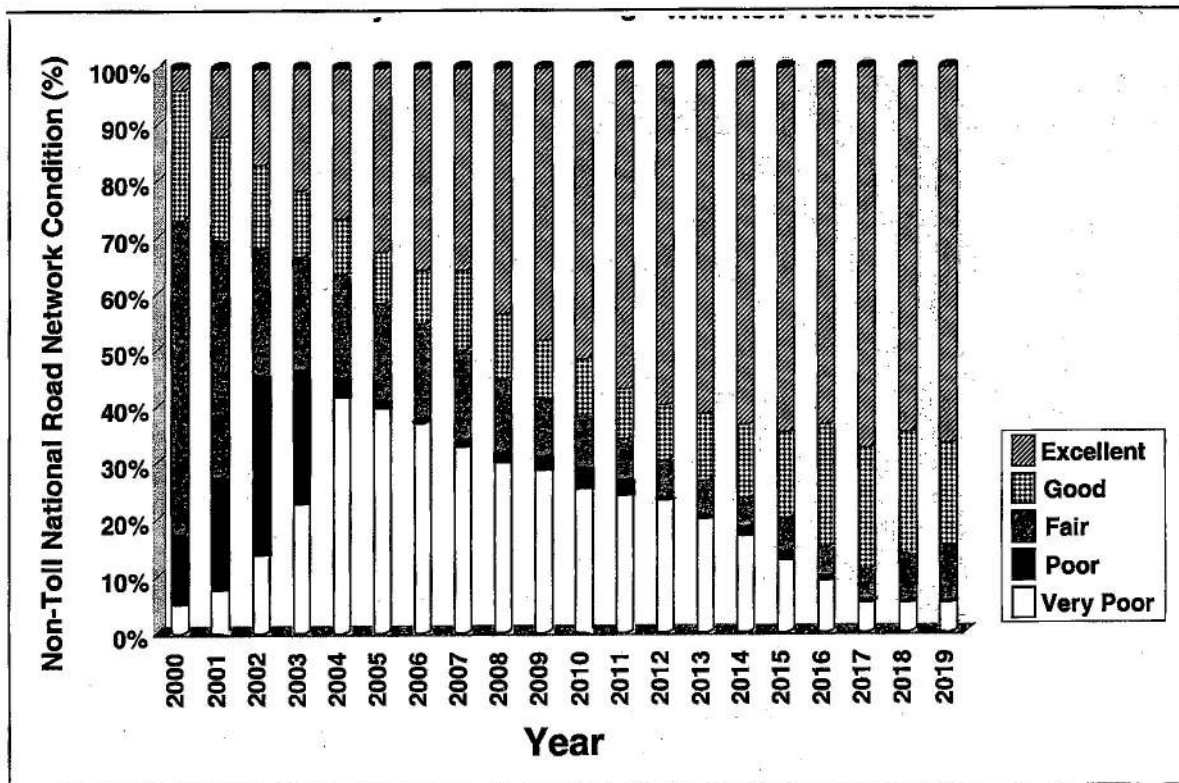
## **FORECASTED FUTURE NETWORK CONDITION – WITH PROPOSED TOLL DEVELOPMENT**

The forecasted condition, after the implementation of the proposed toll development schemes, of the remaining future non-toll network (3 600 km) for an allocation of R585 million for 2000/2001 followed by R 900 million per year thereafter is illustrated in Illustration 7. This will result in that the future backlog scenario for the remaining non-toll roads will change drastically. It is however important to remember this is the result of the fact that the R900 million per annum is presently only applied to the 3600 kilometres and not the 5300 kilometres of roads. After implementation of the toll development schemes, a further 11 000 km of national roads will still fall under the authority of Provincial Authorities. The "excess" funding available will then be utilized to extend the jurisdiction of the Agency to include sections of the remaining 11 000 km of national roads, without jeopardising the financial sustainability of the existing non-toll national roads under the authority of the Agency.

It is apparent when studying Illustration 7 that with the declaration and development of viable current non-toll road sections as toll roads – as envisaged herein – the future backlog scenario for the remaining non-toll roads will change drastically. The benefit of implementing the proposed toll development schemes on the remaining non-toll road network (3 600 km) is obvious when Illustration 5 is compared to Illustration 7 for the same fiscus funding levels.

This improvement is possible because of the fact that a large portion of the existing poor to very poor non-toll national road network (R 1,8 mill/km) (2000 Rand) are forming part of the toll schemes thus making it possible to immediately spend a large proportion of fiscus funds on ideal maintenance (R 0,1 mill/km) (2000 Rand), and thus avoiding the catastrophic consequences of delayed maintenance.

ILLUSTRATION 7: FORECASTED NON-TOLL NATIONAL ROAD NETWORK CONDITION  
R900M/YEAR FISCUS FUNDING – WITH NEW TOLL ROADS



Current Fiscus Funding: 2000/2001 R585 million – cut by 38% from R952 million to fund SARCC

Future Fiscus Funding: 2001/2002 and onwards R900 million per annum

## 7. INFORMATION TECHNOLOGY

To become more responsive to rapid change and harness the value in the wealth of information available across the transport industry, the Agency will strive to:

- Enhance communication and cooperation;
- Harness information in order to multiply knowledge capital; and
- Streamline processes to reduce administrative overhead and costs.

We see the first two components, increased communication and collaboration, and the ability to harness information, as being driven by information technology (IT). Through the utilisation of information technology, increased communication and to some extent, collaboration, will happen naturally due primarily to two factors: increased access to information via the web (Intranet and WWW) and the exponential growth of electronic mail. This environment promises to generate a wealth of information at our user's fingertips. However, the vast information serves no purpose, and can actually be counterproductive, if it is not made relevant to the user. Relevancy can be maintained via information technology that helps users to sort, filter, find, prioritise, process and manage the 'information overload'. The information Technology used by the Agency is thus geared to

provide the necessary management tools to allow for the analysis of the available information as well as increasing communication and integration of different systems with each other.

In addition, with the successful application of communication and cooperation methodologies, and the streamlining of business processes, a host of other benefits cascade from this:

- Creation of a 'learning organisation';
- Demonstration of technology leadership;
- Ability to share information across boundaries;
- Enhanced quality;
- Informed and better decision making;
- Enhanced customer satisfaction;
- Improved employee morale.

### **KEY CHALLENGES**

- Rapidly changing domestic and global market conditions.
- The need to understand an increasingly complex technology environment and remain at the forefront of cutting edge technology.
- Provide value for Rand spent.
- Increasingly diverse and complex services.
- Shorter project cycles and faster delivery times.
- Expanded and more complex alliances with business partners.

### **KEY OBJECTIVES**

The current business climate requires the Agency to anticipate and proactively respond to the trends and opportunities. To adapt to these changing conditions, the Agency will strive to:

- Enhance business processes.
- Introduce technologies capable of interfacing with different management systems, such as the Pavement Management System and Budgetary process.
- Enhance the competencies of using the appropriate technologies at the appropriate time.
- Reflecting real-world constraints, capabilities, and lessons learned.
- Avoiding "analysis paralysis"– the huge cost in time and resources required to identify all the details at the start of architecture planning enterprise-wide and project-deep.

## **8. SPATIAL DEVELOPMENT INITIATIVES**

The implementation of spatial development initiatives has been heralded as a significant solution to integrating transport with broader socio-economic development. The aim is to unlock inherent economic potential in specific South and Southern African Locations by enhancing their attractiveness for investment. The underpinning principles of SDI's are:

- co-operation, collaboration and integration in terms of policy and strategy;
- focusing on existing transportation and development corridors with a view to improving their mutual support of one another;
- promoting development networks rather than transportation routes;
- improvement of regional efficiency through integration and harmonization;
- increasing the role of the private sector; and
- institutional collaboration.

It is clear the sum of the constituent elements of an SDI are greater in effect than would be any sector or element trying to survive on its own.

SDI's always link together a number of interdependent economic entities for the greater common good of all its constituents and such SDI's as "agri-tourism", "eco-tourism", "petroleum from gas", "heritage tourism", and techni- manufacturing, etc SDIs may exist. Against this background, the challenge is to establish partnerships – public/private; inter departmental and inter government - in order to capture and harness the potential which extends across borders and which, when bound together with a common vision, forms the vital germ of life which would blossom into a cycle of growth, upliftment and the eradication of poverty.

#### **MAPUTO DEVELOPMENT CORRIDOR**

The South African experience with the Maputo Development Corridor has been encouraging.

The vision behind the project was to enhance and extend the existing development corridor to Maputo as a basis for creating economic growth and global competitiveness, whilst at the same time supporting reconstruction and development efforts in South Africa and Mozambique on an integrated and co-operative basis and within the confines of environmental sustainability.

The goals of the implementation of the Maputo Development Corridor are:

- To enhance, and where necessary, rehabilitate the transport infrastructure, from Witbank to Maputo, on the basis of public sector/private sector partnerships and, in so doing, increase access to facilities, create new opportunities and reduce transport costs;
- To maximize investment in the corridor area to ensure that the resulting sustainable economic growth and development is adequately supported by integrated infrastructure development;
- To maximize the social development impact in the Maputo Development Corridor;
- To ensure environmental sustainability by developing policies, strategies and frameworks that encompass a holistic, participatory and integrated approach to environmental management; and
- Promotion of peaceful regional co-operation and good neighbourly relations.



The Maputo Development Corridor Project is a vehicle, which will enable the Governments of South Africa and Mozambique to pursue strategies to meet the challenges of delivering basic needs to the people. It will, furthermore, promote a growth path, which will emphasize the interconnection between economic growth and the development of people. The Project does not only involve the development of the road linking the two countries, but also the further development of established mining, manufacturing, agriculture, forestry, fisheries and tourism.

### **THE COAST TO COAST SDI**

The Coast to Coast SDI which is the project launched by five of the Southern African countries extends from Walvis Bay on the West Coast to Maputo on the East Coast. Along its path of some 3000km, it incorporates the Maputo Development Corridor, the Platinum Highway, the Walvis Bay Development Corridor and the Trans Caprivi Corridor. Over its length, the Corridor links Maputo with Nelspruit, Witbank, the economic hub of Gauteng, Rustenburg, Lobatse, Windhoek and Walvis Bay. Due to their linkages with the corridor, Gaborone in Botswana, and Mbabane and Manzini in Swaziland are also influenced by the Corridor. Together these cities form a huge portion of the Southern African economy, creating an economic flow across five countries.

The corridor will hold benefits in economic sectors as diverse as the various attractions of tourism, processed products, forestry, mining, warehousing, foreign trade, fishing, agriculture, export processing, cold storage, steel, manufacturing, inland freight handling and commuter transport. The corridor will span many types of scenery, wildlife, cultures, and heritages, making it an ideal experience for the nature, adventure and history tourism industries.

Significant growth in the industries and activities linked to the two harbours has already commenced, and the projections for the future in these sectors are most promising.

### **THE LUBOMBO SDI**

In October 1996, the governments South Africa, Swaziland and Mozambique acknowledged that the need for efficient transport infrastructure was crucial to unlocking the potential of the LSDI area. The first major investment by the SA Government in the SDI was for the upgrading of roads.

The existing inland Richards Bay-Lavumisa-Namaacha-N4 route will serve as the major road freight and tourist route through Northern KwaZulu-Natal and Eastern Swaziland. The Agency has committed over R 200 million on major rehabilitation projects over the past three years and by mid 2001, all but 50 km of the 375km of the N2 from Durban to Swaziland will be in excellent condition.

A coastal road, providing a continuous route from Hluhluwe to Ponta Do Ouro and on to Maputo was identified as the key that would open access to the coastal areas and communities and unlock vast tourism and agricultural opportunities. These provincial gravel roads will now become part of the national road network.

### **THE RICHARDS BAY SDI**

Provincial road MR 496, known as the John Ross Parkway, is the main link between the commercial, industrial and residential centres of Empangeni and Richards Bay as well as the N2 national highway. The Port of Richards Bay is also linked to its hinterland via the John Ross Parkway.

For many years the upgrade of this highway has been a major discussion point on the local agenda. Apart from congestion at peak periods and a high rate of fatal accidents, the road structure is deteriorating rapidly and is susceptible to flood damage. The Richards Bay SDI also identified the current state of the John Ross Parkway as a major bottleneck limiting the economic development of the area.

The KwaZulu-Natal Department of Transport had and still has insufficient funds available for the upgrading of the highway. Due to this lack of Provincial funds it was agreed that the Agency launch a process to upgrade the highway using tolling as the funding mechanism. The project will contribute towards the growth of the national economy as a whole, as well as the regional economy. According to the model used in the analysis, economic output (as measured by the Gross Domestic Product (GDP)) for the RSA will increase by R97 million per year (in 1999 prices). The GDP for the uMhlathuze (Richards Bay/Empangeni) area will increase by R64 million per year (in 1999 prices). The household income in South Africa will increase by R72 million per year (in 1999 Rand) as a result of the project. Household income in the uMhlathuze area alone will increase by R37 million (in 1999 Rand).

In conclusion, the assessment found the project to be justified due to the resulting benefits to the economy in the form of cost savings to road users relative to the cost of the project. It was also shown that the project would be pivotal to unlocking the economic potential of the uMhlathuze area

### **KEY STRATEGIC OBJECTIVES**

- To increase the tempo of regional and national economic growth and development;
- To create a fertile seed bed for long term, sustainable employment in the region;
- To promote economic integration and mutual economic support across the Continent;
- To identify and foster complementary strategies, as opposed to unnecessarily destructive forms of competition in the structures responsible for production;
- The fostering of intra regional trade, and to address the large trade imbalances existing between Africa and other continents;
- To grow export markets by increasing African competitiveness;
- To correct imbalances with respect to the spatial distribution of the centres of production, based on the potential of new locations to support growth; and
- The mobilisation of Foreign Direct Investment.

## 9. POVERTY RELIEF

It has long been recognised that road infrastructure is a necessary condition for sustainable development and economic growth. Investments in roads can and do yield considerable economic payoffs in terms of enhanced regional growth, for the following reasons:

- They facilitate the movement of both agricultural and non-agricultural inputs and outputs between producers and markets;
- They improve people's access to social services such as health and education; and
- They facilitate the movement of labour between residence and workplace.

Road developments diversify the rural economy, increase agricultural production, dramatically increase timesavings, and reduce the social and economic costs associated with rural life. The poverty relief projects managed by the Agency in co-operation with the Eastern and Western Cape Provincial Governments and Northern Province Roads Agency, are the beginning of addressing the backlog of infrastructure in rural communities. These roads will not only create access but also mobility for people living in these remote parts of our country.

Government is engaged in a poverty relief programme and is using the Agency as programme manager. During the 1999/2000 financial year an allocation of R100m was received.

Our efforts continued in the 2001/2002 financial year and the Agency has been allocated R94 million from the poverty relief programme. The projects are divided between national and provincial projects and are being implemented in the Western Cape, Northern Cape, KwaZulu-Natal, Free State, Eastern Cape and the Northern Province.

The national projects will focus on roadside facilities to accommodate pedestrians, non-motorized vehicles and long distance travellers. These projects will aim to create infrastructure such as on/off-ramps to taxi bays, pedestrian crossings, passenger shelters and safe trading facilities. The infrastructure will contribute to the creation of life long employment opportunities for communities.

The provincial projects will address the upgrading of rural access roads and minor bridge construction. The provincial projects will be executed in line with the provincial priorities and in co-operation with the relevant authorities.

Through these projects, many opportunities are created to meet the objectives of government, inter alia, development of SMMEs, training, labour maximization, skills transfer and the bettering of the quality of life of our citizens. These objectives also become the Agency's challenges and a specified amount of the committed monies, is set for maximizing the labour content in these projects. The designs are also adapted to use labour-enhanced construction methods. All projects are designed to enhance the job creation efforts of Government and through our efforts we will create a knowledge base by training and social development programmes.

### **FUTURE ALLOCATIONS AND KEY OBJECTIVES**

On receiving future allocations from National Treasury the Agency will focus on roadside facilities to accommodate pedestrians, non-motorized vehicles and long distance travellers. These projects will aim to create infrastructure such as on/off-ramps to taxi bays, pedestrian crossings, passenger shelters and safe trading facilities. This type of infrastructure will contribute to the creation of life long employment opportunities for communities. The provincial projects will address the upgrading of rural access roads and minor bridge construction.

Communities, which include informal settlements adjacent to National Routes, generate substantial pedestrian activity. There is a genuine need for residents from these communities to cross or travel along the National Routes, which have high operating speeds. A general lack of pedestrian facilities has been identified which would render these areas safer. Key sub-components of these projects would therefore include the provision of footbridges, underpasses, fencing and footpaths.

Local labour and/or Affirmable Business Enterprises (ABEs) will be provided an opportunity to provide the services for the specific communities surrounding road network of proclaimed roads. This will provide continuity for the skills gained during the construction process and enable the workers and ABEs to participate in the on-going activities in routine and periodic maintenance activities necessary to ensure access and road infrastructure in the long term.

## **10. SOCIAL AND ENTREPRENEURIAL DEVELOPMENT**

The ethos of the Agency's targeted procurement philosophy is that we can and are contributing to economic growth in our country and the Southern African region as a whole by training people to become economically active and by reducing unemployment and by stimulating growth in the small and informal sectors of our economy. In so doing, we enhance the provision of basic services, build capacity, act as catalysts for development in other growth areas, create employment, develop small and medium enterprises, alleviate poverty and elevate the status of women. In elevating the status of women, we bring women into the mainstream of our economy, since they represent the unemployed and rural women, the most disadvantaged sector of our society.

### **JOB CREATION AND SMALL BUSINESS**

The Agency places a strong emphasis on the development of human resources, job creation and SMME development, which remain at the core in the award of contracts. We promote entrepreneurial development and uphold the ethos of the Reconstruction and Development Programme (RDP) by entrenching the principles of the RDP in our contract documentation. Construction contracts are therefore evaluated on a set of criteria that include inter alia:

- price;
- labour content;



- the utilisation of Affirmable Business Enterprises (ABEs);
- equity held by Previously Disadvantaged Individuals (PDIs) in the company;
- the utilisation of PDIs in the management of the contract;
- the involvement of women in the company or contract.

To ensure that the proposals materialise, the Tenderer is heavily dis-incentivised, should it fail to meet the criteria. To date the construction companies have accepted these criteria and it is envisaged that skills transfer and development of SMMEs through construction projects will result in SMMEs playing a much greater role in the economy of the country.

### **PUBLIC PRIVATE PARTNERSHIP PROJECTS**

The Agency's empowerment philosophy, which is founded in every project it embarks on, manifests itself also in the PPP projects in its own unique way, but magnified to extent of the contract size. However, it is not the entrenchment of job creation, training and SMME development allotment, which signify the success of empowerment. Rather, the fact that concessionaires, taking socio-economic development to heart, have successfully carved a niche for the disadvantaged into our rapidly changing economy, created meaningful employment opportunities and stimulated the pace at which scarce skills are being acquired

### **KEY OBJECTIVES**

- To promote the programmes of Government for job creation and sustainable development;
- Enhance the country's human capital;
- Create a stable transport infrastructure – roads- to arrest the threat to the social and economic base of our country;
- Retain the existing talents and develop our scarce human resources to serve us all in our endeavours to keep our country amongst the world leaders; and
- Consolidate our human resources and institutional arrangements to ensure competitiveness and a single point of responsibility.

## **11. ENVIRONMENT**

The Agency needs to provide and manage a sustainable National Road Network that minimises the cost of road transport, promotes economic growth and enhances the quality of life of all South Africans. In order to meet its mandate, the Agency recognises that it needs to be sensitive towards the environment and be able to make responsible decisions regarding the environment.

The Agency has proved in all development projects to be a world-renowned partner in protecting South African heritage. With all its projects, the Agency complies with all the statutory requirements with regard to the Environmental Impact Assessment process and extensive public participation processes take place to ensure that the concerns of all – as far as practicable – are accounted for in the final solution. This underlines the Agency's commitment to involve all role players where the strategic road network is upgraded.



The participation of communities in the provision of infrastructure projects have been included in the last few years in South Africa as part of government's initiative to take into account the input/comment of the very people who stand to benefit from the provision of the infrastructure. At the same time, their participation at decision-making level, their access to information and their ever increasing ability to provide input and ideas have played an important role in building capacity in rural areas of South Africa.

### **CORPORATE ENVIRONMENTAL POLICY**

A corporate environmental policy has been developed for the Agency. Senior management enthusiastically support the policy statement and its commitment shows an honest dedication to environmental management. The policy conveys that protection of the environment is a top organizational priority for without it, there could be no sustainable development.

### **BIODIVERSITY INITIATIVE**

The implementation of the biological diversity initiative within the road reserves commenced in KwaZulu Natal in 1999. The biological diversity initiative entails the introduction of indigenous vegetation in the road reserve and median. The aim of the initiative is to render the road reserves self-sustainable once suitably established with indigenous vegetation with only a minimal amount of maintenance being required. Because of this, the future economic benefit to the country as a whole is immense. The acceptance of a holistic approach towards the better management of projects within the Agency has allowed for the enormous potential benefit to the environment within both the confines of the road reserve and beyond.

As each contract is awarded, so can be seen the provisions made for the protection of our natural asset. Whether it be alien weed eradication projects, improvement in the conditions of naturally occurring plant species or planting of endemic trees and shrubs, each step forward is closer to realising the complete potential of our actions.

The road reserve network is vast and a total return to the natural history of each area will not happen overnight. However, with the dedication of management towards the philosophies in place, the vision of biodiversity will be attained and improved upon in the years to come.

### **WEED ERADICATION PROGRAMME**

The acceptance of the need for the eradication of alien plant species from within the road reserve during routine road maintenance projects can be seen as the catalyst that allowed for greater focus to be placed beyond the confines of the surfaced road. This improvement in the basic condition of the landscape now allows for greater focus on the promotion and protection of our natural plant and animal species that make up the unique identity of areas within the national road network.

### **KEY OBJECTIVES**

- To maintain, improve and expand the national road network in an environmentally responsible way;
- To develop an environmental management system for the Agency based on the ISO 14001 system standard; and

- To provide a systematic approach to continual improvement of the Environmental Management System in the Agency.

See back for Appendix II  
(Corporate Environmental Policy)

## 12. PERFORMANCE INDICATORS

In striving to increase the country's global competitiveness, the Agency contribution is to ensure that the primary road network functions efficiently in order to promote, inter alia, the productivity of import and exporting industries, tourism and accessibility. In order to achieve this, the Agency will have a comprehensive performance management framework within which the performance of the Agency can be benchmarked. The use of performance indicators fulfils this need and will address the performance of the primary road network and its contribution to economic and social development.

### ROAD NETWORK

- **Smooth Travel Exposure (STE)**
  - ∞ Description: The proportion of travel undertaken each year on roads with roughness conditions (longitudinal surface undulations affecting the wear and operating costs of vehicles, road safety, and the impact of the vehicle on the road through excitation of the vehicle mass), less than the specified level.
  - ∞ Purpose: To monitor whether roads are providing acceptable travel conditions.
  - ∞ Considerations: The Smooth Travel Exposure (STE) indicator represents the proportion of travel undertaken each year on roads with surface roughness less than the defined level.
  - ∞ Target: 95% of travel on less than 4,2 m/km roughness.
- **Low Rut Exposure (LRE)**
  - ∞ Description: The proportion of travel undertaken each year on roads with rut depth conditions (surface depressions that can hold water and cause a vehicle to aquaplane) less than the specified level.
  - ∞ Purpose: To monitor whether roads are providing acceptable travel conditions.
  - ∞ Considerations: The Low Rut Exposure (LRE) indicator represents the proportion of travel undertaken each year on roads with rut depth less than the defined level.
  - ∞ Target: 95% of travel on less than 20mm rut depth.
- **High Texture Exposure (HTE)**
  - ∞ Description: The proportion of travel undertaken each year on roads with macro-texture conditions (visual coarseness of the road surface that affects surface friction at high speeds (> 60 km/h) for wet conditions) higher than the specified level.
  - ∞ Purpose: To monitor whether roads are providing acceptable travel conditions.
  - ∞ Considerations: The High Texture Exposure (HTE) indicator represents the proportion of travel undertaken each year on roads with macro-texture higher than the defined level.
  - ∞ Target: 95% of travel on higher than 0.4 mm texture

- **Bridge Condition Exposure (BCE)**

- ∞ Description: The proportion of vehicles per year that travel over or under bridges with conditions higher than the specified level.
- ∞ Purpose: To monitor whether bridges are providing acceptable travel conditions.
- ∞ Considerations: The Bridge Condition Exposure (BCE) indicator represents the proportion of vehicles that travel over or under bridges with Overall Condition Index (OCI) higher than the specified level.
- ∞ Target: 90% of travel over or under bridges with OCI higher than 80

**ROADS AGENCY**

- **Return on Construction Expenditure (RCE)**

- ∞ Description: The weighted Internal Rate of Return of total capital construction expenditure per annum.
- ∞ Purpose: To monitor the predicted economic benefits to the community from Road Agency capital programs.
- ∞ Considerations: The Return on Construction Expenditure (RCE) indicator is based on weighted Internal Rate of Return estimates of capital projects undertaken by the Road Agency. The Internal Rate of Return is calculated as the discount rate for which community life-cycle benefits equal the Road Agency life-cycle costs.
- ∞ Target: IRR > 15%

- **Expenditure Efficiency Index (EEI)**

- ∞ Description: The percentage on of annual expenditure spent on overhead costs.
- ∞ Purpose: To monitor the efficiency of the Roads Agency.
- ∞ Considerations: The expenditure efficiency index (EEI) is the annual percentage spent on overheads by the Agency compared to the total expenditure of the Agency.
- ∞ Target: 5%

- **Private Sector Investment Index (PSII)**

- ∞ Description: The proportion of total annual expenditure secured from private sector.
- ∞ Purpose: To monitor the attraction of private sector investment.
- ∞ Considerations: The Private Sector Investment Index (PSII) is the ratio between expenditure funded from private sector and expenditure funded from the fiscus.
- ∞ Target: 0,85

- **Road Maintenance Effectiveness (RME)**

- ∞ Description: A cost index reflecting the proportion of the road network which is being maintained to target conditions and the expenditure per kilometre required.
- ∞ Purpose: To monitor the effective-ness of maintenance functions undertaken by the Agency.
- ∞ Considerations: The Road Maintenance Effectiveness (RME) indicator represents the cost per kilometre to maintain the roads in smooth condition (less than defined roughness level).
- ∞ Target: Under development

- **Asset Preservation Index (API)**

- ∞ Description: The ratio between expenditure and increase in pavement layer asset value.
- ∞ Purpose: To monitor the efficiency of the Roads Agency.
- ∞ Considerations: The asset preservation index (API) is the ratio between construction expenditure and the increase in the asset value of the pavement layer portion of the pavement.
- ∞ Target: Under development

## **ROADS SYSTEMS**

- **User Satisfaction Index (USI)**

- ∞ Description: Index of user's qualitative evaluation of satisfaction with national road network.
- ∞ Purpose: To provide a qualitative indication of users' perceptions of the performance of the national road network.
- ∞ Considerations: The User Satisfaction Index (USI) is a measure of road users' satisfaction with the national road network. The index is based on road users' ratings (roadside surveys) of a number of attributes related to the national road network.
- ∞ Target: Under development

## **NATIONAL ROAD DEVELOPMENT INDEX**

- **National Road Development Index (NRDI)**

- ∞ Description: The annual proportion of vehicle travel on the national road network in relation to all vehicle travel in South Africa.
- ∞ Purpose: To monitor the importance of the national road network.
- ∞ Considerations: The National Road Development Index (NRDI) is the ratio between the total vehicle kilometres travelled on national roads and all vehicle travel in South Africa. All vehicle travel in South Africa will be estimated from the annual litres of fuel sold and assumptions with regard the vehicle fuel consumption.
- ∞ Target: No target since it is just an importance indicator.

## **13. INTERNATIONAL RELATIONS**

The Agency has already established itself amongst the world leaders. The Agency has and will always strive not only to be recognised as a world leader, but also as a driving force in assisting in developing other countries infrastructural needs and skills base. To this end the Agency is actively involved in the following:

### **Southern African Development Community (SADC)**

As the markets in the SADC countries are liberalised, either through agreements such as the SADC Free Trade Area to commence in 2004 or other agreements such as those under the World Trade Organisation (WTO), a greater recognition for the importance of producer services in the overall growth and development of a country has started to take place. When examining transport with the needs of agriculture and manufacturing, one is immediately confronted by the absolute necessity of transport for these sectors to be



internationally competitive. The Agency is thus committed in assisting these countries in accelerating the delivery rate of transport infrastructure which will not only lead to the increase of export, but will also increase a countries benefit from the international economy. The increase in the trade in goods will also, through transport infrastructure, improve competitiveness, productivity and widen the choices of consumers, ultimately leading to better prices within economic sectors.

Although the acceleration of infrastructure delivery will have positive economic advantages, one must also look at the immediate challenges and needs. Some of the main challenges are:

- Some transport infrastructure capacities are under-utilised;
- Port related problems - specifically inadequate cargo handling equipment, poor rail-port-road interfaces and port congestion;
- Border formalities i.e. slow clearing of exports and imports, short operational hours and delays costing freight hauliers millions each year;
- A clear lack of modal integration and seamless transportation; and
- Capital re-investment is below required levels for almost all modes of transport.

#### **MILLENNIUM AFRICAN PLAN**

For Africa, the way to take its rightful place within the Global Village is only through economic recovery. For this to be realised, our Macroeconomic targets and goals must be based on the attainment of sustained and broad based development that, inter alia, includes:

- To increase the level of economic activities;
- Generate more employment opportunities;
- Reduce the incidence of poverty;
- Good Governance;
- Improve the delivery and expand the coverage of basic services;
- Protect the integrity of the environment; and
- Promote the sustainable use of natural resources.

To attain these goals, economic integration has become a feature of the policy frameworks of many countries and is generally driven by market and/or political imperatives. It is primarily an instrument to pursue the expansion of markets and to remove barriers impeding the flow of goods and services between countries in a bloc or region. This ultimately leads to economic growth and development, so needed in Africa. The benefits are, inter alia:

- Trade creation;
- Trade diversion;
- Larger market block allowing countries to take advantage of economies of scale;
- Enhanced competitiveness of firms in the micro economic sphere;
- Foreign direct investment;
- Joint development of economic activity; and



- Co-operative strengthening of the relationship between the bloc and the rest of the world.

However, economic integration per se will not be able to address all the issues Africa is facing. For this reason, various other instruments should also be made used to redevelop our home, Africa. In this instance the Agency is actively participating in assisting this important programme in the following ways:

- **Spatial Development Initiatives**

The Spatial Development Initiatives are aimed at generating long-term international competitiveness, growth and development. The challenge of reconstructing and developing SDIs and other development corridors is set to improve the infrastructure in the region.

- **Public Private Partnerships**

The issue of infrastructure financing and pricing has been an important aspect of economic analysis for a long time. Since the 18th century this aspect has been debated and found that the funding of infrastructure should be "tax" based. Now that we have entered the 21st century, infrastructure financing and pricing deserves a new and deeper analysis. We can no longer rely on the State to, through taxation, provide the finances. It seems that due to the challenges faced by Africa between providing for the social needs of the communities and remaining globally competitive, the political, public administration and technological climate has never been more conducive for the development of infrastructure using the user pay principle rather than being dependent on tax based revenues.

Transferring the responsibility of providing infrastructure from government to the private sector implies more than just the transfer of ownership of the facilities. It implies the transfer of some or all decision making authority. This sea change that we are witnessing in the ethical environment dates back to as far as the early 1990s. Privatisation and/or public-private partnerships, transfer into the private sector a large number of social responsibilities previously assumed by the State. The decisions on how best to deal with issues of common good, such as providing loss-making services to rural areas, is no longer assigned to the publicly accountable functionary but up to the businessmen who run the company.

- **Developing Infrastructure**

Looking at the profile of transport infrastructure, it is noteworthy to mention that road transport represents between 2% and 6% of a country's GDP. In the UK, it is said that a £1 increase in road transportation costs leads to a reduction of £1.66p in GDP. This shows the importance of well-established and maintained infrastructure. Furthermore, in South Africa, as is the case worldwide, freight transport by road has become the dominant form of transport (80% compared to 20% per rail). This is specifically significant to Africa, as many African countries do not have extensive rail networks. As a result of the trend towards "intra-continental" movements of goods and services, the lack of necessary infrastructure will inhibit Africa to compete in this market. Intra-regional and Inter-continental movement of goods and services will play a much larger role in our future competitiveness and economic survival in the 21st century.

The challenge facing governments in Africa is a small budget on the one hand and a large demand on the other. It is further not uncommon that the emphasis is placed on addressing social spending needs and social infrastructure deficiencies. This emphasis needs to be very carefully managed as the curve that describes the decay of inadequately maintained infrastructure becomes dangerously steep if relative neglect persists beyond a few years.

- **Employment**

Through innovative funding mechanisms and instruments, with the establishment of public-private partnerships, Governments could supply infrastructure within the constraints of budgetary restraints. In terms of job provisioning, projects initiated on the public-private partnerships principle, has shown potential to significantly stimulate job creation especially in the secondary labour market. Recent studies by the Stanford Research Institute has shown that of the 620 000 jobs expected to be created in South Africa within seven years, 90% of these jobs are directly related to tourism, construction and agriculture. These are manifested in all major infrastructure projects underway in our continent. The Agency aim to assist Governments to attain these goals to curb the unemployment rate and enhance the economic competitiveness of Africa.

## **BEYOND AFRICA**

By its every action, the Agency pursues a vision of being recognised as a world leader in the provision of a superior primary road network in Southern Africa.

The Agency has taken its place in the global arena by becoming a member of The World Road Association (PIARC). PIARC has a membership of 97 countries and is the primary international forum for the promotion of roads-related issues throughout the world. Despite having only becoming a member as recently as 1995, South Africa has been chosen to host the first PIARC conference of the new millennium in Durban in 2003. The Agency also holds membership of the Executive Committee of PIARC, through its CEO.

Managers and specialist staff within the Agency also enjoy international recognition, not only by virtue of its membership of PIARC and directorship within the IBTTA, but its regular invitations by multilateral agencies, to present the successes of the Agency.

## **14. CORPORATE GOVERNANCE**

The way in which we conduct our business is the single most important factor through which we can inspire confidence in the business world as well as the arena of international politics. Our behaviour, consisting of various actions, small or large, will determine the success of any policy or procedure we initiate. As the Latin proverb goes: "*etiam capillus unus habet umbram suam*" (the smallest hair casts a shadow), integrity and probity should form the basis of each and every action, how small or large, that we take.

In South Africa, the public sector has increasingly – and unfairly – been tainted as a leading offender, through its alleged failure to comply with strict corporate governance

guidelines. However, the country's approach to good governance and the significance it attaches to fair public procurement practices, by example, lies in the fact that these have been taken up in the new South African Constitution. Whilst our Constitution enjoys supremacy, South Africa's emphasis on ensuring that its system of contracts is "fair, equitable, transparent, competitive and cost effective" provides a modern example of the importance of public procurement.

Motivated by a desire to uphold the Constitution, to engender confidence in the Agency and in accordance with generally accepted corporate governance practices and other statutory requirements, the Agency and its Directors are fully committed to the principles of transparency and accountability. The Agency has a strong and clear commitment to good corporate governance, through sound management practices. This, together with the basic values and principles governing public administration as enshrined in the Constitution, continues to provide the Agency with its framework for the development of sound organisational and institutional arrangements. The embracement of these values and ethics in the Agency's vision, mission and core values, have resulted in the Agency becoming more efficient and effective.

#### **THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT**

The Preferential Procurement Policy Framework Act of South Africa, goes beyond the principles contained in the World Trade Organisation's revised Agreement on Public Procurement. The Agency, subscribing to this Act, uses preferential procurement as a tool for socio-economic empowerment of historically disadvantaged South Africans. In adopting international best practice, the Agency faces the challenge of striking a balance between the requirements of equity and targeted procurement, to stimulate economic growth in our country and redress the imbalances of past policies.

#### **THE KING CODE OF CONDUCT**

According to the King Report on Corporate Governance, contracts between contracting parties revolve around trust and the responsibility to do unto others what you would others do unto you. In other words, ethical behaviour. This imposes on companies the obligation to apply the tests of integrity, honesty, openness and fairness in their business, placing a greater emphasis on the non-financial aspects of their performance.

The Agency, in its commitment to the socio-economic development principles of government, and applying ethical standards in its daily business through transparency and integrity, also acts in ways in which socio-economic deliverables are realised. This is established in the way in which the Agency procures services and awards contracts, whereby opportunities are created to empower people and improve the quality of life of all South Africans. Consequently the Agency has dedicated itself to:

- commit the company to the highest standard of behaviour;
- employee participation to the extent of inculcating an ethical culture;
- total commitment from the Board of Directors and management;
- embracement by all stakeholders;
- providing a clear code of ethics which guides the behaviour of all employees; and
- the implementation of punitive measures for unethical behaviour.



**TRANSPARENCY INTERNATIONAL – SOUTH AFRICA**

Transparency-South Africa (T-SA), an autonomous South African NGO and Transparency International affiliate, is committed to address the issues of corruption, governance and ethics.

In its effort to combat unethical behaviour and corrupt practices, the Agency joined T-SA, thereby aligning itself and committing to the eradication of corruption in the public and private sector, through networks of integrity. Recognising that corruption is a problem affecting development not only in South Africa, but internationally, the Agency undertook to:

- further transparency, accountability and integrity in all its transactions;
- promote good governance;
- raise awareness of corruption in our society; and
- develop networks of integrity against corruption.

**15. SOCIAL RESPONSIBILITY**

Establishing a firm partnership with civil society forms the backbone of the vision of the Agency. Through this partnership the Agency not only stimulates debate and opinion, and ultimately support for its objectives, but also draws in those members of society who will finally benefit from projects. At the same time, the Agency also acknowledges that we need to fulfil our role as an implementing instrument of government's policies for the upliftment and enhancing of the potential of our people. The Agency thus sees its role in supporting education.

The buzzwords in South Africa today are global competitiveness, enhancing human capital, job creation and bettering the quality of life. All these words are principles in their own right forming the anchors of our new destiny. However, these principles and our new destiny all depend on one factor – education. Education is the only means through which this country can develop marketable job skills, create jobs and upgrade the capacity of community-based organisations to address their own development needs.

However, we also need to create a broader base of skills and knowledge to allow us to access those skills and knowledge more readily and efficiently. This base of skills and knowledge must however also be of such a quality to allow our country not only to be competitive but in various areas also become and maintain our status as the world leaders. It is thus imperative that we engage in capacity building creating the required depth of skills and knowledge to ensure a human capital bulwark against the tide of poverty and economic recession.

The Agency also recognises the same need in Africa and the rest of the world. In our endeavours we thus ensure that this pool of skills, knowledge, expertise and teachings is not restricted to our country alone, but also to the rest of the Continent. It is for this reason that the Agency has also established links and agreements with various international

education institutions and will continue to forge new ties in future. Currently the Agency has engaged in the following initiatives:

#### **CHAIR IN PAVEMENT ENGINEERING AT THE UNIVERSITY OF STELLENBOSCH**

South Africa has long since been recognised as the world leaders in pavement engineering. Subsequently a Chair for Pavement Engineering at the University of Stellenbosch was established. The main aim of this chair is to provide:

- Suitable under- and postgraduate courses in pavement engineering
- A research directed and course directed Masters Degree (ideally suited for part time students working in the industry;
- Research activities in pavement engineering leading to Doctoral examinations;
- Supervising under and post graduate research work in the fields of pavement engineering and focused on the SA situation, for example, materials science general, concrete pavements, hot mix, cold mix, seals, mechanical testing, functional/structural pavement design, construction, pavement management;
- Guidance and contribution to continuing education courses, conferences, seminars, workshops at tertiary education level;
- Acquisition and dissemination of knowledge through monitoring of technical advances world wide;
- Research and mentorship to researchers;
- A library of relevant literature and audiovisual material;
- Service to the southern African region as a whole; and
- Most importantly, human resources for the industry, with a strong emphasis on affirmative action.

The Agency is currently funding this Chair, not only to ensure that cutting edge technology is available, but also to allow students and especially historically disadvantaged students the opportunity to enter this market and to better their skills and knowledge.

#### **TRAC**

Whereas the Pavement Engineering Chair is focussed on tertiary education, the Agency also recognised the need to introduce education programmes on intermediary levels. This recognition set our focus on schools and learners and more specifically on the mathematics and science subjects – being desperately needed in our country. The TRAC (Transportation and Civil Engineering) Programme is an innovative way of enhancing physical science and mathematics for high school learners, by means of computer technology. The aim is to stimulate the students' interest in applied science, enabling and encouraging them to enter technological careers, more specifically, the fields of transportation and civil engineering. This programme is also unique in that it establishes a relationship between mathematics and science to everyday life through exposing learners to technology.

At the heart of the programme is the TRAC PAC – a self-contained laboratory pack consisting of a microcomputer, software, sensor equipment, a digital interface for collecting data and other apparatus. It consists of 42 structured experiments, which are designed to involve learners and illustrate how the theoretical principles taught in school, are applied in



engineering to solve real problems. The TRAC PAC is established at schools after appropriate training of mathematics and physical science teachers. These teachers then use the TRAC PAC as an educational tool to support their syllabus work. In addition to this, schools receive technical support, school visits and career guidance from the TRAC team.

Seventy-nine TRAC PACs are currently operational in the country (54 packs are placed at schools, with the remaining packs at tertiary institutions). From the annual progress reports received from TRAC schools, 7 500 students participated on the programme in South Africa in 1999. An estimated 20 000 South African students have taken part in TRAC activities since the programme's inception.

The establishment of a TRAC research programme, a co-operative venture between the University of Stellenbosch's Faculties of Engineering and Education, has created unique collaborative research opportunities into industry relevant school curricula and related education technologies. A direct result of this co-operation, is the establishment of a TRAC Laboratory at the University's Department of Civil Engineering. This "TRAC Lab" will serve as a state of the art research and development facility for the programme, as well as exposing student and teacher groups to career opportunities in transportation and civil engineering.

## **APPENDIX I**

### **POLICY OF THE SOUTH AFRICAN NATIONAL ROADS AGENCY IN RESPECT OF UNSOLICITED PROPOSALS**

**MAY 1999**

#### **1 THE CLIENT**

For the purposes of this document, the client is the South African National Roads Agency Ltd, hereinafter referred to as the "Agency", or its successor in title.

#### **2 INTRODUCTION**

The Agency, in support of the Minister of Transport's aim to stimulate innovation and to create new opportunities for the private sector, is keen to receive proposals for road transport infrastructure development.

This policy guideline is a revision of the policy dated September 1997, issued by the predecessor of the Agency, namely the South African Roads Board.

It has been drafted in order to provide the private sector with a framework within which Unsolicited Proposals ("the Proposals") should be prepared. It also explains how Proposals will be dealt with by the Agency, and lays down procedures which will be followed in order to stimulate a competitive environment, ensure transparency, and offer the public protection from the possibility of monopolistic practices and exploitation.

In general, Proposals should reflect a conformance with governmental aims, be in the public interest, avoid the creation of monopolistic practices, not seek to place onerous conditions upon government, for example no explicit government guarantees will be issued, and reflect environmental, social and economic sustainability. In this respect, the White Paper on Transport and the Reconstruction and Development Programme may further assist sponsors with the preparation of their Proposals.

#### **3 PROCEDURE**

##### **3.1 Preliminary Note**

Annexure A contains a diagrammatic presentation of the procedure that will be followed in dealing with Unsolicited Proposals.

No obligation shall rest on the Agency to accept any Proposal. For the avoidance of doubt, the Agency shall not be responsible for any costs which a party may incur in preparing and submitting a Proposal, and such costs will not be considered by the Agency in negotiating the costs as provided for in Section 3.4. The Agency may enter into an Agreement with the Proponent as Scheme Developer subsequent to the submission of the Proposal. Cost apportionment, thereafter, shall be as provided for in Section 3.4 of this document.

In the event of a Proposal being rejected, aborted or abandoned by the Agency, or having being withdrawn, aborted or abandoned by the Proponent, neither the Proponent nor the Agency may claim from the other party damages or loss of earnings or loss of profit, or any other compensation whatsoever, other than as may have been provided for in the Agreement between the Agency and the Proponent

for Scheme Development, such amount to be agreed upon as set out in Section 3.4 of this document.

### 3.2 Contents of an Unsolicited Proposal

In order to qualify as an Unsolicited Proposal, the Proposal must contain, inter alia, the following:

- a clear description of the scope of the Proposal together with a key plan to elucidate the description
- present traffic figures as well as traffic growth predictions
- proposed road cross sections and a programme of cross sectional development motivated by means of predicted traffic patterns
- road pavement proposals and pavement improvements with a programme motivated by means of predicted traffic patterns
- any other safety and capacity enhancing features proposed
- proposed residual life of pavement at the end of the concession period
- cost estimate of sufficient accuracy to illustrate the financial viability of the project. This must also identify whether the Agency is expected to contribute financially
- tolling Strategy
- minimum design standards and performance criteria
- a list of the parties making the Proposal and their partners, if any, as well as details of their capabilities and relevant experience in the field of the Proposal
- a list of all conditions precedent which are part of the Proposal, or which remain to be overcome, and which will be required to be fulfilled prior to the implementation of the project

### 3.3 Evaluation of Proposal

The Agency will consider the Proposal in terms of, inter alia, the Agency's business and strategic planning. If the Agency is interested in developing the Proposal, the Agency will:

- inform the Proponent of any scope changes the Agency may require or propose for consideration by the Proponent
- inform the Proponent of all Matters to be Resolved which the Agency may have identified and which need to be addressed during the Development Phase of the Proposal

### 3.4 Appointment of Scheme Developer, and Development Agreement

If the Proponent: accepts the scope changes required by the Agency, or accommodates the proposals put forward by the Agency for the Proponent's consideration and also undertakes to address the Matters to be Resolved raised, the Agency will;

- award the Proponent the status of Scheme Developer, which will enable it to formally approach other Authorities and perform duties required to address the various issues raised
- publicly announce an acknowledgement of the Proposal and the award of Scheme Developer Status to the Proponent

At this stage a Scheme Development Agreement (the "Agreement") between the Agency and the Scheme Developer will be drawn up to, inter alia, address;

- the rights and obligations of the two parties flowing from the Agreement

- the time at which the Agency may accept liability for the whole of or part of the costs incurred by the Proponent with regard to the Proposal ("the agreed costs"). The time for acceptance of the liability of the agreed costs will be agreed upon between the parties and may be at any time between the stage of award of Scheme Developer Status and the stage where Tender Documentation has been compiled. The acceptance by the agency of this liability will be determined by the nature of the Proposal. It is recorded that this acceptance is to be agreed upon and the Agency is under no obligation to accept this liability
- the budget amount for the development of the postulated scheme up to the stage where Tenders are invited. This amount will be provided for in the Tender Documentation as a provisional amount, payable by the successful Tenderer to the Scheme Developer, in the event of the Scheme Developer not submitting the most attractive tender. Should the project be aborted by the Agency after Agency Acceptance, the Agency will reimburse the Scheme Developer for its costs incurred up to the date as agreed upon, such date not being earlier than the date of appointment of Scheme Developer, to an amount not exceeding this budget amount
- the limit of the liability of the Proponent to the Agency in respect of the costs incurred by the Agency in procuring third party advice with respect to the Proposal, in the event of the Proponent withdrawing their bid in the period subsequent to their having been awarded Scheme Developer status, but prior to calling for tenders for the project

### 3.5 Addressing of Matters to be Resolved identified by the Agency, and Scheme Development

As part of the Agreement, the Scheme Developer and the Agency shall agree on a time period within which the Matters to be Resolved and any required scope changes must be addressed.

The Scheme Developer shall then liaise with the relevant stakeholders and/or role players and take any actions that may be necessary to resolve the identified Matters to be Resolved and to bring about the required scope changes. If successful, the Scheme Developer should optimise the Proposal and present the Agency with the optimised Proposal as well as evidence (where applicable) of solutions to the Matters to be Resolved.

Once the Agency's Matters to be Resolved have been satisfactorily addressed and the scope changes have been satisfactorily affected, the Agency will allow the Scheme Developer, in conjunction with the Agency (and other Authorities, if applicable) to further develop the Proposal in accordance with the Agreement, including, but not limited to;

- technical aspects
- plaza positions
- the Environmental Impact Assessment (including public participation, and socio-economic aspects) up to and including the Environmental Management Plan

It must be noted that this is an integrated process and it might not be possible to address all Matters to be Resolved without taking at least some, if not all of the other actions listed above.



**3.6 Scheme Acceptance**

Once the Proposal has been developed to the point where, at the sole discretion of the Agency, it satisfies the terms of the Agreement, it will be accepted by the Agency in writing.

**3.7 Tender Documentation**

Upon successful completion of the above Development phase and the acceptance of the Proposal by the Agency, the Scheme Developer will be required to compile tender documentation under Agency supervision, after agreeing with the Agency on;

- the format of the documents
- projected time frames
- information to be included in, or excluded from the documents

**3.8 Calling for Tenders and the Tender Process**

The Scheme Developer may now bid along with all other interested parties for the project. From this point onward the normal bid evaluation and award process, as for any Agency initiated project, will be followed.

The two most advantageous Tenders will be selected by the Agency, from whom Best and Final Offers will be invited. Should the Scheme Developer's Tender not be among these, he will, however, be afforded the opportunity to also submit a Best and Final Offer, which will be evaluated along with those of the Selected Tenderers. It is recorded, however, that at no stage will the Agency disclose any information with respect to any of the other Tenders submitted to the Scheme Developer. From these will then be selected the Preferred Tenderer with whom the Agency will then enter into negotiations. This selection will be at the sole discretion of the Agency and the Agency will be under no obligation to select any Preferred Tenderer.

**4 SIMULTANEOUS PROPOSALS**

In cases where more than one Proposal is received for the same, or a similar project at the same location, before the Agency has awarded Scheme Developer Status to the first Proponent, the following shall apply:

If the projects are materially the same, a first come first serve approach will be adopted by the Agency, and the second Proposal will be returned to its Proponent.

If two or more projects, at one location, having common elements, but being substantially different in other respects, are submitted, the Agency will decide at its sole discretion which of the projects is the most desirable, and return the other(s) to its/their Proponent(s)

**5 THIRD PARTY ADVICE AND APPRAISAL**

The Agency reserves the right to submit Proposals, at any stage during the process, to third party advisors for appraisal and advice.

Appropriate undertakings for the confidential handling of the Proposals will be obtained from advisors before any documentation is handed to them.

The cost of obtaining such third party advice will be for the account of the Agency. However, should the Proponent withdraw the Proposal subsequent to their having been awarded Scheme Developer status, but prior to tenders having being called



for the project, the Proponent shall be liable for the costs incurred by the Agency in respect of obtaining third party advice. The limit of this liability shall be as agreed in the Agreement.

## **6 SUBMISSION OF BIDS**

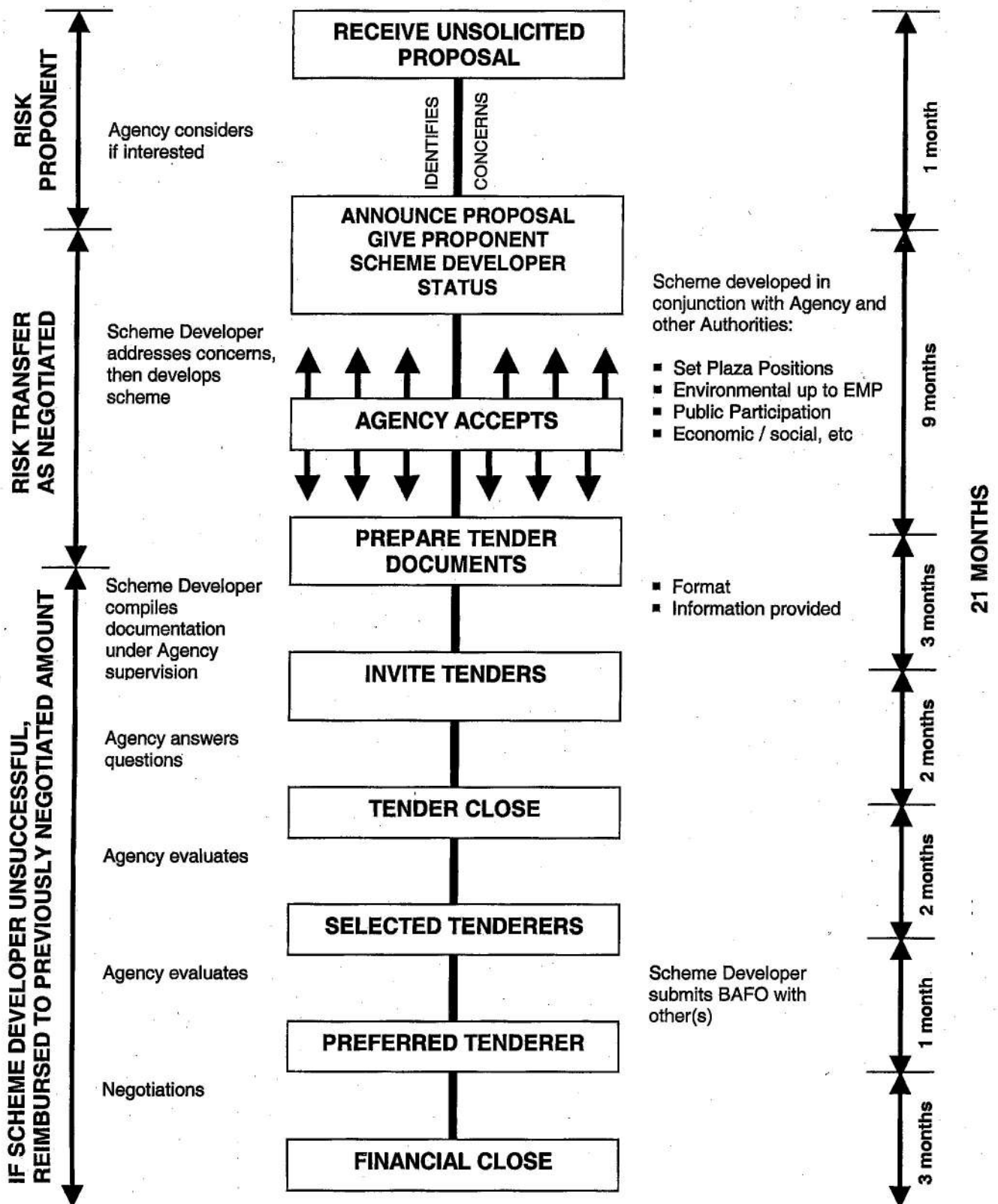
Four copies of the Proposal should be delivered by hand to;

The Chief Executive Officer  
South African National Roads Agency Limited  
North Block, Celtis Plaza, 1085 Schoeman Street HATFIELD PRETORIA

The Agency will record the date and time it receives Proposals.

Please note: In the evaluation process the emphasis will be on value for money and the affordability of the Project.

The following flow diagram describes the above procedure and should be read as forming part of this document.



## **Appendix II**

### **SOUTH AFRICAN NATIONAL ROADS AGENCY LTD CORPORATE ENVIRONMENTAL POLICY**

#### **VISION**

To be recognised as a world leader in the provision of a superior primary road network in Southern Africa

#### **POLICY**

Environmental management is a key component of road infrastructure development to achieve a shared vision for economic development and growth in South Africa in particular, and Southern Africa as a whole. In providing a sustainable road network that meets the requirements of both people and the environment, we are faced with many exciting challenges. We shall continuously strive to find a balance between the economic and social benefits of road-based transport on the one hand, and the protection of the environment on the other. We shall meet the challenges of providing sustainable, environmentally sensitive development through:

- Developing, implementing and monitoring an environmental management system;
- Ensuring that development proceeds in a socially, environmentally and economically sustainable manner;
- Continual improvement of environmental performance through regular reviews of the effects of development;
- Pursuing the best practical environmental option by promoting integrated environmental management principles;
- Integrating environmental duty of care into business planning and day to day activities;
- Conducting all operations, whether carried out by or on behalf of the NRA, in accordance with relevant environmental legislation, government policy, standards and industry accepted best practice;
- Minimising pollution and reducing, or where possible, mitigating the negative environmental impacts and/or promoting the positive environmental aspects as a result of the NRA's activities within socially and economically acceptable limits;
- Promoting the participation of all interested and affected parties in planning and implementation decisions taking into account the interests, needs and values of all stakeholders involved;
- Including environmental considerations in all aspects of strategic planning of our road and traffic management;
- Promotion of environmental awareness among employees;
- Recognising the vital role of women and youth in environmental management and development and promoting their full participation therein.

# **DECLARATION OF INTENT 2002 – 2005**



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## MESSAGE FROM

## THE CHAIRMAN

It gives me great pleasure to present this Declaration of Intent, which sets out the implementation of the South African National Roads Agency's plan to create a stable transport infrastructure over the next three financial years. The Declaration of Intent follows on from the Agency's strategic vision, Horizon Twenty Ten, a 10-year road infrastructure programme.

The biggest challenge faced by the Agency is to protect the national economic arteries of our country, including the development of its human capital. Against a background of constrained fiscal allocations for roads, the Agency has pro-actively sought conventional and innovative sources of finance, which ensure the continued development of South Africa's national road network. Public-Private sector partnerships are firmly established in South Africa and play a positive role in expanding the country's road network. Private sector participation greatly contributes towards alleviating pressure on tax-based revenues to meet the disparate demand made on the fiscus.

In order for South Africa to play its part on the world economic stage, it needs to have roads which will allow children to go to school, people to travel to their place of work and companies to transport their goods from one destination to another. Therefore, in planning the location of a new road or the upgrading of an existing one, the Agency must take into consideration the impact of that road on the social and economic planning of the country.

In so doing, the Agency has remained mindful of the great need to stimulate growth in the small and affirmable business sectors of our economy. The procurement policy adopted by the Agency has provided skills training, promoted affirmable business enterprises, created employment and developed small and medium enterprises so that these people, too, can play their part in the socio-economic development of the country.

South Africa has a road network, of which its people should be proud, and which is the envy of many other countries. I, too, am proud of my association with the Agency, and its achievements to date. I am confident that, through its commitment, the Agency will attain its vision to be a world leader in the provision of a superior primary road network.



Khehla Shubane  
Chairman  
April 2002

## **VISION**

To be recognised as a world leader in the provision of a superior primary road network in Southern Africa.

## **MISSION**

We are a commercially driven organisation committed to achieving its vision for the economic benefit of the Southern African community through:-

- a highly motivated and professional team;
- state-of-the-art technology;
- proficient service providers; and
- promoting the user pay principle.

## **CORE VALUES**

We will always act with integrity

We are committed to service excellence

Our people are our most valued asset

We subscribe to participative management

We will be pro-active to the needs of our customers and other stakeholders

## **1. INTRODUCTION**

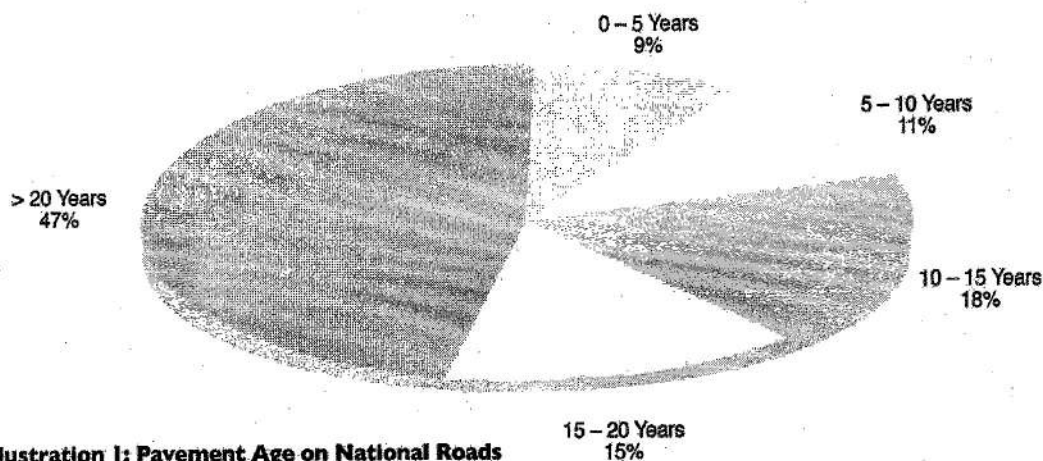
Flowing from the strategic vision of the Agency, Horizon Twenty Ten, this Declaration of Intent – the first of the new millennium – has as its basis the practical implementation of the goals and objectives of our vision to create a stable transport infrastructure – roads – to arrest the threat to the social and economic base of our country. This document thus deals with the projects and objectives that will be delivered within the next three financial years. However, as the deliverables for non-toll roads documented herein are based on the promised allocations from the National Treasury, any reduction or increase of the allocations will impact on the ability to deliver thereof. This document should therefore be seen as work in progress that may be revised from time to time depending on the funds received from National Treasury and as circumstances may warrant.

The fundamental principle in achieving our goals is the preservation of our current assets. Not only will the preservation thereof provide us with the necessary infrastructure platform and a demand driven upgrade for a primary road network, but it will also serve its rightful role in the overall development and economic growth of our country. It therefore speaks for itself that this Declaration is primarily focussed on preservation, i.e. a programme to arrest current decay, as well as to upgrade as required by demand (See Illustrations 1 and 2).

Once again, the successful arrest of decay of our roads and implementation of an effective and efficient maintenance and a demand driven upgrade programme are directly linked to implementing the toll road programme and the allocations received from the National Treasury.

### **MOVING SOUTH AFRICA**

Moving South Africa (MSA) was an innovative consultative process in which stakeholders in our nation's transport sphere were consulted to establish a vision, set the playing field, define the rules of the game, enable company-level choices and target national and customer objectives. The MSA calls for the unwinding of the legacy of the past policies and transport system and building a platform for sound and effective transport management. At the same time it also creates an environment in which the public together with the private sector will innovate and upgrade services in order to meet the needs of all citizens of our country. Among the most important goals is the creation of customer facing systems, skills and technology building, broadening the participation in the economy through representative ownership of transport assets and ensuring competition by providing the highest level of service at the lowest level of costs. Both the Horizon 2010 document and the Declaration of Intent have as their origin the attainment of these goals.



**Illustration 1: Pavement Age on National Roads**



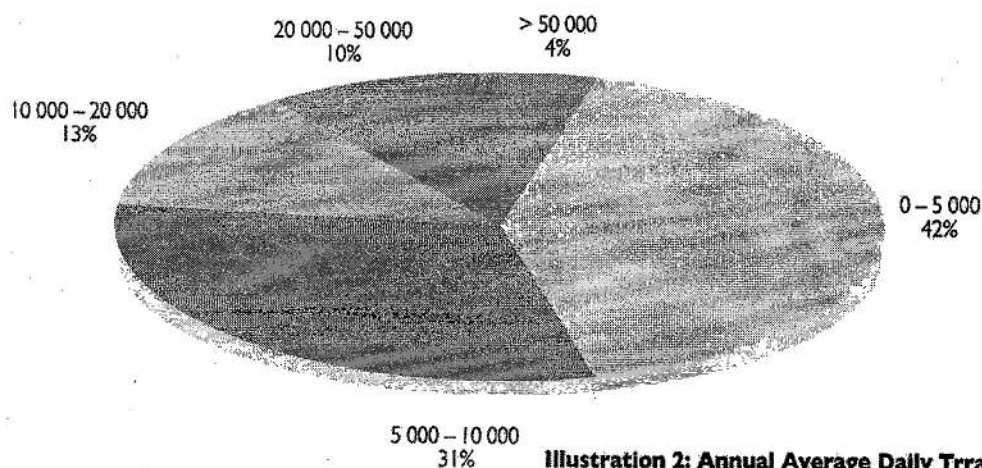


Illustration 2: Annual Average Daily Traffic on National Roads

### BACKGROUND TO THE AGENCY

In line with Government's commitment to transform the Public Sector, the South African National Roads Agency Ltd ('the Agency') was established in April 1998 by an Act of Parliament as an independent statutory company operating along commercial lines and at arm's length from Government. The purpose of the company, which is registered in terms of the Companies Act – with the Minister of Transport as the sole shareholder – is to maintain and develop South Africa's 7 200km National Road Network and to manage assets with an estimated value of more than R1 billion (excluding land). Its principal tasks are, as follows:

- To strategically plan, design, construct, operate, rehabilitate and maintain South Africa's national roads;
- To deliver and maintain a world class primary road network for South Africa;
- To generate revenues from the development and management of its assets;
- To undertake research and development to enhance the quality of South Africa's roads;
- To advise the Minister of Transport on matters relating to South Africa's roads;
- Upon request from the Minister of Transport and in agreement with a foreign country, to finance, plan, construct, acquire, provide, operate and maintain roads in that country.

A significant aspect of this transformation of the role of Government in road management is the recognition of the disparate demands and needs of our country and our people and the apportionment of responsibility in addressing them to the party best able to deal with it.

The Agency harnesses more than 600 years of core skills and experience in road development and management within a highly motivated, professional and commercially

driven team of people operating out of its Pretoria head office and four regional offices located in Pretoria, Cape Town, Pietermaritzburg and Port Elizabeth.

A fundamental consideration underlying the Agency's strategic planning process is support for the aims and objectives of the Reconstruction and Development Programme (RDP). To this end, the Agency factors in RDP considerations into all infrastructural development, particularly in respect of its procurement policies to address the imbalances of the past legacies. A greater emphasis will be placed on the creation of opportunities for small, medium and micro enterprises (SMMEs), and affirmable business enterprises (ABEs).

### FINANCIAL RESOURCES

The Agency has firmly established itself in the sphere of Public-Private sector partnerships in terms of which innovative financial instruments are used to finance the maintenance, upgrading and expansion of the national road network. With regard to meeting the challenges posed by a constrained fiscal allocation for roads, the Agency applies, inter alia, the Build-Operate-Transfer (BOT) model or variants thereof. Current sources of finance for national roads include the following:

- Toll Income – The 'user pay principle' is now well established on major limited-access national roads. The toll concept has facilitated the early implementation of a facility through private sector funding on commercial grounds, not only for the initial construction of the roads but for their ongoing maintenance and expansion which usually exceed the initial construction cost over the life span of the road.
- Borrowing Powers – Section 33(2)(a) of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No 7 of 1998) entitles the Agency at any time, with the approval of the Minister of Transport and in consultation with the Minister of Finance, to raise funds by means of loans from any source including the money and capital markets.
- Private Sector Borrowings – In view of the borrowing powers of the Agency, financing is procured from the private sector and/or through Concession Contracts and the toll income provides the income stream to service these loans. All toll-road projects are structured so that all private sector borrowings plus interest can be repaid within a 30-year time frame.
- Treasury Allocations – The Agency also receives a variable annual allocation from the National Treasury to finance non-toll roads.

### THE NETWORK

The current 7 200km of national roads under the Agency's jurisdiction, comprises of both toll and non-toll roads. While toll roads are funded through the user pay principle, non-toll roads are funded through the National Treasury. The challenge faced by the Agency in this regard, specifically in relation to non-toll roads, is that while road use continually grows road funding declines. The current funding level from the National Treasury, unfortunately, has fallen to such a level that it cannot fully finance the maintenance needs of the existing network, let alone provide for extensions required to

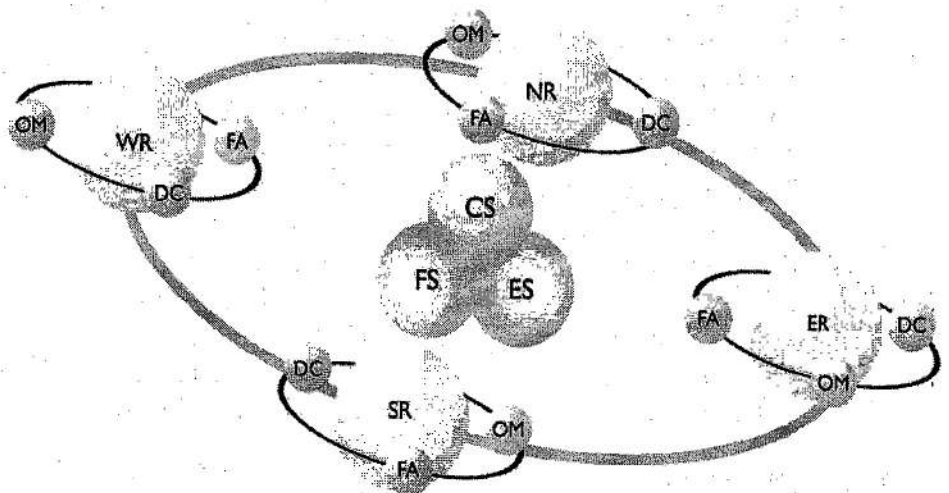
meet the growing traffic demands. With an assumed funding level of R900m per year for the non-toll national road network – and the non-realisation of the toll road programme – it can be deduced that the existing road network will rapidly deteriorate over the next eight years to a forecasted backlog of approximately R8,5 bn (2000 Rand). In other words, this implies that the assumed funding levels are only sufficient to effectively maintain approximately 40% of the non-toll network.

As the Agency's principle key strategic challenge is the long-term sustainability of a primary road network, a programme is developed to finance road provision to cater for the whole nation rather than for a few. However, by understanding the needs and concerns of road users, the motivation for using national roads, their expectations of what constitutes a fair return and how the Agency can improve road safety clearly suggests a primary road network consisting of both toll and non-toll roads. However, taking the disparate demands on tax-based revenues into account, the expansion of the primary road network needs to be strategically programmed and funded under a private sector borrowing/ concessioning programme thus reducing the pressures on the National Treasury to meet the basic needs of the citizens of our country.

It is for this reason that this Declaration addresses the programmes, needs and finances of the next three years as a first step in attaining the above goals.

#### STRUCTURE OF THE SOUTH AFRICAN NATIONAL ROADS AGENCY LTD

WR= Western region  
 SR= Southern region  
 NR= Northern region  
 ER= Eastern region  
 DC= Design and Construction  
 OM= Operation and Maintenance  
 FA= Finances and Administration  
 CS= Corporate services  
 ES= Engineering services  
 FS= Financial services



#### CREATING AWARENESS

One of the biggest challenges facing the Agency is the inaccurate perceptions, both from the general public and transport operators, as to the advantages and challenges of roads, and in particular, the user pay principle. The Agency has therefore embarked on a strategy to inform, educate and communicate with all concerned to rectify these

misperceptions and, at the same time, stimulate interactive relationships. This creation of awareness plan will also ensure that the Agency remains a strategically focussed organisation able to respond to the needs of road users.

The principle key objectives of the Agency as defined in its strategic vision are, as follows:

- The management of a primary road network ensuring best value for money;
- To continuously improve the efficiency of business practices;
- To maintain market confidence;
- To carry out Government's targeted programmes to better the life of all citizens;
- Safe roads for all;
- To work in partnership with road users, transport providers, relevant authorities and the private sector;
- To be a good employer managing the Agency's business efficiently and effectively and to see continuous improvement;
- To achieve international best practices;
- To encourage innovation in knowledge and practice;
- To research, discover and excel;
- To market our solutions to road users.

Flowing from the above and in order to deliver the strategic vision of the Agency, the principle key objectives of the Agency in its Declaration of Intent can be summarised, as follows:

- Expand and maintain a primary road network: The expansion and maintenance of the network is urgently needed to support socio-economic development. Lack of timeous maintenance increases the cost of reconstruction by a factor of 18.
- Access alternative funding sources: Alternative sources allow government to obtain maximum leverage without compromising fiscal integrity.
- Direct traditional funds to non-toll roads and other social needs: Using alternative funding mechanisms to expand and maintain economic arteries – implementing toll roads – allow the limited funds to meet the disparate demands made on tax based-revenues.

## **2. STATEMENT OF PERFORMANCE GOALS**

Although the Agency has set its ten year goals based on the principles as set out above, in order to attain these goals, various other issues also need to be addressed. It is thus the Agency's intent for the next three years to start with the implementation of the following:

### **ROAD SAFETY**

- The establishment of an Incident Management System on all National Roads including those roads forming part of the primary road network;



- The development of new protocols, and/or the modification of existing protocols;
- Improvement of traffic operations and safety, using changes in road environment and measures to influence driver behaviour;
- Improvement of traffic sign and road marking visibility;
- Continued and expanded training programmes, especially for young road users and the rehabilitation of traffic offenders.

## OVERLOADING

Although law enforcement with regard to overload control does not form part of the Agency's core business, the Agency has to minimise its exposure to risks and has subsequently embarked on the establishment of Traffic Control Centres. It is anticipated that this responsibility now undertaken by the Agency will be transferred to the Road Traffic Management Corporation, once established.

- The financial feasibility of overloading control infrastructure needs to be augmented by establishing traffic control centres opportunities for value addition. Traffic Control Centres will be established to cover a network of, both national and provincial roads. The coverage will be extended to deter law-breakers from using any perceived escape route. In the first instance, the coverage will encompass the following portions of the network:
  - ∞ In conjunction with the KwaZulu Natal Department of Roads, the coverage on the N3 area will be extended to beyond the N3 Toll Road project;
  - ∞ The N4 Maputo Development Corridor through completing the provision of infrastructure for Traffic Control Centres (including the Mocambique portion) and entering into an operations contract with a private operator to augment the Provincial law enforcement authority;
  - ∞ The N4 West Platinum Highway through the planning, construction and letting of the operations thereof covering the N4 West area.
- Partnering with the private sector, which depends on best management practices to survive in a competitive world, for the operation of these centres will be intensified in the quest for an efficient and cost effective deterrent against overloaded vehicles.
- Investigate possible amendments to legislation to more cost effectively and efficiently combat overloading.
- Modern technology will be investigated with a view to constructing more cost effective facilities and providing a more expansive overload control network.
- The cost relating to the infrastructure and operations of Traffic Control Centres will be calculated against the background of their value in a complete system, rather than against the background of the location of a single facility on one particular road.
- Assisting with the establishment of the Road Traffic Management Corporation and the Administrative Adjudication of Road Traffic Offences system.
- Strengthen our co-operative agreements with the law enforcement authorities.

**INFORMATION TECHNOLOGY**

- Enhance business processes by completing the installation of Enterprise Resource Planning Solutions.
- Introduce technologies capable of interfacing with different management systems such as the Pavement Management System and Budgetary process.
- Enhance the competencies of using the appropriate technologies at the appropriate time.
- Reflecting real-world constraints, capabilities, and lessons learned.
- Avoiding 'analysis paralysis' – the huge cost in time and resources required to identify all the details at the start of architecture planning enterprise-wide and project-deep.

**SPATIAL DEVELOPMENT INITIATIVES**

- The implementation of Spatial Development Initiatives (SDI) has been heralded as a significant solution to integrate transport with broader socio-economic developments.
- The Agency acts as a catalyst to increase the tempo of regional and national economic growth and development through the provision of infrastructure on various SDIs. It will continue with its present initiatives and involves itself in the projects listed below during the tenure of this Declaration:
  - ∞ Richards Bay
  - ∞ Wild Coast
  - ∞ Coast to Coast
  - ∞ Lubombo
  - ∞ Maputo Development Corridor
- Creating a fertile seed bed for long-term, sustainable employment in the region.
- To identify and foster complementary strategies, as opposed to unnecessarily destructive forms of competition in the structures responsible for production.
- Provision of the road infrastructure to directly influence the correcting of imbalances between the spatial distribution of centres of production, transport infrastructure and the potential of new locations to support growth.
- The mobilisation of Foreign Direct Investment.

**POVERTY RELIEF**

On receiving future allocations from National Treasury the Agency will:

- focus on roadside facilities to accommodate pedestrians, non-motorized vehicles and long distance travellers. These projects will aim to create infrastructure such as on-off ramps to taxi bays, overhead bridges and underpasses for pedestrians and cyclists, passenger shelters and safe trading facilities. This type of infrastructure will contribute to the creation of life long employment opportunities for communities.
- address the upgrading of rural access roads and minor bridge construction as part of the provincial projects programme.
- create opportunities for maximising the labour content together with the growth of skills of Small, Medium and Micro Enterprises (SMMEs) and Affirmable Business

Enterprises (ABEs) within the near vicinity of the projects. This will provide continuity and encouragement for those who have acquired new skills and the necessary confidence, to participate in the on-going construction related projects in the country.

## **SOCIAL AND ENTREPRENEURIAL DEVELOPMENT**

The ethos of the Agency's targeted procurement philosophy is that we can and are contributing to economic growth in our country, and the Southern African region as a whole by training people to become economically active, by reducing unemployment and by stimulating growth in the small and informal sectors of our economy. In so doing, we enhance the provision of basic services, build capacity, act as catalysts for development in other growth areas, create employment, develop small and medium enterprises, alleviate poverty and elevate the status of women. In elevating the status of women, we bring women into the mainstream of our economy, since they represent the unemployed and rural women, in particular, represent the most disadvantaged sector of our society. To attain this the Agency proposes the following:

- To promote and implement the programmes of Government for sustainable development through:
  - ∞ job creation
  - ∞ SMME development
  - ∞ growth of ABEs
  - ∞ protection of the environment
- To enhance the country's human capital through the sustained support for programmes such as:
  - ∞ the Chair in Pavement Engineering at Stellenbosch University;
  - ∞ the provision of courses (both for local and regional practitioners) in co-operation with the University of Pretoria in the use of the, internationally acclaimed, Highway Development and Management Tools 4 (HDM-4) software;
  - ∞ the further development of appropriate technology applications for creation of labour in construction at the University of Witwatersrand;
  - ∞ research in road related matters at the Council for Scientific and Industrial Research – Transportek Division;
  - ∞ the provision of Transport in Civil Engineering (TRAC-pac) software and related experiments to highschool learners; and
  - ∞ the provision of management and vocational training through the design and construction phases of the projects.
- To retain the existing talents and develop our scarce human resources to serve us all in our endeavours to keep our country amongst the world leaders.
- To consolidate our human resources and institutional arrangements to ensure competitiveness and a single point of responsibility.

## **ENVIRONMENT**

- To maintain, improve and expand the national road network in an environmentally responsible way.

- To develop an environmental management system for the Agency based on the ISO 14001 system standard.
- To provide a systematic approach to continual improvement of the Environmental Management System in the Agency. (See Appendix II.)

#### **AWARENESS PLAN**

- To ensure that the aims, achievements and professionalism of the Agency are properly communicated to the public and stakeholders locally and international.
- To ensure that the Agency is a strategically focussed organisation.
- To develop of a communication strategy.
- To implement a public relations and promotional plan.
- To lobby support for the Agency's business.
- To develop and initiate a programme of service measurement to ensure consistent superior service quality.

### **3. PERFORMANCE INDICATORS**

The Agency will use the indicators listed below in the course of its business. However, a clear distinction should be made between toll roads and non-toll roads when applying the indicators as although the same indicator may be used, the targets might differ. The reason for this distinction is mainly due to the fact that toll roads are deemed to be self funding (constant stream of income) while non-toll roads depend on the actual allocations from National Treasury (subjected to fluctuating income).

#### **ROAD NETWORK**

##### **Smooth Travel Exposure (STE)**

Description: The proportion of travel undertaken each year on roads with roughness conditions (longitudinal surface undulations affecting the wear and operating costs of vehicles, road safety, and the impact of the vehicle on the road through excitation of the vehicle mass) less than the specified level.

Purpose: To monitor whether roads are providing acceptable travel conditions.

Considerations: The Smooth Travel Exposure (STE) indicator represents the proportion of travel undertaken each year on roads with surface roughness less than the defined level.

Target: 95 % of travel on less than 4,2 m/km roughness

##### **Low Rut Exposure (LRE)**

Description: The proportion of travel undertaken each year on roads with rut depth conditions (surface depressions that can hold water and cause a vehicle to aquaplane) less than the specified level.

Purpose: To monitor whether roads are providing acceptable travel conditions.

Considerations: The Low Rut Exposure (LRE) indicator represents the proportion of travel undertaken each year on roads with rut depth less than the defined level.

Target: 95 % of travel on less than 20mm rut depth



**High Texture Exposure (HTE)**

Description: The proportion of travel undertaken each year on roads with macro-texture conditions (visual coarseness of the road surface that affects surface friction at high speeds

(> 60 km/h) for wet conditions) higher than the specified level.

Purpose: To monitor whether roads are providing acceptable travel conditions.

Considerations: The High Texture Exposure (HTE) indicator represents the proportion of travel undertaken each year on roads with macro-texture higher than the defined level.

Target: 95 % of travel on higher than 0.4 mm texture

**Bridge Condition Exposure (BCE)**

Description: The proportion of vehicles per year that travel over or under bridges with conditions higher than the specified level.

Purpose: To monitor whether bridges are providing acceptable travel conditions.

Considerations: The Bridge Condition Exposure (BCE) indicator represents the proportion of vehicles that travel over or under bridges with Overall Condition Index (OCI) higher than the specified level.

Target: 90 % of travel over or under bridges with OCI higher than 80.

**ROAD AGENCY****Return on Construction Expenditure (RCE)**

Description: The weighted Internal Rate of Return of total capital construction expenditure per annum.

Purpose: To monitor the predicted economic benefits to the community from Road Agency capital programs.

Considerations: The Return on Construction Expenditure (RCE) indicator is based on weighted Internal Rate of Return estimates of capital projects undertaken by the Road Agency. The Internal Rate of Return is calculated as the discount rate for which community life-cycle benefits equal the Road Agency life-cycle costs.

Target: IRR > 15 %

**Expenditure Efficiency Index (EEI)**

Description: The percentage of annual expenditure spent on overhead costs.

Purpose: To monitor the efficiency of the Roads Agency.

Considerations: The expenditure efficiency index (EEI) is the annual percentage spent on overheads by the Agency compared to the total expenditure of the Agency.

Target: ≤ 5 %

**Private Sector Investment Index (PSII)**

Description: The proportion of total annual expenditure secured from private sector.

Purpose: To monitor the attraction of private sector investment.

Considerations: The Private Sector Investment Index (PSII) is the ratio between expenditure funded from private sector and expenditure funded from the fiscus.

Target: 0,85



**Road Maintenance Effectiveness (RME)**

Description: A cost index reflecting the proportion of the road network which is being maintained to target conditions and the expenditure per kilometre required.

Purpose: To monitor the effectiveness of maintenance functions undertaken by the Agency.

Considerations: The Road Maintenance Effectiveness (RME) indicator represents the cost per kilometre to maintain the roads in smooth condition (less than defined roughness level).

Target: Under development

**Asset Preservation Index (API)**

Description: The ratio between expenditure and increase in pavement layer asset value.

Purpose: To monitor the efficiency of the Roads Agency.

Considerations: The asset preservation index (API) is the ratio between construction expenditure and the increase in the asset value of the pavement layer portion of the pavement.

Target: Under development

**ROAD SYSTEMS****User Satisfaction Index (USI)**

Description: Index of user's qualitative evaluation of satisfaction with national road network.

Purpose: To provide a qualitative indication of users' perceptions of the performance of the national road network.

Considerations: The User Satisfaction Index (USI) is a measure of road users' satisfaction with the national road network. The index is based on road users' ratings (roadside surveys) of a number of attributes related to the national road network.

Target: Under development

**National Road Development Index**

National Road Development Index (NRDI)

Description: The annual proportion of vehicle travel on the national road network in relation to all vehicle travel in South Africa.

Purpose: To monitor the importance of the national road network.

Considerations: The National Road Development Index (NRDI) is the ratio between the total vehicle kilometres travelled on national roads and all vehicle travel in South Africa. All vehicle travel in South Africa will be estimated from the annual litres of fuel sold and assumptions with regard the vehicle fuel consumption.

Target: No target since it is just an importance indicator.

**4. ROAD PERFORMANCE AND MAINTENANCE**

Road performance depends on what, when, and how maintenance is performed.

Roads deteriorate over time due primarily to traffic and environmental influences (i.e. weather, Ultra Violet Radiation, overloading etc.). For these reasons, roads have to be

maintained throughout their design life to ensure that they deliver the performance envisaged. The timing of this maintenance is crucial, and if not optimally performed the consequences can be disastrous as illustrated below:

**Ideal Maintenance:**

If maintenance is performed as and when required based on technical assessments of the road as illustrated in Illustration 3, at this stage there will be no visible signs of distress on the road for the road user – and it might even seem to him that limited resources are not effectively being utilised. The typical cost of maintenance at this stage is R 0,1 million/per km (2000 Rand).

**Maintenance Delayed 3 Years:**

If maintenance is not performed when required based on technical assessments, and the road is allowed to deteriorate for a further 3 years, as illustrated in Illustration 3, visible signs of distress might become apparent to the road user, and thus the need for maintenance will be more acceptable to the motorist. The typical cost of maintenance at this stage is now R 0,6 million/per km (2000 Rand) for the same road. In other words, to repair this road will now be 6 times more expensive compared to 3 years ago when the maintenance was actually required. With limited budgets this also implies that for every 1 kilometre of poor road that needs to be maintained at this level, 6 kilometre of good road cannot be maintained, resulting in these good roads further deteriorating with associated increase in future maintenance requirements.

**Maintenance Delayed 5 Years:**

If the maintenance is not performed when required based on technical assessments, and the road is allowed to deteriorate for a further 5 years, as illustrated in Illustration 3, the levels of distress will severely affect the road user. The typical cost of maintenance at this stage is now R 1,8 million/per km (2000 Rand) for the same road. In other words, to repair this road will now be 18 times more expensive compared with 5 years ago when the maintenance was actually required. With limited budgets this also implies that for every 1 kilometre of very poor road that needs to be maintained at this level, 18 kilometre of good road cannot be maintained, resulting in these good roads further deteriorating with associated increase in future maintenance requirements.

The economic costs of inadequate road maintenance are borne primarily by road users. When a road is not maintained – and is allowed to deteriorate from good to very poor condition – each R1.00 'saved' on road maintenance increases vehicle-operating costs by R 2.00 to R3.00. Far from saving money, cutting back on road maintenance increases the cost of road transport and raises the net costs to the economy as a whole. Thus, postponing road maintenance because of ill-conceived budget constraints results in a significant financial penalty, which currently is unfortunately the reality for the South African road network.

However, to address the maintenance needs of National Roads, the procurement of adequate funds is the biggest challenge the Agency faces. Table 1 illustrates the allocations promised versus those allocations received – without any adjustments for

inflation - from National Treasury. It is evident that the actual allocations show a real reduction as opposed to those needed. It is within this challenge that the Agency needs to preserve our national assets and hence has developed a programme to address it.

The impact of the constrained funding levels are further compounded by the fact that over the past two years the cost of bitumen, which represents anything from 10% to 60 % of the cost of a maintenance activity, has increased by a staggering 180%. For example, the price of bitumen at the coast in January 1998 was R744/ton and in December 2000 R1475/ton. And a similar story can be told of the impact of the increase in the price of diesel.

Illustration 4 shows the application of budget allocation to the predicted maintenance requirements, expressed as a percentage of the total non-toll network length. Illustration 5 represents the same information expressed in Rand terms. This information provides a measure of the adequacy of budgeted allocation levels with regard to the preservation of non-toll road assets.

The amounts required – on the premise that the programmed toll roads will be implemented – for the next three years for the non-toll road network are, illustrated in Table 2.

TABLE 1: ORIGINAL VERSUS ACTUAL MTEF ALLOCATIONS

Description	Year (R'000)				
	1999/00	2000/01	2001/02	2002/03	2003/04
1998 MTEF Promise	1,005,082	1,102,043	1,137,208		
1999 MTEF Promise		952,043	1,306,799	1,359,071	
2000 MTEF Promise		585,028	1,001,968	1,043,175	
2001 MTEF Promise			923,612	1,061,064	1,110,556
Actual Amount Allocated	775,082	634,881	873,612	1,061,064	*1,110,556
Reduction in promise	230,000	-467,162	-433,187	-298,007	

\*Anticipated allocations from National Treasury

TABLE 2: REQUIRED FUNDING FROM NATIONAL TREASURY

Financial year	Amount (R'000)
2002/2003	1,394,686
2003/2004	1,446,151
2004/2005	1,499,659

Illustration 3: Road Conditions

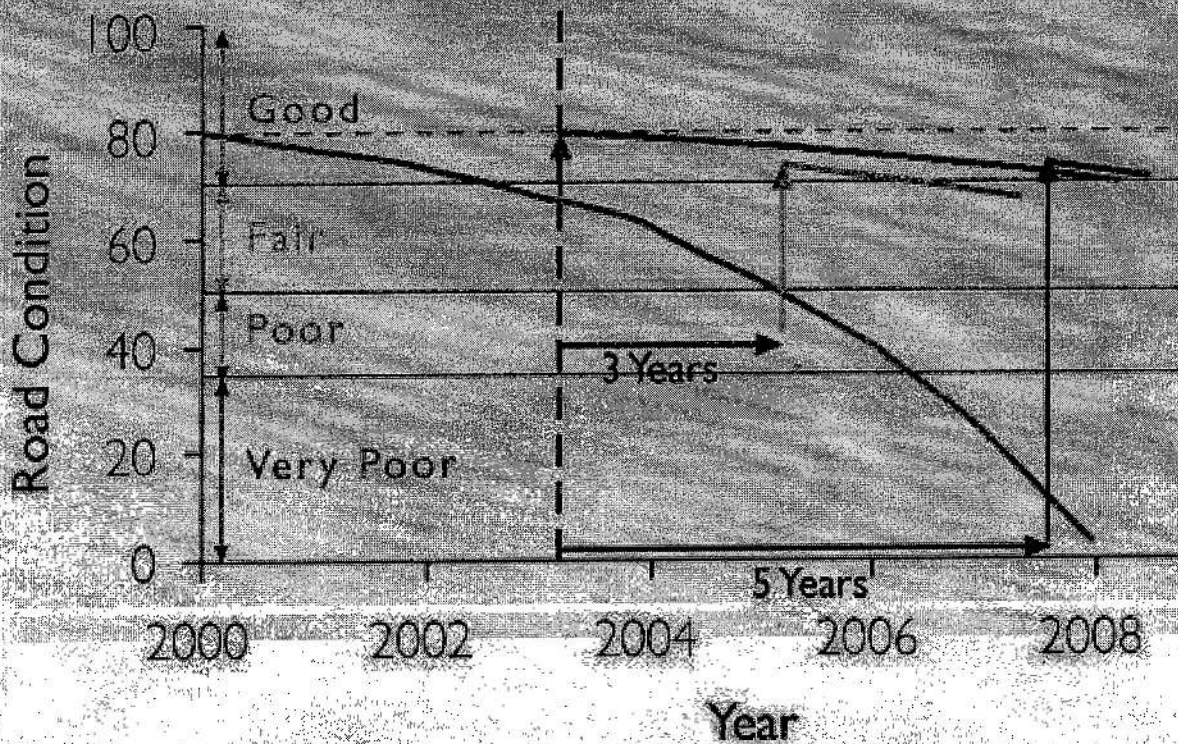


Illustration 4:  
Non-Toll  
National Road  
Network  
Maintenance  
(length)

Require maintenance  
but not on 5 year budget 41%

Under construction or  
maintained within last  
3 years 38%

Require maintenance  
and on 5 year budget 21%

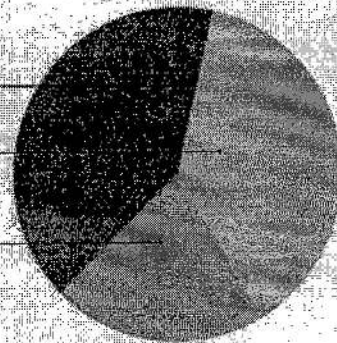
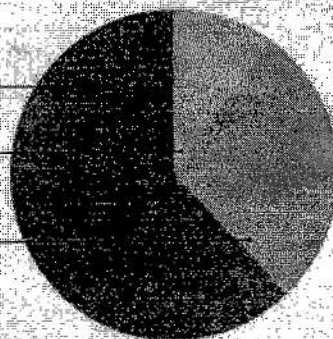


Illustration 5:  
Non-Toll  
National Road  
Network  
Maintenance  
(expenditure)

Require maintenance  
but not on 5 year budget 62%

Under construction or  
maintained within last  
3 years 10%

Require maintenance  
and on 5 year budget 28%





## 5. THE PRIMARY ROAD NETWORK

The South African Road Network can be classified by recognising the authorities primarily responsible for the provision of such roads and its functionality. The classification is, as follows:

- **National roads** – Roads providing mobility of national importance. These roads are usually associated with longer travelling distances at high speeds with minimum interference to free flow of traffic. These roads are primarily provided for economic reasons and to improve and support economic growth.
- **Provincial roads** – Roads providing access and mobility in a regional context. These roads usually form links between towns not situated along national roads.
- **Urban roads** – Roads providing mobility and access in urban areas.
- **Rural roads** – Roads providing mobility and access to remote communities and areas.

There are currently certain N-route sections that are provincial road sections but that have been identified together with the Provinces as part of the long-term strategic national road network. This relates to approximately 13 000 kilometres of National Routes under Provincial government control that needs to be incorporated into the existing national road network. The vision of the Agency is thus to accede to the request of various Provincial Administrations, in the short and medium term, to be responsible for all national routes of strategic and economic importance – the primary road network – a total of approximately 20 000 kilometres. In view of the severe road funding constraints experienced by the Provinces an understanding has developed between the Agency and the Provinces to work together to declare some provincial road sections as national roads.

Currently, a number of Provinces have already or are in the process of handing over various routes to the Agency for incorporation into the primary road network. The Free State, Northern, Eastern Cape and Western Cape Provinces have already indicated various routes to be handed over, whilst routes in the Mpumalanga Province, i.e. portions of Roads P80, P133, P179, D1120, D2683, D797 and D2948, have in 2000 been incorporated into the national road network.

### ADVANTAGES OF A COMPREHENSIVE ROAD NETWORK

A sound balance between addressing the social and economic interest in roads provision is essential for ensuring that the gap between the poor and the economically advantaged sectors of society is reduced. Road authorities, in the past, have unwisely differentiated between social and economic roads in an attempt to motivate protected sources of funding and to allocate responsibility between themselves. This has led to various inadequacies in the delivery of infrastructure responsive to both economic and social needs. Road provisioning and planning also became compartmentalized resulting in various institutions and departments but without any one taking responsibility for a holistic, integrated and need responsive road network.

It is thus evident that roads provision should be approached on a network basis, and schemes justified, at least partially, on the grounds of the secondary benefits that stand to be generated. This means that, irrespective of the location of the road, or its current or envisaged future standard, its function in the greater social and economic planning of the country should be the prevailing criteria which determines who should be best positioned to manage it.

It follows that, a roads authority, such as the Agency, responsible for a network of Primary roads, should be tasked with delivering the road infrastructure that links major economic and social spatial programmes and developments on a National scale. Other road entities should take the process a step further and ensure that locally important spatial developments are linked to both the Primary network and to the local spatial development network.

The Agency thus promotes the concept that each and every roads authority should see its role in terms of needs that require satisfaction rather than in terms of a class of road that it should manage. By so doing, road authorities will be given a stronger hand to lever-in private sector involvement and to encourage them to be part of new schemes, or be part of solutions, as the case may be.

Following this concept, roads of major economic importance should thus form part of a primary road network managed by the Agency, whilst other economic roads should be managed by other authorities.

Institutional arrangements and human capital enhancement is of serious concern in our country. We will need to strive to enhance and retain our human resources and recognize that our human capital possess the skills that are important to the well being of this country.

We are also faced with the challenge to consolidate our human resources and institutional arrangements to ensure competitiveness and a single point of responsibility. This implies that the institutional arrangements, to ensure delivery of much needed infrastructure, must have integrity and be beyond reproach. The challenge is to avoid fragmentation and inaction due to a lack of co-ordination between transport, land use and development programmes. This can only be rectified by Good Governance. To meet this challenge we require a strategy that will remove the constraints of disjointed and fragmented development. Our challenge is to remove the supply of transport infrastructure from the realm of energy sapping exercising of power between road authorities.

#### **BUILDING THE PRIMARY ROAD NETWORK**

The main objective, with a programme to expand and maintain a comprehensive road network, is to facilitate through the appropriate channels acceptance for the implementation of a proposed toll road expansion programme and related financing plan. This is necessary in order to close or satisfy the funding gap between demand

and National Treasury allocations for the non-toll National Roads Network, by illustrating:-

- The current condition of the non-toll National Road Network and the funding demand.
- Further deterioration of the non-toll National Road Network, should funding levels from the fiscus remain at the current level, and consequential financial and economic implications.
- How the proposed toll road expansion and related funding plan will be able to reduce the shortfall.
- A conservative financing methodology and phasing strategy that will minimise financial risk for both the Agency and the National Treasury.
- Assist in the establishment of a primary road network, thus alleviating the pressure on Provincial Governments.

As already discussed above, in order to assist the Provincial Administrations it has been agreed to take over certain roads as part of the National Road Network. The roads that are to be taken over from the Provinces are shown in the Table 3 below.

However, by taking over the roads, additional pressure is exerted on the budget of the Agency. Both the MTEF allocations as per Table 1 and the required funding as indicated in Table 2, do not reflect the required monies to rehabilitate and maintain the above roads. It is thus anticipated that additional funding will have to be procured in order to successfully service the roads mentioned below.

TABLE 3: ROADS IDENTIFIED TO FORM PART OF PRIMARY ROAD NETWORK

PROVINCE	ROADS
Mpumalanga	P80, P133, P179, D1120, D2683, D797 and D2948. (Roads already taken over in 2000)
Free State	N8 between Bloemfontein and Maseru, N6 between Bloemfontein and Smithfield, N5 between Windburg and Harrismith and the R30/P99 between Bloemfontein and Kroonstad
Western Cape	R300 Muizenberg to Blaauwbergstrand (also known as Trunk Road 81), National Route 2 from the Palmiet River to Swellendam, R60 Worcester to Swellendam, various sections of the N7
Northern	Roads P17/5, P17/4, P17/3, P112/2, P43/3, P43/2, D1308 and P54/1 (Hazyview – Hoedspruit – Soekmekaar), Roads P1/3, P1/4, P84/1, P198/1 and P84/1 (Nylstroom – Vaalwater – Ellisras – Stock Poort Border Post), Roads P110/1, P16/2, D336 and P84/1 (Brits – Thabazimbi – Stock Poort Border Post)
Eastern Cape	N9 George to Middelburg, R61 Umtata – Queenstown – Junction with N9, R61 Aberdeen – on route to Beaufort West

### FUNDING REQUIREMENTS FOR EXISTING TOLL ROADS

Although the Agency proposes to extend its road network to approximately 20 000km and use various financial instruments to achieve this. The existing toll roads, however, still need to be maintained and upgraded as demanded by the growth of traffic. Also the

debt on these roads has to be serviced in the face of rising costs. The Net Borrowing requirements for the next three years to manage the existing 'State' toll road network are estimated to be as shown in Table 4.

### NEW TOLL ROADS

The current programme, which forms part of the Agency's Strategic vision contained in Horizon Twenty Ten comprises of 3 383 km of road to be tolled and consist of the following:

- N2 Tsitsikamma Toll Road and its Extension (54 km)
- N3 Durban – Pietermaritzburg Toll Road and its Extension (86 km) (Durban – Cedara)
- N17 East toll road (160km) (Springs to Ermelo)
- N4 East – Gauteng/Mpumalanga Border (71 km)
- N11 Ladysmith – Ermelo (255km)
- N12 Gillooly's - Witbank (27km)

It is anticipated that the toll roads will be implemented within the next three years: Table 5 shows that the Agency will raise, through its Treasury activities an estimated amount of R 1,805 billion over the next three financial years.

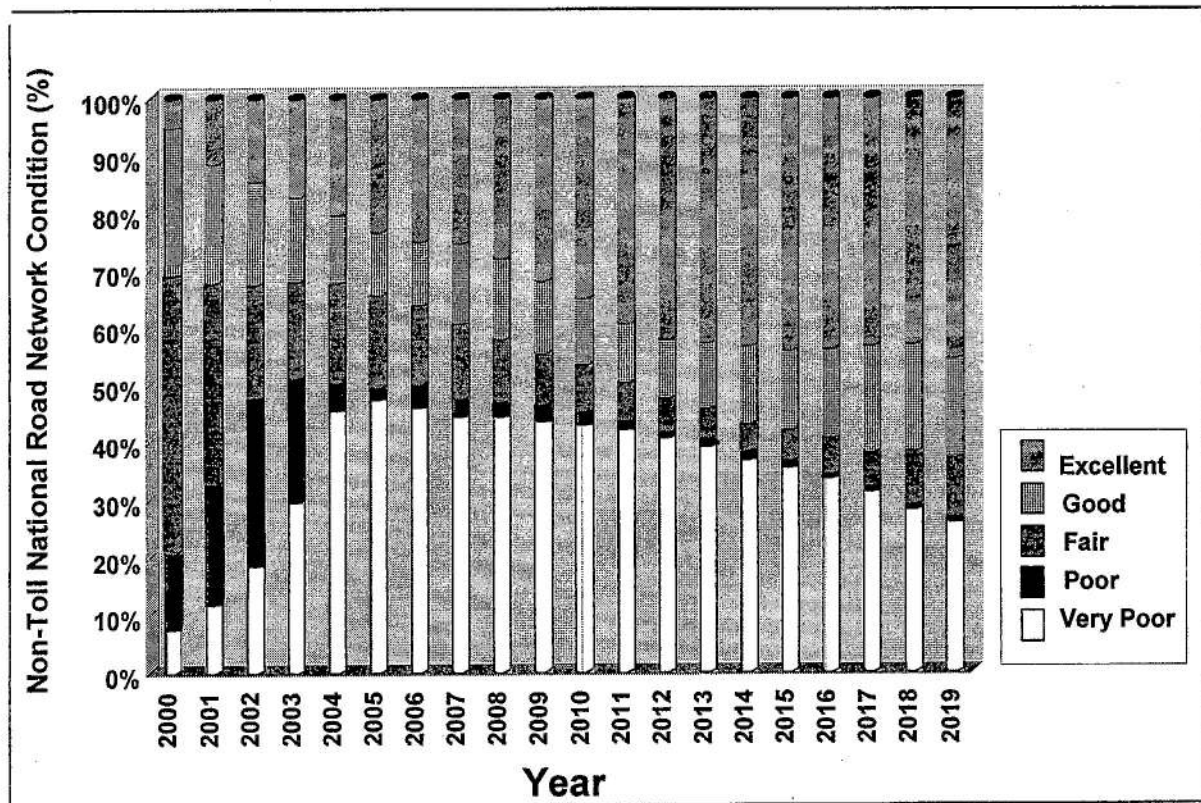
When reading illustration 6 together with Illustration 7, the need for implementing the toll road programme is clearly evident

TABLE 5: REQUIRED FUNDING FOR NEW TOLL ROADS

Financial year	2002/2003 (R'000)	2003/2004 (R'000)	2004/2005 (R'000)
N17 East	100 000	120 000	125 000
N2 Tsitsikamma	70 000	65 000	15 000
N3 Durban – Pietermaritzburg	75 000	190 000	330 000
N4 East- Gauteng/Mpumalanga border	75 000	95 000	10 000
N11 Ladysmith – Middelburg		5 000	20 000
N12 Witbank – Gillooly's Interchange			510 000
Total (R'000)	320 000	475 000	1 010 000

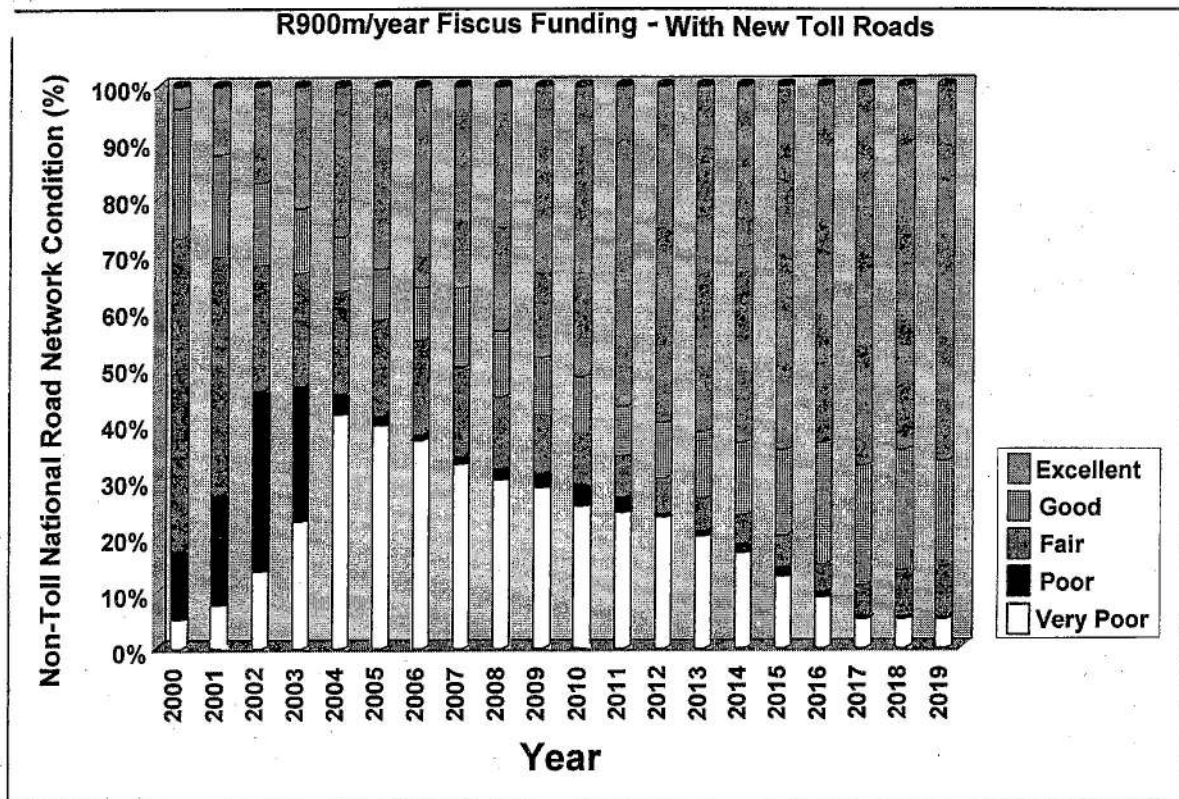


ILLUSTRATION 6: FORECASTED NON-TOLL NATIONAL ROAD NETWORK CONDITION  
R900M/YEAR FISCUS FUNDING – NO NEW TOLL ROADS



Current Fiscus Funding: 2000/2001 R585 million – cut by 38% from R952 million to fund SARCC  
 Future Fiscus Funding: 2001/2002 and onwards R900 million per annum

Illustration 7: Forecasted Non-Toll National Road Network Condition  
R900M/YEAR FISCUS FUNDING – WITH NEW TOLL ROADS



Current Fiscus Funding: 2000/2001 R585 million – cut by 38% from R952 million to fund SARCC  
 Future Fiscus Funding: 2001/2002 and onwards R900 million per annum

### UNSOLICITED BIDS

The Agency has also developed an innovative policy - titled "Policy of the South African National Roads Agency in respect of Unsolicited Proposals, May 1999" (Appendix I) - for dealing with initiatives identified by the private sector. This policy was developed in view of Government's strong commitment to develop and maintain infrastructure and services in partnership with private sector, thereby drawing on benefits of private sector funding, innovation, efficiency and skills. This policy aims to encourage the private sector to propose self funding road infrastructure projects to the Agency for consideration. Under this policy regime, several exciting and attractive projects have been proposed which the Agency is prepared to adopt and implement. The projects listed below are in various stages of development.

- N1 between R300 and Hex River and the N2 from R300 to Bot River, 142 km;
- N2 between George and Port Elizabeth, 300 km;
- N21 (R300) Cape Town Ring Road, 68km;
- N2 between East London and Isipingo, south of Durban, of 540 km (Wild Coast);
- The N1/Gauteng Province network between Pretoria and Johannesburg;

- The John Ross Highway between Empangeni and Richards Bay, 15 km.
- In these types of public-private partnerships the Agency shares the costs associated with design and development work with the proponents of the unsolicited bids. (Table 6.)

All other costs, including initial construction and financial costs will be borne by the successful tenderer. These projects will be procured on a build-operate-transfer (BOT) basis as successfully used on the N4 Maputo Development Corridor Toll Road, N3 Toll Road and the N4 Platinum Highway projects.

It is also anticipated that the following investments will be made by the private sector in the financial years shown in Table 7.

It is important to note that these investments are savings that will accrue to the State, further helping to close the funding gap without compromising the integrity of the fiscus. Furthermore, these projects also lend themselves to foreign direct investment that bring along with it its own benefits to the country as a whole.

TABLE 6: DEVELOPMENT COSTS FOR UNSOLICITED BIDS

Financial Year	2002/2003	2003/2004	2004/2005
Amount (R'000)	20 358	12 000	4 845
<b>Total (R'000)</b>	<b>37 203</b>		

TABLE 7: INVESTMENT BY PRIVATE SECTOR<sup>1</sup>

Financial Year	2002/2003 (R'000)	2003/2004 (R'000)	2004/2005 (R'000)
Platinum Toll Highway	300 000	700 000	800 000
N3 Toll Road	100 000		
John Ross Highway	50 000	150 000	
R300		400 000	
N1/N2 scheme		600 000	
The N1/Gauteng Province network			200 000
Wild Coast		200 000	
<b>Total (R'000)</b>	<b>3 500 000</b>		

1 "off balance sheet" to Government

## 6. EXPENDITURE SPLIT

In order to maximise efficiency and effectiveness the Agency proposes an expenditure split of its required funding. Based on the assumption that the required funding as set out in Table 2 are received from National Treasury, the expenditure split for the next three years will be as follows:

CHART 1 : OVERALL EXPENDITURE FOR FINANCIAL YEAR 2002/2003  
[PROMISED TREASURY ALLOCATION R1 061 064 000]

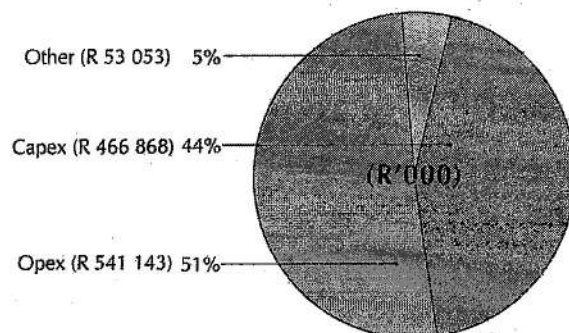


CHART 2: ANALYSIS OF OPEX FOR 2002 / 2003

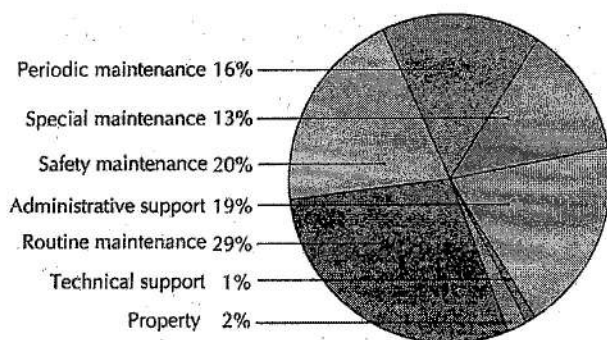


CHART 3: ANALYSIS FOR OTHER GOALS FOR FINANCIAL YEAR 2002/2003

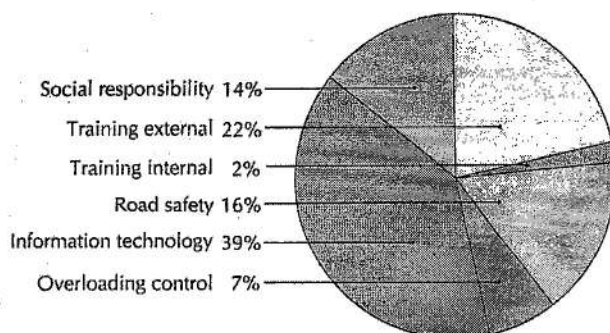




CHART 4: OVERALL EXPENDITURE FOR FINANCIAL YEAR 2003/2004  
[PROMISED TREASURY ALLOCATION R 1 110 556 000]

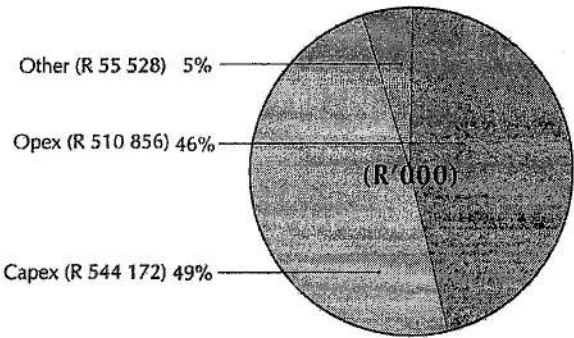


CHART 5: ANALYSIS FOR OPEX FOR FINANCIAL YEAR 2003/2004

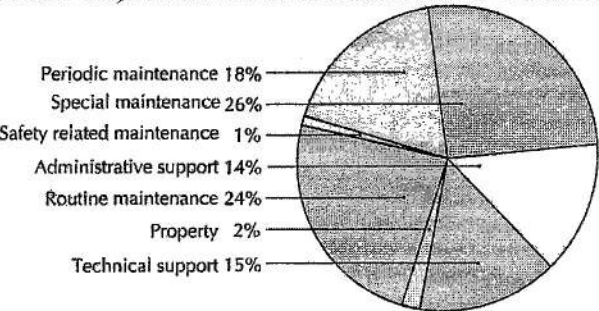


CHART 6: ANALYSIS FOR OTHER GOALS FOR FINANCIAL YEAR 2003/2004

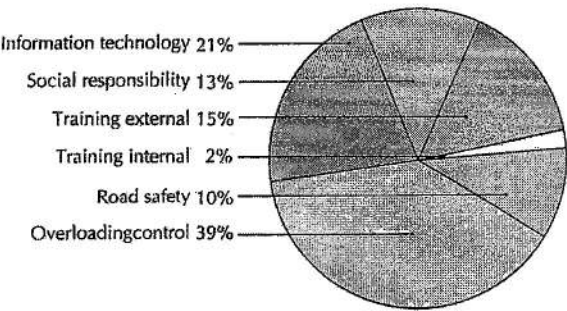


CHART 7: OVERALL EXPENDITURE FOR FINANCIAL YEAR 2004/2005  
[PROMISED TREASURY ALLOCATION R 1 162 419 000]

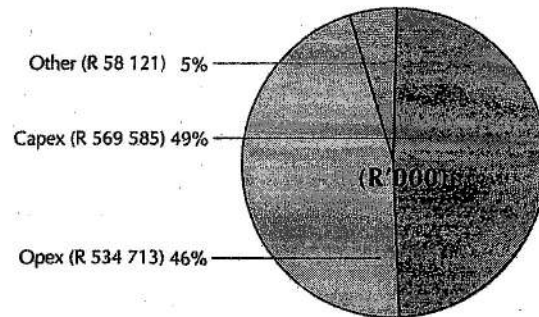


CHART 8: ANALYSIS OF OPEX FOR FINANCIAL YEAR 2004/2005

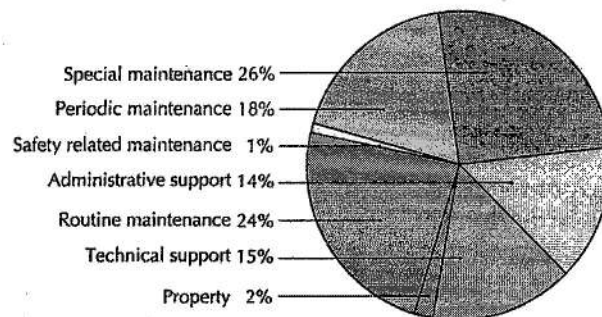
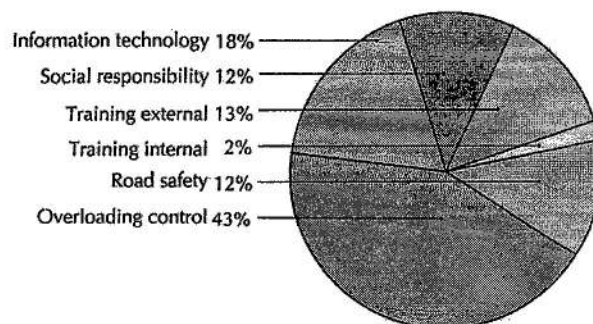


CHART 9: ANALYSIS OF OPEX FOR FINANCIAL YEAR 2004/2005



## 7. TOWARDS 2010

This Declaration of Intent is our response to the challenge to contribute to meeting the disparate demands of our fellow citizens. It is also based on the fact that the toll road programme as evident in the Horizon 2010 document, the Agency's strategic vision for the year 2010, is set in motion and supported by government and the Agency's stakeholders. Although the principle followed by the Agency is the preservation of our national road asset, the proposed toll road scheme will alleviate pressure on the fiscus thereby releasing money for the expanded non-toll road network. Furthermore, the public-private partnership programme of the Agency also fund roads "off-balance sheet" contributing to government resulting in a saving to the fiscus. These monies can be used for other, equally deserving, demands eg health, poverty relief, water, electricity and the like.

It is, however, important to note that roads, especially major economic roads, form the backbone of economic activity and growth in our country. This basic infrastructure is the epicentre of development, demographic growth, economic growth and above all, access to points of economic and social activity that will ensure the development of our country. The preservation and enhancement of national roads is thus an essential element in the continued recognition of our country as a major role player in the global village we live in.

The Horizon 2010 document sets the scene that will allow us to better the quality of life of all citizens and ensure our economic growth. The Declaration of Intent serves as the vehicle through which we will aim to achieve these goals. However, without the necessary funding, support from government and our stakeholders; perseverance and innovation these goals become a bit more challenging to attain. Now is the time to secure our future!

## **APPENDIX I**

### **POLICY OF THE SOUTH AFRICAN NATIONAL ROADS AGENCY IN RESPECT OF UNSOLICITED PROPOSALS**

**MAY 1999**

#### **1 THE CLIENT**

For the purposes of this document, the client is the South African National Roads Agency Ltd, hereinafter referred to as the "Agency", or its successor in title.

#### **2 INTRODUCTION**

The Agency, in support of the Minister of Transport's aim to stimulate innovation and to create new opportunities for the private sector, is keen to receive proposals for road transport infrastructure development.

This policy guideline is a revision of the policy dated September 1997, issued by the predecessor of the Agency, namely the South African Roads Board.

It has been drafted in order to provide the private sector with a framework within which Unsolicited Proposals ("the Proposals") should be prepared. It also explains how Proposals will be dealt with by the Agency, and lays down procedures which will be followed in order to stimulate a competitive environment, ensure transparency, and offer the public protection from the possibility of monopolistic practices and exploitation.

In general, Proposals should reflect a conformance with governmental aims, be in the public interest, avoid the creation of monopolistic practices, not seek to place onerous conditions upon government, for example no explicit government guarantees will be issued, and reflect environmental, social and economic sustainability. In this respect, the White Paper on Transport and the Reconstruction and Development Programme may further assist sponsors with the preparation of their Proposals.

#### **3 PROCEDURE**

##### **3.1 Preliminary Note**

Annexure A contains a diagrammatic presentation of the procedure that will be followed in dealing with Unsolicited Proposals.

No obligation shall rest on the Agency to accept any Proposal. For the avoidance of doubt, the Agency shall not be responsible for any costs which a party may incur in preparing and submitting a Proposal, and such costs will not be considered by the Agency in negotiating the costs as provided for in Section 3.4. The Agency may enter into an Agreement with the Proponent as Scheme Developer subsequent to the submission of the Proposal. Cost apportionment, thereafter, shall be as provided for in Section 3.4 of this document.

In the event of a Proposal being rejected, aborted or abandoned by the Agency, or having being withdrawn, aborted or abandoned by the Proponent, neither the Proponent nor the Agency may claim from the other party damages or loss of



earnings or loss of profit, or any other compensation whatsoever, other than as may have been provided for in the Agreement between the Agency and the Proponent for Scheme Development, such amount to be agreed upon as set out in Section 3.4 of this document.

### 3.2 Contents of an Unsolicited Proposal

In order to qualify as an Unsolicited Proposal, the Proposal must contain, inter alia, the following:

- a clear description of the scope of the Proposal together with a key plan to elucidate the description
- present traffic figures as well as traffic growth predictions
- proposed road cross sections and a programme of cross sectional development motivated by means of predicted traffic patterns
- road pavement proposals and pavement improvements with a programme motivated by means of predicted traffic patterns
- any other safety and capacity enhancing features proposed
- proposed residual life of pavement at the end of the concession period
- cost estimate of sufficient accuracy to illustrate the financial viability of the project. This must also identify whether the Agency is expected to contribute financially
- tolling Strategy
- minimum design standards and performance criteria
- a list of the parties making the Proposal and their partners, if any, as well as details of their capabilities and relevant experience in the field of the Proposal
- a list of all conditions precedent which are part of the Proposal, or which remain to be overcome, and which will be required to be fulfilled prior to the implementation of the project

### 3.3 Evaluation of Proposal

The Agency will consider the Proposal in terms of, inter alia, the Agency's business and strategic planning. If the Agency is interested in developing the Proposal, the Agency will:

- inform the Proponent of any scope changes the Agency may require or propose for consideration by the Proponent
- inform the Proponent of all Matters to be Resolved which the Agency may have identified and which need to be addressed during the Development Phase of the Proposal

### 3.4 Appointment of Scheme Developer, and Development Agreement

If the Proponent: accepts the scope changes required by the Agency, or accommodates the proposals put forward by the Agency for the Proponent's consideration and also undertakes to address the Matters to be Resolved raised, the Agency will;

- award the Proponent the status of Scheme Developer, which will enable it to formally approach other Authorities and perform duties required to address the various issues raised
- publicly announce an acknowledgement of the Proposal and the award of Scheme Developer Status to the Proponent

At this stage a Scheme Development Agreement (the "Agreement") between the Agency and the Scheme Developer will be drawn up to, inter alia, address;

- the rights and obligations of the two parties flowing from the Agreement
- the time at which the Agency may accept liability for the whole of or part of the costs incurred by the Proponent with regard to the Proposal ("the agreed costs"). The time for acceptance of the liability of the agreed costs will be agreed upon between the parties and may be at any time between the stage of award of Scheme Developer Status and the stage where Tender Documentation has been compiled. The acceptance by the agency of this liability will be determined by the nature of the Proposal. It is recorded that this acceptance is to be agreed upon and the Agency is under no obligation to accept this liability
- the budget amount for the development of the postulated scheme up to the stage where Tenders are invited. This amount will be provided for in the Tender Documentation as a provisional amount, payable by the successful Tenderer to the Scheme Developer, in the event of the Scheme Developer not submitting the most attractive tender. Should the project be aborted by the Agency after Agency Acceptance, the Agency will reimburse the Scheme Developer for its costs incurred up to the date as agreed upon, such date not being earlier than the date of appointment of Scheme Developer, to an amount not exceeding this budget amount
- the limit of the liability of the Proponent to the Agency in respect of the costs incurred by the Agency in procuring third party advice with respect to the Proposal, in the event of the Proponent withdrawing their bid in the period subsequent to their having been awarded Scheme Developer status, but prior to calling for tenders for the project

### 3.5 Addressing of Matters to be Resolved identified by the Agency, and Scheme Development

As part of the Agreement, the Scheme Developer and the Agency shall agree on a time period within which the Matters to be Resolved and any required scope changes must be addressed.

The Scheme Developer shall then liaise with the relevant stakeholders and/or role players and take any actions that may be necessary to resolve the identified Matters to be Resolved and to bring about the required scope changes. If successful, the Scheme Developer should optimise the Proposal and present the Agency with the optimised Proposal as well as evidence (where applicable) of solutions to the Matters to be Resolved.

Once the Agency's Matters to be Resolved have been satisfactorily addressed and the scope changes have been satisfactorily affected, the Agency will allow the Scheme Developer, in conjunction with the Agency (and other Authorities, if applicable) to further develop the Proposal in accordance with the Agreement, including, but not limited to;

- technical aspects
- plaza positions

- the Environmental Impact Assessment (including public participation, and socio- economic aspects) up to and including the Environmental Management Plan

It must be noted that this is an integrated process and it might not be possible to address all Matters to be Resolved without taking at least some, if not all of the other actions listed above.

### 3.6 Scheme Acceptance

Once the Proposal has been developed to the point where, at the sole discretion of the Agency, it satisfies the terms of the Agreement, it will be accepted by the Agency in writing.

### 3.7 Tender Documentation

Upon successful completion of the above Development phase and the acceptance of the Proposal by the Agency, the Scheme Developer will be required to compile tender documentation under Agency supervision, after agreeing with the Agency on;

- the format of the documents
- projected time frames
- information to be included in, or excluded from the documents

### 3.8 Calling for Tenders and the Tender Process

The Scheme Developer may now bid along with all other interested parties for the project. From this point onward the normal bid evaluation and award process, as for any Agency initiated project, will be followed.

The two most advantageous Tenders will be selected by the Agency, from whom Best and Final Offers will be invited. Should the Scheme Developer 's Tender not be among these, he will, however, be afforded the opportunity to also submit a Best and Final Offer, which will be evaluated along with those of the Selected Tenderers. It is recorded, however, that at no stage will the Agency disclose any information with respect to any of the other Tenders submitted to the Scheme Developer. From these will then be selected the Preferred Tenderer with whom the Agency will then enter into negotiations. This selection will be at the sole discretion of the Agency and the Agency will be under no obligation to select any Preferred Tenderer.

## 4 SIMULTANEOUS PROPOSALS

In cases where more than one Proposal is received for the same, or a similar project at the same location, before the Agency has awarded Scheme Developer Status to the first Proponent, the following shall apply:

If the projects are materially the same, a first come first serve approach will be adopted by the Agency, and the second Proposal will be returned to its Proponent.

If two or more projects, at one location, having common elements, but being substantially different in other respects, are submitted, the Agency will decide at its sole discretion which of the projects is the most desirable, and return the other(s) to its/their Proponent(s)

**5 THIRD PARTY ADVICE AND APPRAISAL**

The Agency reserves the right to submit Proposals, at any stage during the process, to third party advisors for appraisal and advice.

Appropriate undertakings for the confidential handling of the Proposals will be obtained from advisors before any documentation is handed to them.

The cost of obtaining such third party advice will be for the account of the Agency. However, should the Proponent withdraw the Proposal subsequent to their having been awarded Scheme Developer status, but prior to tenders having being called for the project, the Proponent shall be liable for the costs incurred by the Agency in respect of obtaining third party advice. The limit of this liability shall be as agreed in the Agreement.

**6 SUBMISSION OF BIDS**

Four copies of the Proposal should be delivered by hand to;

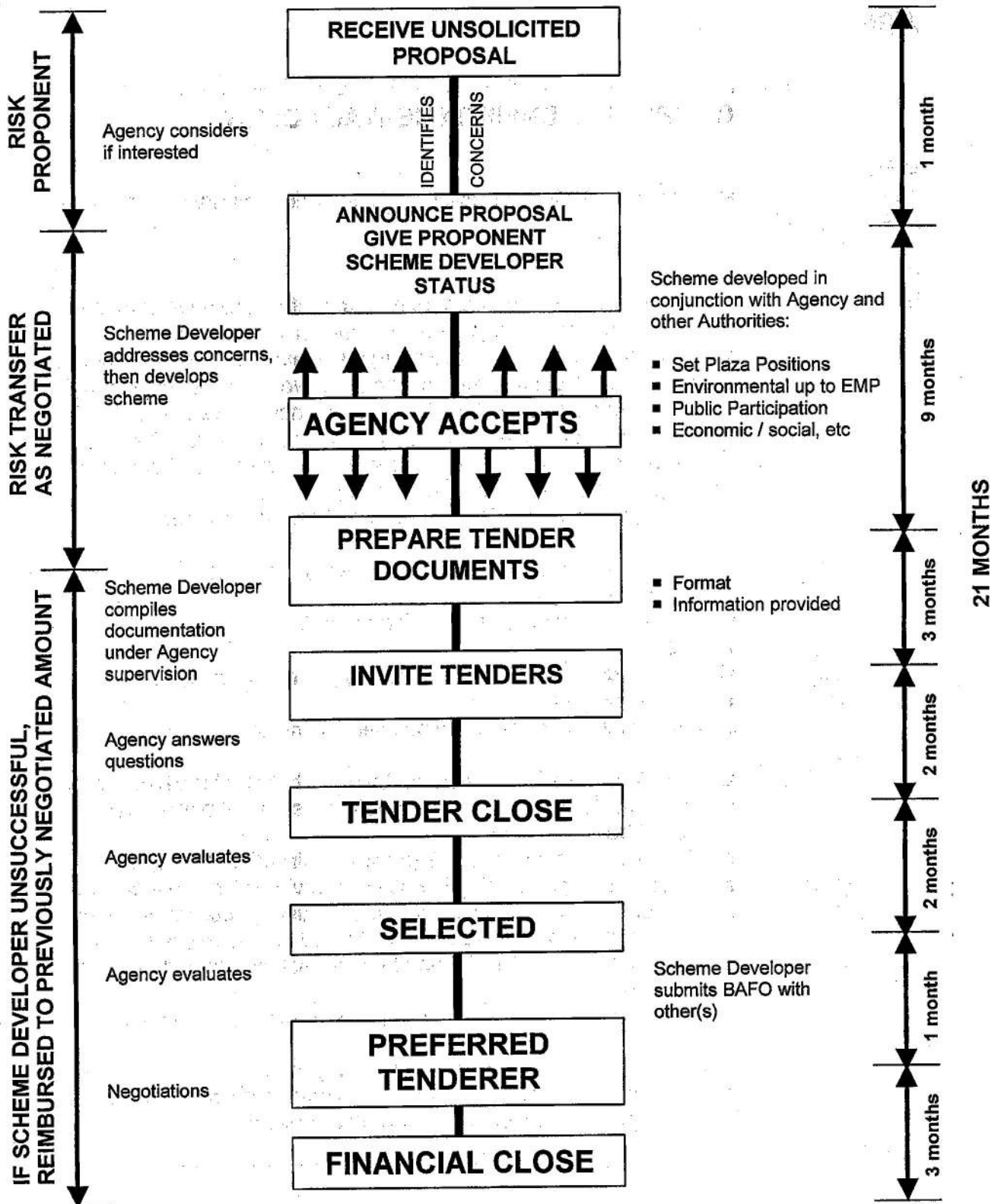
The Chief Executive Officer  
South African National Roads Agency Limited  
North Block, Celtis Plaza, 1085 Schoeman Street HATFIELD PRETORIA

The Agency will record the date and time it receives Proposals.

Please note: In the evaluation process the emphasis will be on value for money and the affordability of the Project.

The following flow diagram describes the above procedure and should be read as forming part of this document.





## **APPENDIX II**

### **SOUTH AFRICAN NATIONAL ROADS AGENCY LTD CORPORATE ENVIRONMENTAL POLICY**

#### **VISION**

To be recognised as a world leader in the provision of a superior primary road network in Southern Africa

#### **POLICY**

Environmental management is a key component of road infrastructure development to achieve a shared vision for economic development and growth in South Africa in particular, and Southern Africa as a whole. In providing a sustainable road network that meets the requirements of both people and the environment, we are faced with many exciting challenges. We shall continuously strive to find a balance between the economic and social benefits of road-based transport on the one hand, and the protection of the environment on the other. We shall meet the challenges of providing sustainable, environmentally sensitive development through:

- Developing, implementing and monitoring an environmental management system;
  - Ensuring that development proceeds in a socially, environmentally and economically sustainable manner;
  - Continual improvement of environmental performance through regular reviews of the effects of development;
  - Pursuing the best practical environmental option by promoting integrated environmental management principles;
  - Integrating environmental duty of care into business planning and day to day activities;
  - Conducting all operations, whether carried out by or on behalf of the NRA, in accordance with relevant environmental legislation, government policy, standards and industry accepted best practice;
  - Minimising pollution and reducing, or where possible, mitigating the negative environmental impacts and/or promoting the positive environmental aspects as a result of the NRA's activities within socially and economically acceptable limits;
  - Promoting the participation of all interested and affected parties in planning and implementation decisions taking into account the interests, needs and values of all stakeholders involved;
  - Including environmental considerations in all aspects of strategic planning of our road and traffic management;
  - Promotion of environmental awareness among employees;
  - Recognising the vital role of women and youth in environmental management and development and promoting their full participation therein.
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