

Chapter 14

Public-Private Partnerships, Public Infrastructure Investment and Prospects for Economic Growth in South Africa

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Introduction

This chapter addresses the function of infrastructure in the South African economy and the current status of public investment in infrastructure. Given the fiscal constraints in South Africa, public-private partnerships (PPPs) are discussed as an alternative method of realising infrastructure delivery and supplementing public sector resources. The chapter further outlines the forms of engaging private sector management expertise, resources and finance in the delivery of the services traditionally carried out by the private sector.

Status of infrastructure investment

A few decades ago, the term “public infrastructure” simply referred to a network of services and utilities without serious consideration of their economic and social influences. It has been established that in any country, adequate infrastructure leads to economic development. However, the economic literature is not clear on the link between the two issues (World Bank, 1994; Smith, 1996; UNIDO, 1996; Ferreira & Khatami, 1996). The authors believe that the development of a comprehensive and interlocking network of both social and economic infrastructure is necessary for South Africa to realise economic growth. The development of such infrastructure in South Africa is seriously constrained, though, by a lack of financial and managerial resources in the public sector. Hence this chapter explores public-private partnerships as a solution to the problem.

Macro-economic perspective

According to Merrifield (1999), investment in infrastructure used to be an integral part of the South African development strategy, but in the late 1980s, when the apartheid regime redirected resources into the security apparatus, infrastructure spending faltered. The position of infrastructure development in our current economy was defined by the post-1994 government through its Growth, Employment and Redistribution (GEAR) strategy, a macro-economic policy. According to the Department of Finance, GEAR is “an expansionary public infrastructure investment programme”. One of its objectives is

to provide for more adequate and efficient economic infrastructure services in support of industrial and regional development and to address major backlogs in the provision of municipal and rural services. (GEAR, 1996, p. 4.)

This approach approximates the international perspective on infrastructure as described by Ferreira and Khatami (1996), namely that investment in social and economic infrastructure will play an important role in increasing the productivity of labour and business. GEAR also embraces PPPs, not only as a means of alleviating the public infrastructure backlog but as an alternative form of public service delivery that fosters economic growth and enhances quality of life, especially for the poor, women and children.

Status of public infrastructure in South Africa

The National Infrastructure Investment Framework (NIIF) estimates the South African infrastructure backlog to be between R171 and R232 billion, depending upon economic growth and the rate at which the backlog is addressed (GEAR, 1996). This estimate includes requirements for all new infrastructure as well as estimates of maintenance and rehabilitation. A more up-to-date estimate was provided for separate public sector infrastructure sectors (transport, health, education, municipal and rural services, and security). Although it showed lower figures than the

NIIF estimate, it was based on specific departmental estimates of requirements. Merrifield (1999) estimated the infrastructure backlog (upgrading, maintenance and rehabilitation) and the new requirements for various sectors to amount to R157 billion, excluding toll roads, which are not to be funded through the fiscus but through toll fees. The breakdown of the backlog is shown in Table 14.1.

Table 14.1: SA infrastructure backlog

Infrastructure backlog	Total backlog and estimated years required to overcome it* (Rbn)	Annual amount not covered in national budget
Public works	R8,8 bn over 5 years	R1,5bn
Health	R13 bn over 10 years	R1,3bn (ave.); R2,4bn (max)
Education	R14-R20 bn over 9 years	R1,6bn
Municipal and rural infrastructure	R45-R77 bn over 5 year	R10bn
Road transport	R38 bn over 10 years	R5,1bn
Total	R119-R157bn	R19,5bn pa

* Each department had its own method for estimating the time taken to overcome the backlog. Only Public Works focused on rehabilitation and maintenance; the other departments focused on new infrastructure.

In order to illustrate how much is required for maintenance aimed at avoiding the irrevocable loss of existing infrastructure, we refer the reader to the Department of Public Works. Over the past three years, the portion of the Public Works budget allocated for maintenance declined from being on par with capital expenditure in 1996/1997, to 82% of capital expenditure in the 1997/1998 financial year and 51% in the 1998/1999 financial year (*Financial Mail*, 1999). In addition to the decline in maintenance and rehabilitation spending on existing infrastructure, the demand for new infrastructure continues to increase. This means that the gap between requirements and means to satisfy those requirements is actually increasing.

Public infrastructure investment

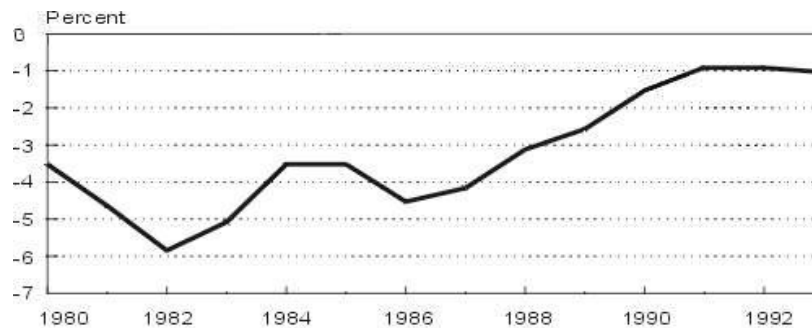
The status of public infrastructure investment is explored below in order to assess if South Africa has the funds for infrastructure investment.

Traditionally, the provision of public infrastructure has been the responsibility of the state and has been financed through taxes and loans via the budget allocation. The World Bank (1994) reported that developing countries invested US \$200 billion a year in new infrastructure, which amounted to 4% of their national output and 20% of their national investment. According to Ferreira and Khatami (1996),

[since] infrastructure accounts for more than 40-60% of public investments in developing countries, the tightening of resources in the 1980s took a heavy toll on the ability of public budget to finance the much needed infrastructure investments.

Over the past decade, the combined public sector borrowing requirements of all developing economies shrank from 6% of GDP in 1982 to 1% in 1993 as shown in Figure 14.1.

Figure 14.1: Public sector borrowing requirements (% of GDP)



Source: World Bank, 1994.

In South Africa, investment in construction-related goods by the public and private sectors has averaged just under 3% of national output for most of the 1990s.

To understand the fiscal implications of this under-investment in South Africa, it is worth noting that:

- to meet this additional requirement, the public sector contribution to construction-related gross domestic fixed investment (GDFI) (that is excluding transport and machinery and equipment) would have to be more than double its 1998 value of R17,6 billion; and
- the public sector proportion of such GDFI would increase from about 43% to about 61%. Total construction GDFI would increase almost 50% from about R41 billion to about R60 billion (Manchidi & Merrifield, 1999).

In the light of the constraints mentioned above, it is unlikely that public investment in infrastructure will increase significantly. Hence alternative methods of funding have to be found. It is unlikely that the South African government will be able to afford the infrastructure requirements. Overall fiscal constraints indicate that it is unlikely that overall budget limits will be increased and any further investment in infrastructure from the public sector will have to come from a re-prioritisation of expenditure from current to capital expenditure.

Need for an alternative approach

In order to increase infrastructure investment while considering the deficit reduction intentions proposed in GEAR, innovative financing methods are to be sought. The government recognised in GEAR the need for co-operation with the private sector in order to address the infrastructure backlog. Indeed, “recognising the limited capacity of the fiscus, Government is committed to the application of public-private partnerships based on cost recovery pricing where this can practically and fairly be effected” (GEAR, 1996).

International experience shows that such partnerships work. According to the International Finance Corporation report (*Financing infrastructure projects*), new infrastructure created through private finance amounted to US\$100 billion globally between 1984 and 1994 (Maree,

1996). The government's commitment to PPPs in respect of infrastructure could therefore become a new opportunity for investment in South Africa. PPPs have indeed been given increasing publicity in various departments in the public sector as their budgets would be unable to address the infrastructure backlog and new investment requirements.

Common types of infrastructure PPPs

For the purpose of this chapter, a PPP in infrastructure can be defined as

a collaborative arrangement over one or more phases of the life cycle of a project between a government or its agency and one or more private sector parties. The rights and responsibilities are innovatively specified, with the elements of sharing risks and rewards in a long-term contractual relationship. (Manchidi, 1999.)

There are many types and forms of public-private partnerships practised over the world. The common PPPs in public infrastructure are outsourcing and concessions as defined in Table 14.2.

There are many definitions and interpretations of the word "concession". In this chapter it simply refers to any form of BOO (build-own-operate) variants, including DBTO (design-build-transfer-operate). Many concession models are used in the market. Some of the numerous BOT variants are summarised by Arndt (1999a), as reflected in Table 14.3. These variants can be chosen to suit the characteristics of a particular project.

Table 14.2: Common types of infrastructure PPPs

PPP type	Definition	Example
Outsourcing	Contracting out the delivery of goods and services (fully or partially) to a private sector entity under a contract that typically involves no equity and capital.	Service contract Management contract
Concession	A contract that grants a private sector entity the right to finance, build/rehabilitate, own and/or operate a specific project for a set period, usually between 20 and 50 years. The concession may include an option to revert the asset to the state at the expiry of the concession period, usually free of charge. In most of the cases, concessions involve equity, mainly to finance the capital asset, and substantial risk transfer to the concessionaire.	See paragraph below and Table 14.3

Table 14.3: Alternative structures of BOT-type projects

Contract type	Characteristics
Build-own-operate-transfer (BOOT)	The service provider is responsible for designing, constructing and financing operations, maintenance and commercial risks associated with the project. It owns the project throughout the concession period. The asset is transferred back to the government at the end of the term, often at no cost.
Build-own-operate (BOO)	BOO is similar to BOOT, but the service provider retains ownership of the asset in perpetuity. The government only agrees to purchase the services produced for a fixed length of time.
Design-build-operate (DBO)	A design and construction contract linked to an operation and maintenance contract. The service provider is usually also responsible for financing the project during construction. The government purchases the asset from the developer for a pre-agreed price prior to (or immediately after) commissioning and takes all ownership risks from that time.
Lease-own-operate (LOO)	Similar to BOOT, but an existing asset is leased from the government for a specified time. The asset may require refurbishment or expansion.

Source: Arndt, 1999a.

The differentiation in the PPP variants can also be explained in the form of the roles, skills, risks and resources invested by the private sector over the life cycle of the contract as shown in Figure 14.2. Moving from left to right, the roles, skills, risks and resources assigned to the private sector increase.

Figure 14.2: Modes of PPPs and levels of private sector involvement

Public-private partnership modes								
Types	Outsourcing		Concessions					
Characteristics	Existing asset Contracting out of services Less risk transfer 0-5 years		Private finance usually called BOTs Creation or rehabilitation of assets 20-50 year contracts					
Variants	Discrete service contract	Management contract	Design Build Operate	Lease Develop Operate	Buy Build Operate	Design Build Transfer Operate	Build Operate Transfer	Build Own Operate

Source: Remodeled from Kopp, 1997; Russell & Abdel -Aziz, 1997.

Rationale behind infrastructure PPP projects

Several reasons and benefits can be identified in respect of infrastructure PPPs:

Operating expertise/enhanced efficiency

The aim of introducing PPPs is to bring private sector efficiency and innovations into the building and running of infrastructure assets and services. The private sector has access and exposure to technology and operations management that the public sector may not have. The World Bank (1994) pointed out that the cost overruns and time delays that are common in public sector provision lead to cumulative cost increases that can easily cancel out any interest rate advantages (low borrowing rate) that the

government enjoys. Efficiency in the private sector comes from greater accountability and financial discipline, which are underlain by the principle of profit maximisation and shareholder value increase (Arndt, 1999b).

Access to capital

The promotion of private sector investment is a logical response by governments worldwide to tight budget constraints (as shown in this chapter), the need for fiscal discipline and the demand for rapid growth in the provision of infrastructure (Maree, 1996; Arndt, 1999b). Due to the limited human and financial resources to implement infrastructure programmes, governments will increasingly rely on the private sector to realise their needs. The private sector will tend to impose capital market discipline and rigorous budget controls over the projects, which discipline and controls are often missing from publicly funded projects. The introduction of private finance gives governments an opportunity to prioritise their budget allocation and focus on urgent social needs. Assuming that the project is socially desirable, the earlier availability of the service can provide a net gain in the society (Arndt, 1999b).

Addressing social needs

Macro-economic forces, especially in developing countries such as South Africa, restrict the availability of funds for capital asset creation through public finance, even though infrastructure backlogs may be critical. The provision of additional finance for infrastructure projects, through PPPs, enables economically justifiable projects to be freed from public expenditure constraints and to be brought forward in time, thus generating economic benefits (Haley, 1996). Furthermore, PPPs are considered to be a way of reducing public sector borrowing, and at the same time a way of promoting direct foreign investment (Tiong, 1990). According to Zhang et al. (1999), infrastructure constituted a core area for development in the latest five-year plan for China and that priority projects were to be given up to foreign capital/investment.

Leading-edge technology

PPP projects have the potential to transfer new technology and expertise to South Africa. In the prison projects being developed in South Africa, the two prison operators are world leaders in this area. These PPPs also provide an opportunity for previously disadvantaged groups to participate in the mainstream economy. With respect to access to capital, Ferreira and Khatami (1996) argued that innovation in financial technology and the globalisation of financial markets introduced a large pool of resources and a more diversified array of instruments that better match the financing needs of infrastructure projects.

Investment promotion

In an appropriately regulated environment, PPP projects, by virtue of their long-term capital investment, can initiate the introduction of new financial markets. This will stimulate the local capital markets and increase the investment potential of local participants (UNIDO, 1996). Supporting UNIDO (1996), Gombera and Okoroh (1999) stated that the provision of foreign funds to a country such as Zimbabwe would result in long-term employment creation and the improvement of reserves.

Privately developed projects are generally planned and constructed more quickly than publicly financed projects because there is an incentive to generate revenue as soon as possible. In addition, the government makes no payment for construction, as it procures services, not buildings. PPPs can help to fill the infrastructure gap by realising more projects sooner than is the case with infrastructure provided through traditional public finance. The results may be faster economic development and tax base growth (Kopp, 1997).

Current PPP initiatives of the South African government

In 1997, cabinet approved the establishment of an Interdepartmental Task Team (IDTT) on public-private partnerships, chaired by the Department of Finance, to determine how PPPs can be used to improve service delivery.

The IDTT will be reporting to cabinet shortly. There are several PPP initiatives in various government departments. The Department of Public Works (DPW) developed a framework to engage in asset procurement and operating partnerships systems (APOPS) as infrastructure delivery programmes within broader PPP principles. Project development agreements have just been signed with two preferred bidders for the prison projects. The Department of Constitutional Development (DCD) developed a municipal services partnership (MSP) programme to cater for municipal infrastructure; the Municipal Infrastructure Investment Unit provides technical support to the municipalities. Other initiatives include the South African National Road Agency for roads, and BOTs in the Department of Water Affairs.

Conclusion

This chapter has attempted to show that the South African government has large infrastructure backlogs in meeting its economic and social developmental needs. However, it has been shown that the South African fiscus is not in a position to finance these infrastructure requirements. Public-private partnerships are therefore considered as a solution to the problem. Such partnerships do not only provide much-needed finance, but also introduce new technology, expertise and the efficiencies that usually accompany private sector operations. Whilst it cannot be assumed that these partnerships will address all South Africa's developmental needs, they should be included along with other methods in ensuring that the broader economic and social objectives of the current government are realised in our lifetime.

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