

N4 Toll Road from South Africa to Mozambique

WHY READ THIS CASE STUDY?

- A** Represents an example of a successful PPP toll road implementation in the African context.
- B** The project stems out of a political will for economic cooperation between neighbouring countries South Africa and Mozambique but which also has wider ramifications for other regional SADC countries.
- C** Recognition by African countries to promote self-reliance in view of enhancing economic development via a major transportation project.
- D** BOT project where no Government subsidies were involved.

Background

The rehabilitation of the N4 toll road forms part of the Maputo Development Corridor (MDC) project, between Johannesburg and Maputo, which also includes other modes of transport. Projects such as the MDC are seen in a larger context of a Spatial Development Initiative (SDI) by the South African government to promote development where export-oriented economic potential exists and with the assistance of the private sector.

South Africa has an important experience in **PPP**¹⁴ projects, involving about 300 such projects on the national and provincial levels since 1994. The South African National Treasury, the body that deals with PPP projects, developed a PPP Manual to guide projects of this nature. The manual defines a PPP to be a contract between a public sector institution and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing, building and operation of a project. The guidelines discuss various procurement possibilities varying between public procurement and full privatisation. The South African National Roads Agency already began tolling part of the major national roads in the mid 1990s and developed concessionary structures to overcome budgetary constraints. However, the N4 project linking the economic heartland of the country (Gauteng Province) to Maputo port is the first major PPP project implemented, although other PPP road projects followed, such as the N3 between Johannesburg and Durban.

14 Public-Private Partnership Manual, 2004. Pretoria: South African National Treasury. (<http://www.ppiaf.org/content/view/327/485/>)

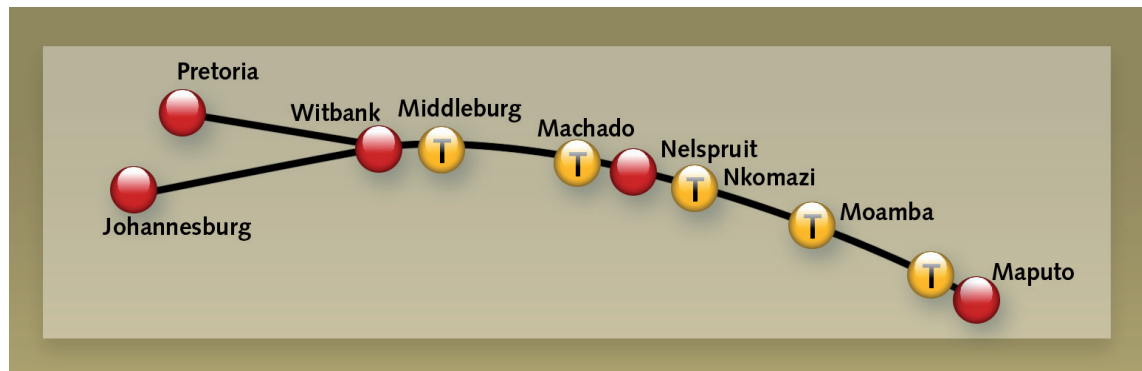
Project Overview and Description

Extent of the toll road

Initially the project involved the upgrading and rehabilitation of 390km of existing road between Balmoral (20km west of Witbank) and Moamba (proximity of RSA/Mozambique border) and a further 50km long road between Moamba and Maputo. The project was later extended to include the N4 road sections between Witbank and Pretoria, a total of 630km.

The road is partly 4-lane separated carriageways and partly 2-lanes with widening to accommodate large hauling vehicles.

A one-stop border facility was developed at Komatiport/ Ressano Garcia in order to reduce cross-border bottlenecks between the two countries.



DISTANCES			
	Witbank	Nelspruit	Komatiport
Maputo	450	221	92

Duration and features of the concession

The original agreement stipulated a 30 year concession period beginning in 1997. This period was maintained although in 2004 the contract was amended to extend the concessionaire’s responsibility over the N4 road section between Witbank and Pretoria. The concessionaire now manages 630km of toll road, the majority of which is in South Africa and only about 50km in Mozambique. The cost of the initial contract was about 3 billion ZAR (South African Rand) - about 660 million USD in 1996 value over 30 years of which 1.5 billion Rand to be allocated in the first three and a half years.

The concession was awarded to the Trans African Concessions (TRAC) consortium. TRAC is responsible for the financing, design, construction, rehabilitation, operation and

maintenance of the toll road. Financing for the project was split between 20% **equity**¹⁵ and 80% debt. The governments of South Africa and Mozambique jointly and severely guarantee the debt of TRAC and to a certain extent the equity. The concession contract was signed with South African National Roads Agency (SANRAL) and the Mozambique Roads Agency (ANE) and ends in 2027, after which the road reverts back to the governments.

For toll pricing purposes, four types of vehicles were considered (light, medium heavy, large heavy and extra heavy). Tolls are collected at six main line toll plazas and at two ramp plazas. However, only two toll plazas are located in Mozambique, implying that the project is by and large supported by toll revenues collected along the South African road stretches and that South African road users subsidise Mozambican users of the entire toll road.

The concession was initially based on 0.20 Rand per km for a light vehicle and 0.50 Rand/km for heavy vehicles. Nonetheless, a discount system was introduced for commuters and local users. Since then toll rates have increased but the agreement stipulates that toll tariffs can only be increased annually in line with consumer prices. In practice, increases varied between South Africa and Mozambique, due to the exchange rate fluctuation between the South African Rand and the Mozambique Metical.

Experience during various phases of the project to date

Traffic

Traffic volumes, which greatly depend on the trade and economic growth in South Africa and Mozambique, were less than the financiers expected, but the concessionaires felt that the traffic growth is acceptable at rates between 5% and 7% per **annum**¹⁶.

Issue of overloading

Although one of the major concerns of the concessionaire was the potential damage caused by overloading, the concession agreement did not specify regulations of truck loads. In order to overcome this problem, the concessionaire began assisting both governments in establishing axle load control measures. The project which is operational since 2002 consists of a set of six traffic control centres, adequately equipped with measuring equipment to weigh axle loads. These are complemented by mobile units that are dispatched to pre-defined lay-bye areas in the surrounding, where weigh bridges are

15 The construction companies (Stocks & Stocks, Bouygues, Basil Read) provided 331 million Rand worth of equity and the remainder of the capital was provided by investors such as SA Infrastructure Fund, Rand Marchand Bank Asset Management. The debt part was financed by four major banks of the country as well as other bodies.

16 For example, in December 2006 it was estimated that traffic flows ranged between 15000 vpd (closer to Mozambique) and 30000 vpd (near Middeleberg toll plaza).

installed and by weigh-in-motion equipment at certain points, which serve to identify possible overloaded trucks. Since 2007, a sophisticated overload control center operates east of Pretoria on 24-hour basis / 7-days a week, enabling vehicle testing and electronic tagging facilities. Between 2001 and 2004, it was noticed that overloaded vehicles fell from 23% to 9%.

When a truck is found to be overloaded, it is placed in a holding yard where the load needs to be rectified, for example, either by redistributing the load more evenly over the axles or by downloading part of the load to be carried by another vehicle to be dispatched by the owner.

Conclusions and lessons learned

This particular PPP project is an example of a successful implementation of a toll road project which involves the cooperation of two neighbouring countries of southern Africa. The implementation of the project stemmed out of the political will of the two countries to build cross-border economic relations after years of unfavourable political conditions in both countries that hampered such relationships.

This project came into being in spite of the imbalance between the two partners South Africa and Mozambique, regarding various aspects related to such a project. For example, the economy of South Africa is much stronger compared to that of Mozambique, most of the route is across South African territory, and most fees were likely to be contributed by road users along the South African sections of the road.

The risk associated with the financing of the project was borne entirely by the TRAC consortium (no government subsidies were allocated), although the two governments guarantee the debt.

The entire toll road was rehabilitated and reconstructed to appropriate standards, including both dual and single carriageway road sections. This is believed to be in line with forecast traffic flows.

Although the details relating to the setting-up and implementation of the PPP per se constitutes the main reasons for its success, other parameters related to the general context and environment of the project are also believed to contribute to these results. Among such parameters one could mention the following:

- South Africa already had some experience with toll projects prior to embarking on the N4 PPP project and in general a very good and established road network country-wide.
- The east-west corridor between Pretoria/ Johannesburg area and Maputo existed prior to the PPP project as an established route. The PPP toll project contributed to its strengthening.
- Related to the above, the Gauteng province is the major trade generator of the South African economy and Maputo region is similar in Mozambique. The port of Maputo is an alternative to Durban as a gateway to the Indian Ocean for South African trade.

- The N4 between Pretoria and Maputo can be considered to be the eastern part of a much longer east-west corridor which includes the N4 west of Pretoria (Magalies toll route) and which continues up to Lobatse border between South Africa and Botswana (about 330km). From there, the Trans Kalahari route crossed Botswana to Mamuno at Botswana/ Namibia border (about 770km long). The route continues along 320km between Mamuno and Windhoek, the Namibian capital, and a further 160km brings the route to Walvis Bay on the Atlantic Ocean. In this context, the N4 toll road constitutes the eastern part of the southern Africa east-west road corridor of about 2100km (in relation to Pretoria), a route that crosses four SADC countries (Mozambique, South Africa, Botswana and Namibia) and connects their respective capitals, while providing an inland route corridor between the Indian and the Atlantic Oceans.

Among the problems encountered with the implementation of this project:

- Complaints by commuters and other normal users, to the effect that a road that was previously free of charge becomes a toll road after upgrading. This subject was addressed by introducing much lower toll fees for these categories of road users.
- Potentially higher than expected damage due to over-loading of trucks. This subject was addressed via the implementation of an efficient axle load control system along the corridor.

Some criticism levelled by the general public to the South African government regarding the massive investment in such a transport project included the fact that the project is likely to benefit big business and not much the poor. The governments of both countries indicated that mega projects such as Mozal Aluminum smelter near Maputo or the Pende gas extraction project are likely to benefit the economies of both countries and that in return is going to benefit the citizens.