# DEVELOPING INFRASTRUCTURE THROUGH PUBLIC-PRIVATE PARTNERSHIPS: THE CASE OF MAPUTO DEVELOPMENT CORRIDOR



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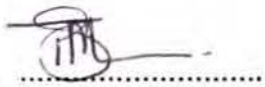
APRIL 2012

## DECLARATION

I declare that ***Developing Infrastructure through Public-Private Partnerships: the Case of Maputo Development Corridor*** is my own work and that all sources used are indicated and fully acknowledged by means of complete references. I also declare that I have never before submitted it for any degree or examination at any other University.



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**TSHIAMO MOLEME**

23 April 2012

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**Glory belongs to GOD!**

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## DEDICATION

**For My Wife, Karabo Moleme**

## ABSTRACT

The development of infrastructure has always been one of the greatest challenges faced by the South African government since the advent of democracy in 1994. Recognizing this challenge, government committed itself to the pursuit of Public-Private Partnerships for the development of infrastructure as early as 1996. SANRAL and Transnet are the two national agencies responsible for the development of transportation infrastructure in the country. While both agencies are battling to fulfill their mandates, SANRAL seems to be the one battling the most. The organization is responsible for all national and some provincial roads. Between the years 2000-2011, they reported profits for only three periods while incurring losses for the rest. SANRAL faces a daunting task. Firstly, their annual budget allocation from government is insufficient to address the backlogs on their non-toll roads network. Secondly, they are not allowed to cross-subsidize non-toll roads with revenue from the toll roads. Lastly, they have been requested by parliament to double their roads network.

The aim of this study was to analyse the development of transportation infrastructure through Public Private Partnerships with focus on the Maputo Development Corridor, a cross-border transportation corridor initiative implemented by the governments of South Africa and Mozambique through Public-Private Partnerships. The analysis was carried out using secondary research data as well as other data on the case study. The objectives of this study were adapted from those of the Maputo Development Corridor and then analysed in terms of the rationale for Public-Private Partnerships, their benefits and limitations as discussed in the Public-Private Partnerships literature reviewed.

The findings of this study are that in general the purpose of using Public-Private Partnerships for the Maputo Corridor Development was achieved as there were more high benefits than low benefits. However, the initiative as a whole has failed to delivery sufficiently on social aspects such as job creation. The initiative has also failed to mitigate the high negative impacts of the limitations. It should be noted that the results of this study are an interpretation of the researcher and this interpretation is based purely on the data obtained. This study calls for further research to be carried out on the socio-economic benefits of tolling of roads through Public-Private Partnerships based on the challenges faced by SANRAL as discussed above as well as the current public opposition to the tolling of roads.



**KEYWORDS:** Infrastructure, Public-Private Partnerships, Maputo Development Corridor, Benefits of Public-Private Partnerships, Limitations of Public-Private Partnerships.

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- ABSA : Amalgamated Banks of South Africa
- ADB : Asian Development Bank
- AfDB : African Development Bank
- ANE : **A**dministração **N**acional de **E**strada (National Roads Administration of Mozambique)
- BEE : Black Economic Empowerment
- BOO : Build, Own & Operate
- BOOT : Build, Own, Operate & Transfer
- BOT : Build, Operate & Transfer
- BTO : Build, Transfer & Operate
- CEO : Chief Executive Officer
- CFM : **C**aminhos de **F**erro de **M**oçambique (Railways of Mozambique)
- COMESA : Common Markets for Eastern and Southern Africa
- CSU : Colorado State University
- DBFO : Design, Build, Finance & Operate
- DBO : Design, Build & Operate
- DBOM : Design, Build, Operate & Maintain
- DBSA : Development Bank of Southern Africa
- DB-W : Design, Build with Warranty
- DEA : Department of Economic Affairs of the Government of India
- DFID : Department for International Development of the government of the United Kingdom
- DoT : Department of Transport
- DPE : Department of Public Enterprises
- FAD : Fiscal Affairs Department of the International Monetary Fund
- FHWA : Federal Highway Administration of the Department of Transport, Government of the United States of America
- FNB : First National Bank
- GEAR : Growth, Employment and Redistribution macro-economic strategy
- GTZ : **G**esellschaft für **T**echnische **Z**usammenarbeit (Society for Technical Cooperation, Ministry for Economic Cooperation & Development, Germany)
- HMSO : Her Majesty's Stationery Office of the Government of the United Kingdom

- ICA : Infrastructure Consortium for Africa
- LBO : Lease, Build & Operate
- LOO : Lease, Own & Operate
- MCLI : Maputo Corridor Logistics Initiative
- MDC : Maputo Development Corridor
- MPDC : Maputo Port Development Company
- MTEF : Medium Term Expenditure Framework
- OECD : Organisation for Economic Co-operation & Development
- PPIAF : Public-Private Infrastructure Advisory Facility
- PPP : Public Private Partnership
- PPPU : Public Private Partnership Unit of the National Treasury
- PRASA : Passenger Rail Agency of South Africa
- PRMG : Provincial Roads Management Grant
- RDP : Reconstruction and Development Programme
- ROT : Rehabilitate, Operate & Transfer
- SADC : Southern African Development Community
- SAICE : South African Institution of Civil Engineering
- SANRAL : South African National Roads Agency Limited
- SARF : South African Road Federation
- SMME : Small, Medium & Micro Enterprise
- SPV : Special Purpose Vehicle
- TFR : Transnet Freight Rail
- TIP : Transnet Infrastructure Plan
- TNPA : Transnet National Ports Authority
- TPT : Transnet Ports Terminal
- TRAC : Trans African Concessions
- UNESCAP : United Nations Economic & Social Commission for Asia and the Pacific
- USA : United States of America
- USAID : United States Agency for International Development
- WAA : Wrap Around Addition

# 1. CHAPTER 1: INTRODUCTION

## 1.1 BACKGROUND

It is a well known fact that the apartheid government separated the citizens of this country along racial lines and focused resources on providing white areas with sufficient infrastructure while leaving most of the black areas without even the most basic infrastructure. As a result, the post-apartheid government inherited massive infrastructure backlogs and was faced with enormous challenges in the development of Public Infrastructure for the benefit of the majority of the population. To address infrastructure backlogs the newly formed Government of National Unity introduced the RDP of which one of its objectives was to meet basic needs through the development of basic infrastructure (The Presidency, 1994: 8). The National Infrastructure Investment Report (as cited in Department of Finance, 1996: 16) placed infrastructure backlog at R170 billlion. Although the development and/or maintenance of infrastructure was and is still of critical importance, the legacy of apartheid meant that government could not focus on infrastructure alone. There was also education, health, social-welfare, land reform, the creation of sustainable employment as well as the development of small & medium sized enterprises (Department of Finance, 1996: 8, 10, 14-16). The focus on the eradication of basic infrastructure backlogs meant less spending on the maintenance of the existing infrastructure, which resulted in maintenance backlog. By 1998, the Department of Finance (as cited in Hassen, 2000: 6) placed the maintenance and rehabilitation backlog between R47 billion and R55 billion.

## 1.2 PRELIMINARY LITERATURE REVIEW

The challenges experienced in both the development and maintenance of infrastructure is a topic which has made headlines since the advent of South Africa's Democracy. By 2006, the development of infrastructure in key economic sectors (transport, water & sanitation, energy and information & communication technology) was still a challenge for government and delivery was being hampered by institutional and capacity constraints, lack of maintenance, inefficient operational & regulatory mechanisms as well as environmental issues (DBSA, 2006: 14).

### 1.2.1 State of Infrastructure

**State of the Roads Infrastructure**

A snapshot of the transportation infrastructure post 1996 indicates that general freight operators switched from rail to road due to inefficiency in rail transportation as well as the decline of the rail infrastructure (DBSA, 2006: 33). According to the Research Channel (2006: 6), the shift from rail to road was caused by unreliable and expensive rail transportation even though road transportation itself is more costly. Creamer (as cited in DBSA, 2006: 34) indicated that by 2003, 75% of freight was being

transported mainly by national roads which are part of the transport corridors. DBSA (2006: 33) points out that these roads as well as the airports had seen high levels of investments. The Research Channel (2006: 7), also indicates International Standards require that only 5-10% of the roads should be in a poor to very poor condition for a developed road network system and that this was the case for South Africa back in 1988 when only 5% of the road network was in a poor condition. The Research Channel also points out that an estimated 35% of the country's road network surveyed in 2002 was in a poor to very poor condition and was expected to have deteriorated further by 2006 as a result of lack of investment in the road infrastructure.

While acknowledging that there are challenges with the development and maintenance of the road infrastructure, it is worth noting that the shift from rail to road only occured post 1996 (DBSA, 2006: 33) and; therefore, it had an impact on the quality of the road infrastructure. Secondly, the Research Channel (2006: 7), indicates investments in infrastructure decreased from the 1970's onwards and that by 1990 propotional expenditure on infrastructure was half of the amount spent in 1975 (*expenditure calculated as % of GDP*). South African Reserve Bank (as cited in DBSA, 2008: 15) illustrated this clearly (*see Appendix A*). According to SARF (2006), South African roads deteriorated from "good" in 1988 to "fair to poor" by 1999. The comparison with 1988 figures has been dealt with above. In 2006, the organisation placed the cost of replacement of the country's road network at R550 billion and indicated that it was rapidly deteriorating due to under-funding of its maintenance. It also highlighted that road users pay R43 billion in taxes annually while only R13 billion of that amount is invested back into the network (SARF, 2006).

According to SAICE (2006: 6), Engineering experts indicated that although South Africa had some very good infrastructure and some part of it was world class, there was extensive maintenance and refurbishment backlogs due to funding and skills shortages (*see Appendix B*). They also indicated that 72% of the country's national road network, valued at R50 billion was nearing its design life while the replacement costs of provincial and municipal roads was estimated at a staggering R260 billion (SAICE, 2006: 10). By 2008, it was reported there was great success in the management of South Africa's major transportation corridor roads which are all under toll concessions but that there was political resistance to placing other high priority roads under toll concessions (DBSA, 2008: 35).

Mitchell M. (2009: 38), estimated the replacement value of South Africa's national and provincial roads at R1.05 trillion and pointed out that only 15% of them, mostly national roads were in a good to very good condition by 2008. Mitchell also estimated that the country's bad road conditions were costing

road users an additional R20 billion per annum due to increased vehicle maintenance, repairs and fuel consumption. According to Mitchell M. (2009: 39), the situation was due to lack of capacity and sufficient funding for the road infrastructure. Sampson (as cited in Mitchell M, 2009: 39) placed the maintenance backlog of national and provincial roads at R100 billion and indicated that R32 billion is required annualy while government only allocates R7 billion. Mitchell M. (2009: 40) is in favour of the user-pays principle and indicates that the country would benefit from road infrastructure development and mantenance being carried out by roads agencies as in the case of the tolled national roads.

O'Donnell (2010), reported the municipal backlog was placed at R75 billion and that expenditure on road infrastructure would have to be doubled in order to address the issue. Despite South Africa having National, Provincial and Municipal road management authorities, it was reported that approximately 140 000 km of the country's network was not under any authority. As a result this part of the network was being left unattended. An infrastructure dialougue (as cited in O'Donnell, 2010) was held where funding through road tolling, general tax base for municipal roads and the creation of a road fund from the fuel levy were discussed. The outcome was that the road fund from the fuel levy would double the price of fuel. In 2010, capital funding requirements for national road infrastructure was estimated at R16 billion while for pronvincial infrastructure and municipal infrastructure was R200 billion (DoT, 2010). On 01 April 2011, the PRMG came into existence with total funding of R22.3 billion over a three year period (*see Appendix C*). This was less than half the R72 billion (*breakdown from the R200 billion reported above*) requirement reported by DoT in 2010. Treasury indicated that the objective is to shift the focus on pronvicial road infrastructure expenditure from new roads to maintenance of existing ones which means less construction of new roads (National Treasury, 2011).

In 2011, there was a slight average improvement across all categories of infrastructure (SAICE, 2011: 9). This was attributed to increased investment in infrastructure between 2006 – 2011 which resulted in new infrastructure as well as an improved condition of the infrastructure which was already in existence. Experts; however, warned that municipal infrastructure remained poor and continues to deteriorate. According to SAICE (2011: 20), national roads managed by SANRAL continues to be in very good condition while over 40% of the provincial roads network have exceeded their design lifespan. SAICE could only obtain data for 64% of the roads under metropolitation municipalities and 80% of these roads were in good condition. Roads in the rest of the municipalities is a different story, as SAICE managed to obtain data for only 4% of these roads. A survey conducted by DoT in 2007 (as cited in SAICE, 2011: 20) indicated that municipalities even lack the capacity to respond properly to a survey questionnaire, which makes SAICE beleive that they are also incapable of managing and maintaining their roads.

**State of the Rail Infrastructure**

SAICE (2006: 13) indicated that the Heavy Haul Freight lines were in good condition, that they were of high standard and world class. On the other hand, most of the General Freight lines were considered uneconomical as they were just breaking-even and required extensive refurbishment and upgrading. The heavy haul freight line continues to be in good condition (SAICE, 2011: 26). Performance of the General Freight lines is firstly disadvantaged by the locomotive fleet which is 30 years old as well the wagons which are 35 years old. SAICE (2011: 26), indicates a normal industry standard of a lifespan of 16 years for the locomotive fleet and 20-25 years for the wagons. Secondly it is disadvantaged by theft (*at a cost of R22 million for 2009 alone*) and insufficient power supply. It is reported that although R2.4 billion was invested in passenger rail infrastructure in 2009, this category still has backlogs and its performance is disadvantaged by old and insufficient equipment (SAICE, 2011: 27).

**State of the Ports Infrastructure**

Although by 2006 the infrastructure at the ports was ageing and replacement costs were not available, the experts indicated that it was being maintained in an operationally serviceable condition, and they commended the maintenance programme (SAICE, 2006: 13). In 2010, funding for ports infrastructure was estimated at R93 billion (DoT, 2010). The challenges experienced are indicated as lack of adequate maintenance for below-water structures which could be worsened by the associated possible effects of climate change (SAICE, 2011: 24).

### 1.2.2 Current Infrastructure Funding

**Funding for Road Infrastructure**

In 1998, Parliament enacted the South African National Roads Agency Limited and National Roads Act No. 7 of 1998 (hereinafter reffered to as the Act) which called for the establishment of the National Roads Agency and the incorporation of SANRAL. Section 2(1) of the Act states that there will be a National Roads Agency for the Republic for the purpose of taking charge of the financing, management, control, planning, development, maintenance and rehabilitation of the South African national roads system (The Presidency, 1998: 10 ). Section 26 grants SANRAL the authority to operate any national road as a toll road and levy toll fees for the use of such road (The Presidency, 1998: 28). SANRAL may, in terms of section 29 set up and apply a points demerit system against any person refusing to pay a toll fee for which they are liable (The Presidency, 1998: 34). Section 30 grants SANRAL the right to institute legal proceedings for the recovery of toll fees (The Presidency, 1998: 36). In terms of section 40 of the Act, the Minister of Transport may declare any existing road a national road (The Presidency, 1998: 40).

At the time of SANRAL's establishment in 1998, the agency only had 7200 km of network which is reported to have been in poor condition (SAICE, 2011: 20). By 2011, SANRAL was in charge of 16170 km of national roads (SANRAL, 2011: 16). This consisted of 3120km toll road network (*19% of SANRAL's total network*) of which 1832 km is managed directly by SANRAL while the remaining 1 288 km is managed by toll road concessionaires (SANRAL, 2011: 20). Therefore 13050 km (*81%*) of the national roads network needs to be funded entirely from the fiscus. According to (SANRAL - Presentation, 2011), the annual maintenance requirement on SANRAL's entire road network was estimated at R12.4 billion in 2010/11 while the agency was only allocated R6.8 billion. Likewise provinces and municipalities were also under allocated (*see Table 1.1 below*). It is also unlikely that the agency's budget allocation over the MTEF would be sufficient (*see Table 1.2 below*). Based on the road infrastructure funding discussion above, it seems unlikely that Government on its own will ever be able to clear the backlogs in the financing of road infrastructure.

| Authority | Network Length (km) | 2010/11 Annual maintenance requirement figures (R' 000) | | | Allocation | Allocation as % of Total Requirement |
|---|---|---|---|---|---|---|
| | | Normal | Backlog | Total | | |
| SANRAL | 16170 | R 9 248 616 | R 3 091 200 | R 12 339 816 | R 6 844 501 | 55.47% |
| Provinces | 184816 | R 29 533 342 | R 12 046 130 | R 41 579 472 | R 22 300 000 | 53.63% |
| Metros | 66143 | R 13 086 161 | R 347 053 | R 13 433 214 | R 3 700 000 | 27.54% |
| Municipalities | 339849 | R 14 037 275 | R 389 727 | R 14 427 002 | Not Available | Not Available |

**Table 1.1: Annual Maintenance Requirement for Roads (2010/11 figures)**

***(Source: SANRAL - Presentation, 2011)***

| Description | 2011/12 | 2012/13 | 2013/14 |
|---|---|---|---|
| Toll Roads | R 8 651 596 000 | R 9 728 055 000 | R 10 340 966 000 |
| Non-Toll | R 6 860 332 000 | R 3 859 958 000 | R 3 733 863 000 |
| **Total** | **R 15 511 928 000** | **R 13 588 013 000** | **R 14 074 829 000** |

**Table 1.2: SANRAL's MTEF Budget Allocation**

***(Source: SANRAL - Presentation, 2011)***

**Funding for Rail & Ports Infrastructure**

Trasnet, an agency of DPE is responsible for the Heavy Haul and General Freight rail network infrastructure while PRASA, an agency of DoT is responsible for Passenger rail network (SAICE, 2011: 26). Transnet manages a network of 21000 km through its division, TFR. According to (SAICE 2006: 13), R6 billion capital expenditure was budget for over the next five ye ars to upgrade the Heavy Haul lines for heavier tonnage. R5 billion capital expenditure was budget for in the next five years to refurbish the General Freight lines. R1.5 billion was budgeted for investment in Passenger lines, which were affected by high incidents of theft and vandalism in addition to little maintenance (SAICE, 2006: 14). Commercial ports are also managed by Transnet through its two divisions, TNPA and TPT. DoT (2010), placed the funding requirements for the ports infrastructure at R92.8 billion. In 2009, Transnet invested R19.4 billion in ports infrastructure while several other infrastructure investment projects are under way. The port of Ngqura in Port Elizabeth is a new port which came into existence after SAICE's previous report card of 2006 (SAICE, 2011: 24).

By 2010, funding requirements for national rail infrastructure was estimated at R233 billion while for provincial and municipal infrastructure was placed at R108 billion (DoT, 2010). SAICE (2011: 26) indicated that R53.5 billion has been invested in the general freight line since 2005 and a further R80.5 billion is to be invested over the next five years. R2.4 billion was invested in passenger rail infrastructure in 2009 (SAICE, 2011: 27). Transnet (2011: 98), indicates a plan known as the Transnet Investment Plan, which provides the company with a 30-year framework for planning and development of infrastructure to ensure creation of capacity ahead of demand. Capital Investment at Transnet is reviewed annually to ensure alignment with the plan. A rolling five year Capital Investment plan approved in 2011 is in place and R110.6 billion is to be invested (*see Table 1.3 below*).

| | **Target** | **Projections** | | | | **Total per Division R million** |
|---|---|---|---|---|---|---|
| **Description** | **2012 R million** | **2013 R million** | **2014 R million** | **2015 R million** | **2016 R million** | |
| Freight Rail | 14 693 | 13 521 | 13 301 | 11 564 | 10 624 | 63 703 |
| Rail Engineering | 445 | 364 | 290 | 250 | 230 | 1 579 |
| National Ports Authority | 2 444 | 3 281 | 7 032 | 5 157 | 5 319 | 23 233 |
| Port Terminals | 1 686 | 960 | 741 | 711 | 933 | 5 031 |
| Pipelines | 6 113 | 3 827 | 2 894 | 656 | 1 561 | 15 051 |
| Specialised Units | 478 | 443 | 350 | 365 | 362 | 1 998 |
| Total/Annum (R million) | 25 859 | 22 396 | 24 608 | 18 703 | 19 029 | **110 595** |

**Table 1.3: Transnet Capital Investment Plan**

***(Source: Transnet, 2011: 104)***

### 1.2.3 Infrastructure Funding: Where to from here?

In terms of the discussion above, Transnet seems to be on the right track in funding their infrastructure. A review of the Transnet's income statements from 2004-2011 (*see Figure 1.1 below*) seems to indicate that the company has never received funding from government and that they have always depended on income from their operating activies or raised capital investment funds from the markets (Transnet Annual Reports, 2004; 2005; 2008; 2009; 2010; 2011). Based on this information, Transnet should therefore be able to gradually improve and achieve their infrastructure funding without having to request some form of capital injection from the state.

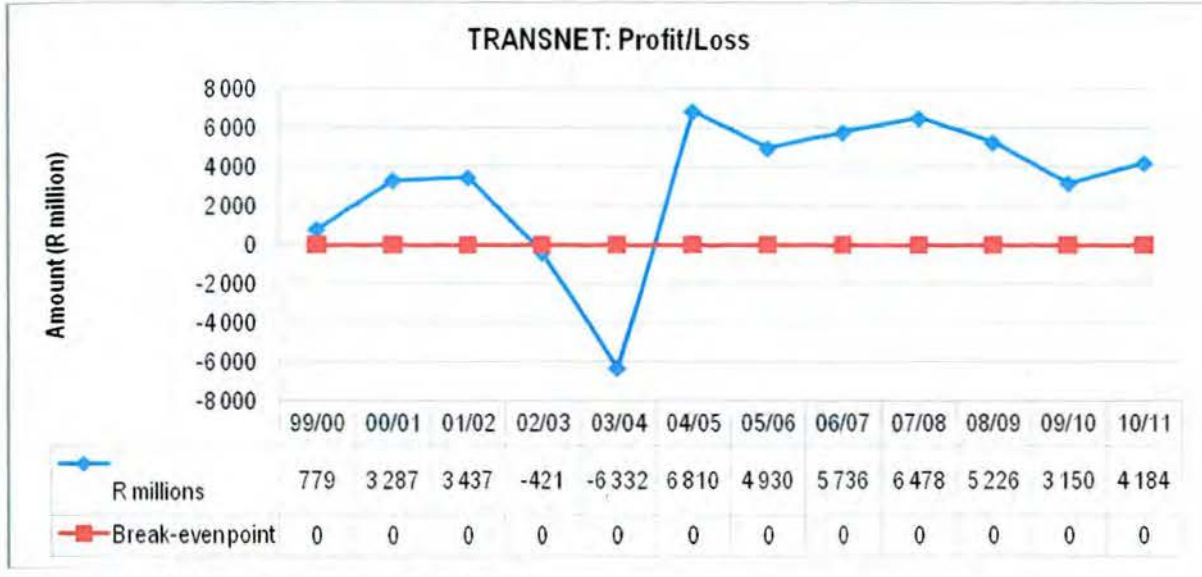


**Figure 1.1: TRANSNET's Annual Profit/Loss**

***(Source: TRANSNET Annual Reports, 2004 - 2011)***

Recognising that its five year capital investment plan will not be sufficient to meet the needs of its customers as well as the economy, Transnet acknowledges that private's sectors participation is critical in addressing the shortfall (Transnet, 2011: 104). It just so happens that the financial markets are also interested in addressing the shortfall. Gilroy (2009: 9) points out that, post the global financial crisis, investors are more interested in financing revenue producing infrastructure which the markets generally regard as an attractive investment and that the interest of equity providers in infrastructure is growing.

While SANRAL's funding comes from the the fiscus and toll fees, the company also raises funds from the markets (SANRAL, 2011: 12). As discussed above, there are still maintenance backlogs and funding challenges with 81% of SANRAL's roads network, which are non toll-roads. These are funded entirely from the fiscus as SANRAL is not allowed to cross-subsidise or borrow from the toll roads revenue (SANRAL, 2011: 12). A review of SANRAL's income statements for the years 2000 – 2011

(*see Figure 1.2 below*) indicates that the company only realised profit for three periods out of the twelve periods of operation (SANRAL Annual Reports, 2001 - 2011).

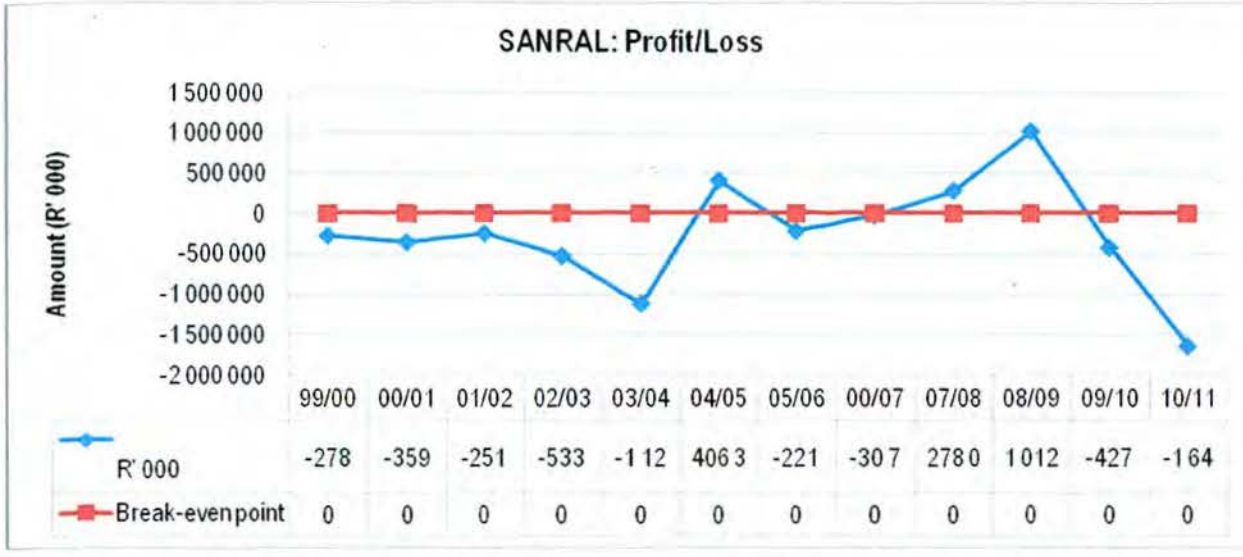


**Figure 1.2: SANRAL's Annual Profit/Loss**

***(Source: SANRAL Annual Reports, 2001-2011)***

At the request of Parliament as well as a result of the outcome of the May 2010 Road Summit, the agency has undertaken to determine the feasibility of adding an additional 19000 km to their road network to relieve provincial and local authorities whose network is deteriorating due to lack of capacity (SANRAL, 2011: 08). Two points should be noted in the light of the discussions above. Firstly, it would be quite ambitious for SANRAL to extend their network with the deteriorating 19000 km network if they are hoping to fund it from the fiscus. Secondly, it is impractical to see how SANRAL would be able to address funding challenges on 81% of their existing network entirely from the fiscus.

The National Infrastructure Investment Report (as cited in Department of Finance, 1996: 16) called for innovative financing strategies in order to address the infrastructure backlogs. In GEAR, government recognized that it was impractical that infrastructure could be funded entirely from the fiscus and committed itself to the implementation of PPPs (Public Private Partnerships) based on cost recovery pricing which is practical and fair (Department of Finance, 1996: 16-17). It is a well known fact that infrastructure is essential for economic growth and that Sub-Saharan Africa is in dire need of infrastructure. In 2008, the World Bank (as cited Chakwizira, 2009) estimated that Sub-Saharan Africa could gain 20 billion US dollars annually from the development or upgrading of trade-related infrastructure. The region's growth between 1998 – 2008 was attributed to the development of infrastructure and the Bank regards SADC as the major contributor to the development of trade

corridors in Sub-Saharan Africa. According to Chakwizira (2009), governments in Sub-Saharan Africa need to partner with the private sector in order to achieve infrastructure funding at the level required. Chakwizira points out that critics attributes the lack of investment in infrastructure from Africa's reliance on donor funding while it should be attributed to fragmentation of the continent, governance challenges as well as lack of sufficient returns for investors in PPPs.

## 1.3 PURPOSE OF THE STUDY

### 1.3.1 Brief Description of the Maputo Development Corridor

The MDC (Maputo Development Corridor) was established as a result of South Africa and Mozambique's commitment to regional co-operation within SADC. It is also regarded as South Africa's commitment to the reconstruction of Mozambique's economy. The corridor highlighted the most important elements of South Africa's investment strategies such as the Investment in Infrastructure and the pursuit of Public Private Partnerships (Mandela, 1996). Therefore MDC combined two strategies to become the Investment in Infrastructure through PPPs. The corridor consists of the N4 toll road from Pretoria to Maputo; the railway lines from Gauteng Province to Maputo as well as the Port of Maputo which according to TRAC (2011), was under-resourced and under-utilised for many years as a result of sabotage by the apartheid government and the civil war in Mozambique. TRAC points out that the objectives of the MDC are as follows:

- to rehabilitate the core infrastructure along the corridor with minimum impact on public funds,
- to maximise investment in both the inherent potential of the corridor area, and opportunities which infrastructure rehabilitation will create,
- to ensure sustainability by developing policy, strategies and framework that encompasses a holistic, participatory and integrated approach to development and
- to ensure that the development impact of this investment is maximised, particularly to disadvantaged communities by changing the ownership base.

The anticipated benefits are indicated as follows:

- the stimulation of trade via competent infrastructure,
- the opening up of SA markets to Mozambican producers and access to global markets through the development of the Maputo Port,
- employment creation through increased economic activity in Maputo and along the corridor, with the ability to shift the higher value-added industry sectors,
- increased access to international tourism,

- improved income generation through the encouragement of private investment and
- saving of public sector financial resources through the use of private sector investment in infrastructure development.

### 1.3.2 Study Aim

The MDC is a cross-border transportation corridor developed through a Public Private Partnership and as such, the aim of this study is to analyse the development of transportation infrastructure through Public Private Partnerships using the MDC as the case study.

### 1.3.3 Study Objectives

The objectives of this study which have been adapted from those of the MDC are:

- to analyse the rehabilitation of the corridor's core infrastructure,
- to analyse the investment made in the corridor up to date,
- to analyse the opportunities created by the rehabilitation of the corridor,
- to analyse the general approach to development on the corridor and
- to analyse the how developments in the corridor are impacting on disadvantaged communities located along its path.

## 1.4 METHODOLOGY OF THE STUDY

This study is essentially a desktop research and carries out a desktop analysis. The two most important considerations that led to this kind of research methodology are explained by Mitchell P. (2010), who argues that secondary research benefits from information that is already available and should add to the existing body of knowledge on its completion. Secondly it ensures that key research persons are not continously subjected to the same research questions. Mitchell defines desktop research simply as a research method where one primarily uses freely available on-line websites and documentation.

## 1.5 SCOPE OF THE STUDY

The scope of this study is limited mainly to analysing only the development of transportation infrastructure using mainly data that is freely available online.

## 1.6 STUDY OUTLINE

This study follows the general format proposed by Mouton (2001: 122-125).

**Chapter 1** provides a background to the study, preliminary literature review and purpose of the study.

**Chapter 2** provides a review of the existing literature on Public-Private Partnerships. The concept is defined, followed by discussions on earliest origins of PPPs, various types of PPPs, financing for PPPs, rationale for PPPs, advantages/benefits of PPPs as well as the disadvantages/limitations of PPPs.

**Chapter 3** discusses the research design and methodology used in the study. It also discusses data collection methods as well as the data analysis methods.

**Chapter 4** is the discussion of the data.

**Chapter 5** is the interpretation and analysis of the data in terms of the literature reviewed. The interpretation and analysis is made in tables and graphical format.

**Chapter 6** is the discussion of the key findings of the study, and thereafter recommendations are made.

# 2. CHAPTER 2: LITERATURE REVIEW

## 2.1 INTRODUCTION

Chapter one has already indicated that SANRAL faces a daunting task in funding roads infrastructure without tolling the roads or resorting to PPPs. It has also indicated that although Transnet on its own has the ability to secure funding for their infrastructure, the agency recognises private sector participation as critical to their operations. Both agencies are committed to using PPPs to meet their infrastructure needs.

According to Mouton (2001: 87), one should commence a study with the review of the existing body of knowledge to see how the research problem was investigated by other scholars, which helps learning from their studies. Mouton further points out some of the advantages of a literature review as to determine the generally accepted definitions of key concepts and to ensure one is not duplicating an existing study. A decade has passed since Mouton warned against a literature review confined to internet sources, indicating that a bulk of scholarship is still published in standard scientific journal and books, which should be one's first port of call (Mouton, 2001: 91). It must be indicated that the internet has evolved considerably and that most of the scientific journals and schorlarly articles are now available on the internet.

Chapter two carries out a review of the existing body of knowledge relating to the use of PPPs to provide public infrastructure. Most of the literature obtained relates to the transportation infrastructure, which is where the case study belongs. The categories of the literature are: Scholarly Articles, Theses, Dissertations, Policy Documents, and Conference Papers, Studies carried out by Government Institutions, Financing Institutions, Development Institutions, Engineering Associations and Professional Associations as well as Articles by experts.

## 2.2 DEFINING PUBLIC-PRIVATE PARTNERSHIPS

In terms of South African law, a PPP is defined as a contractual agreement between a public institution and private party under which a private party takes responsibility for an institutional function with all its associated risks, providing such function according to the specified output and benefitting through user fees or unitary payments from state's budget (PPPU, 2007: 5).

According to Rall, Reed and Farber (2010: 3), a PPP is a contractual agreement between public and private sector partners where the public sector partner maintains ownership of the assets while contracting the private sector partner to carry out its functions and giving them rights to decide how the function is to be carried out. Nyagwachi (2008: 16) defines a PPP as collaboration between public and private sectors, for the purpose of providing public infrastructure or services.

Maluleka (2008: 47) holds a view that a PPP is a contractual agreement between public and private sector entities where the private entity is entrusted with the responsibility of providing a public service for a specific period while benefitting financially. Ruiters (2011: 17) indicates that a PPP is a public service or private sector undertaking carried out in partnership with a public institution and the private sector. Haarhoff (2008: 15) simply defines it as a model where public and private sector forms a partnership for the development of public infrastructure or services.

According to Bastin (2003: 2), PPP refers to a long-term contractual delegation of the public sectors statutory obligations to the private sector which then bears the full or partial risks for carrying out such obligations. ICA (2009: 7) indicates that PPP has no legal meaning and is used to describe partnership agreements between public and private sector partners. As indicated above, the meaning of a PPP is provided for in South African law and the assertion that it has no legal meaning seems to be unfounded.

For the purpose of this study, a PPP is regarded as a legal agreement between a public and private sector organisations whereby the latter provides a public service on behalf of the former, for a specific period and in accordance with the agreed requirements while generating revenue for the payment of the service rendered and also bearing the risks associated with the project.

## 2.3 ORIGINS OF PUBLIC-PRIVATE PARTNERSHIPS

Engel, Fischer and Galetovic (2011: 5) are of the view that PPPs are a new development in the USA despite its history with privately financed public infrastructure of the 19th century. However, many authors locate the origins of PPPs in the USA during the 18th and 19th centuries. While Sharp et al. (as cited in Gross, 2010: 1) point out that toll roads date back to the pre-Christian era. Smith (2010); traced the earliest recorded origins of a PPP back to the 17th century more than 300 years ago also in USA when authorities failed to maintain a bridge they expropriated in 1639 from Mathew Cradock, who built it between 1637 – 1638 for the purpose of crossing the Misticke river (modern day Mystic river). By 1653 the bridge was dilapidated beyond use and the court realised that the public sector did not have

capacity to maintain it. What followed on 2 June 1653 was a first PPP law in USA, passed by the court as follows:

> "Itt is by this Court ordered and declared, that if any person or persons shall appeare that will engage sufficyently to builde, repaier, and maintajne the bridge at Misticke at his or theire propper costs and charges, it shall be lawfull, and all and euery such prson or prsons so engaging are heereby authorized, and haue full power, to aske, requier, and recouer, of euery single prson passing ouer the sajd bridge Id; and for euery horse and man, 6d; for euery beast, 2d; for euery cart, Is; and this to continew so long as the bridge shall be sufficyently majntajned as aforesajd." (Smith A, 2010)

The following year in 1654, Richard Thurley built a bridge crossing the Newbury River and sought to levy a fee for the use of the bridge. On 3 May 1654, the General Court of Massachusetts ruled that as long as Richard Thurley maintains the bridge, he has the right to levy a fee for using it. However, in 1680 the court repealed its 1654 ruling which authorised Thurley to levy a fee after resident complained about the payment of user fees (Smith, 2010).

Nyagwachi (2008: 20) indicates that over 2000 corporations operated toll roads between 1789-1900 in USA as government failed to provide adequate highways. This is supported by Gross (2010: 3), who indicates that during the 1790's, government granted private citizens franchises to build toll roads and bridges. Norment (2002:6) is also of the view that the private sector financed developments of public infrastructure during the 19th century were actually PPPs and cite the Trans-continental railway of the 1860's as an example where government provided a guarantee in the form of land and also provided the land adjacent to the railway for development of settlements so that the railway will have users.

According to Bastin (2003: 5), various railway concessions were awarded to private entities both in the USA and Europe during the 19th century. In Austria, a railway concession for a railway link from Steinach to Ried was only financed after government provided a financial guarantee for its development in 1874. Garvin (as cited in Gross, 2010: 3) also indicates that the US government promoted the development of privately-operated railways in the 1850s by issuing land grants to the developers and the construction of the New York subway back in 1890 was similar to PPPs as we know them today. Italy is reported to be the first country in the world to build the current version of a toll road in 1924 and France in the 1950s. Spain followed in mid-1960s with their motorway programme financed by the private sector and the government playing a thorough oversight role (Nyagwachi, 2008: 20). In South Africa, SANRAL is reported to have pioneered Public Private Partnership projects in the country when

they undertook the N4 Toll Concession for the N4 toll road to Maputo between in 1997 and the N3 Toll Concession for the N3 toll road (Johannesburg – Durban) in 1999. The Public Private Partnership Unit of National Treasury was established in mid-2000, through funding provided by USAID, GTZ and DFID. It was then staffed with professionals recruited from both the public and private sectors (PPPU, 2012).

According to DBSA (n.d), there was some form of public private partnership arrangements undertaken before SANRAL pioneered their PPP projects. In 1990, the Queenstown municipality started seeking partnership with the private sector and in 1992 they signed a 25 year concession agreement with Water & Sanitation Services South Africa for the provision of water and sanitation services in Queenstown. In 1991, the Benoni town council signed a five year management contract with for the provision of Fire & Emergency Services with a company formed by their former Chief Fire Officer. DBSA indicates that FNB estimated that as a result of the agreement, the town council saved over R16 million over the contract period. The company is also reported to have grown and incorporated eleven new subsidiaries, created more than 460 permanent jobs, extended infrastructure and services by 30% and started an emergency fire, rescue and medical training programme for matriculants. The training programme is reported to be registered with the Department of Labour and trains one hundred matriculants each year.

## 2.4 TYPES OF PUBLIC-PRIVATE PARTNERSHIPS

PPPs in South Africa are classified in terms of two categories. The first one involves a private sector entity carrying out the function of a public sector entity. The second one involves a private sector entity obtaining the use of state property for commercial purposes (PPPU, 2007: 8). A PPP with a combination of the above-mentioned two categories may also be formed. The private sector entity then gets revenue either through a direct payment by a public sector entity for rendering services or levying user fees directly to the end users. Alternatively a PPP may be structured so that payment is through a combination of direct payment by a public sector entity as well as levying fees directly to the end users (PPPU, 2007: 8). Treasury Regulations (as cited in PPPU, 2007: 8) allows parties to develop PPPs in accordance with their needs as long as it involves transfer of risk to the private sector entity for the development, operation and maintenance of the services.

Rall et al. (2010: 3) point out that in the USA, PPPs are classified in terms of what type of service required, how it needs to be provided as well as the funding source. When it comes to classifying what kind of service is required, Rall et al. (2010: 4), indicates two basic types which are green-field (development of new infrastructure) or brown-field (operation, maintenance or improvement of existing

infrastructure). A PPP projects may also be a combination of green-field and brown-field in accordance with its requirements. Green-field projects seems to be the most preffered in US transportation sector where most of the PPP projects are undertaken for the development of new infrastructure (Rall et al., 2010: 4).

UNESCAP (2011: 4) classifies PPPs into five broad categories according to the level of service to be provided by the private sector party as well as the amount of risk it bears, with the categories being as follows: Concessions, Lease Contracts, Supply and Manage Contracts, Turnkey Contracts as well as Private Finance Initiative and Private Ownership (*see Figure 2.1 and Table 2.1 below*). From the researcher's knowledge of the South Africa construction industry, the turn-key model is not a PPP. It is a widely practised traditional procurement model whereby the public sector entity simply procures both design and construction services from a single developer instead of procuring design services from the built environment professionals and then construction services from a construction firm.

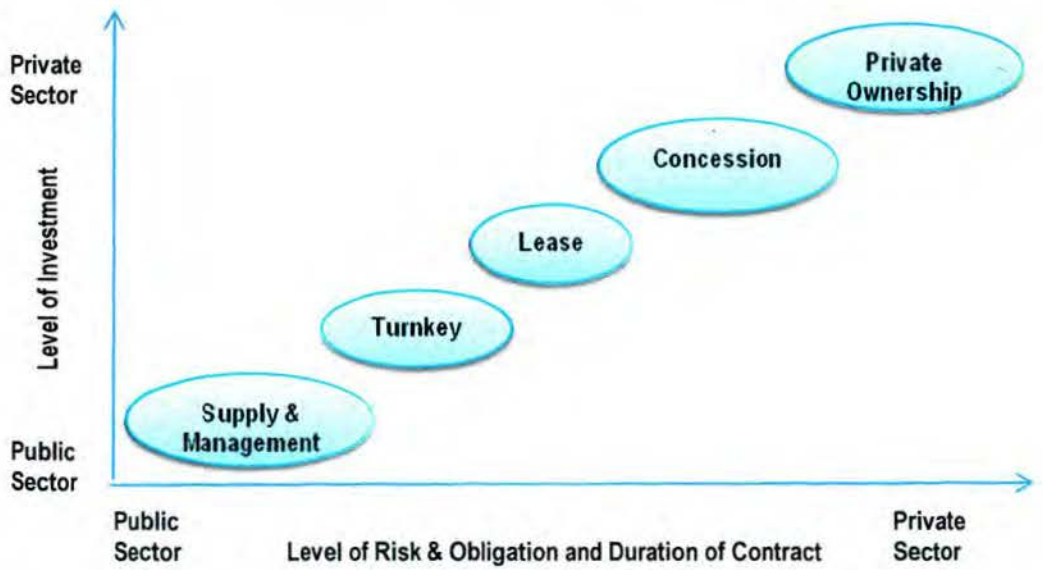


**Figure 2.1: Basic Features of PPP Models**

***(Source: UNESCAP, 2011: 4)***

| Category | Main Variants | Ownership of Capital Assets | Responsibility of Investment | Assumption of Risk | Duration (years) |
|---|---|---|---|---|---|
| Concessions | Franchise | Public/Private | Private/Public | Private/Public | 3-10 |
| | BOT (includes BTO, BOOT, BROT & BLT) | Public/Public | Private/Public | Private/Public | 15-30 |
| Lease Contracts | Affermage | Public | Public | Private/Public | 5-20 |
| | Lease | Public | Public | Private/Public | 5-20 |
| Private Finance Initiative & Private Ownership | BOO/DBFO | Private | Private | Private | Indefinite |
| | PFI | Private/Public | Private | Private/Public | 10-20 |
| | Divestiture | Private | Private | Private | Indefinite |
| Supply & Management Contracts | Outsourcing | Public | Public | Public | 1-3 |
| | Maintenance Management | Public | Public/Private | Private/Public | 3-5 |
| | Operational Management | Public | Public | Public | 3-5 |
| Turnkey Contracts | Turnkey | Public | Public | Private/Public | 1-3 |

**Table 2.1: Classification of PPP Models**

***Source: (UNESCAP, 2011: 4)***

Nyagwachi (2008: 23), Haarhoff (2008: 16) as well as UNESCAP (2011: 6) consider Service and/or Management contracts to be PPPs while Manchidi & Merrifield (2001: 415), also classify Outsourcing as a PPP. These authors argue that Outsourcing, Service and/or Management Contracts involves the public sector contracting out services to a private sector entity and the public sector paying fees for the services rendered. However, treasury regulations highlights that a PPP is not privatisation, outsourcing of government's function or a private party's donation for the benefit of the public. It is a long-term contract which transfers a substantial amount of risk to the private party (PPPU, 2007: 7). The above-mentioned authors also indicate that there is no substantial transfer of risk in the above mentioned contracts. As a result they cannot be classied as PPPs in terms of treasury regulations. For the purpose of this study, PPPs will be discussed only in terms of Concessions; Lease Contracts as well as Private Finance Initiative and Private Ownership.

### 2.4.1 Concessions

In a concession, a private sector entity is granted certain rights to build and operate public infrastructure for a stipulated period and may be required to pay for such rights while public sector party is the ultimate owner of the infrastructure and has the right to supply the service (UNESCAP 2011: 4). Manchidi and Merrifield (2001: 415) support this view and also indicate that a concession may have an

option for the infrastructure to be transffered to the public sector party at no cost at the end of the contract and that in most cases, the concessionaire uses equity to fund the infrastructure and also bear substantial risk. Rall et al. (2010:7) also point out that concessionaires either share revenues from payment of user fees with their public sector partner pay or pay for concession rights, citing examples of the Chicago Skyway project where the concessionaire paid 1.83 billion US dollars for 99 year concession rights as well as the Indiana Toll Road where 3.85 billion US dollars were paid for 75 year concession rights. There is also a view that while the private sector partner also bears the demand risk, it may be shared between the public and private sector partners where the public sector partner underwrites the minimum usage level (ICA, 2009: 9). In developing PPP markets, the public sector party may also inject capital into the project so that it becomes commercially viable and reduces the risk for the investors (UNESCAP 2011: 4).

According to Maluleka (2008: 65), concessions have the advantage of enabling the concessionaire to focus on the end results which allow innovation where the concessionaire may benefit from earning bonuses as a result of the value added to the concession contract value chain. Concessions also put the private sector party in control of development investments and revenues from the end-users (Scribner, 2011: 4). PPIAF (as cited in BizClim, 2009: 4) indicates that the practice of a direct end-user pay concession contract is the most common type of PPP in Africa. According to ICA (2009: 9), this is how the concessionaire can recover their costs for financing the development of the infrastructure and also how they can make profits. Maluleka (2008: 24), indicates that concessionaire levies user fees directly to the consumers while the service terms and key decisions of rates and targets are made by the relevant authority. ICA (2009: 9) has a different view and points out that the rates are either stipulated in the contract or the concessionaire gets to set them. Concessions may be structured according to the following types:

**a) Build – Operate – Transfer ( BOT )**

In BOT, the private sector partner develops the infrastructure then operate for agreed period after which the ownership of the infrastructure is transferred to the public sector partner. This is supported by Haarhoff (2008: 18), UNESCAP (2011: 4), FHWA (2007: 2-10), Alexandersson and Hultén (2007), (FAD, 2004: 8) as well as Nyagwachi (2008: 24), who indicate that BOT is sometimes reffered to as BOOT (Build–Own–Operate–Transfer). Yescombe (as cited in Maluleka, 2008: 66) indicates that Turkey was the first country to develop the BOT concept.

Maluleka (2008: 67), points out that BOT arrangement is the most common concession and Nyagwachi (2008: 24) supports this view indicating that it enables the public sector partner to have strategic control of the project. In 1998, Binnington (as cited in Maluleka, 2008: 67) indicated that a BOT arrangement was the most preffered in South Africa, as it assist government in its drive to develop Previously Disadvantaged Individuals. Maluleka pointed out that BOT concessions have the potential to attract long-term investors in South Africa. UNESCAP (2011; 4) argues that the public sector partner is required to guarantee on the loans secured by its private sector partner and FHWA (2007: 2-10), points out that while the public sector partner carries the operating revenue risk, they also collect any surplus operating revenue. UNESCAP further indicates that a BOT concession contract can be structured according to a minimum concession period for a fixed share of revenue, fixed period for maximum share of revenue, a combination of both or it can only be structured for a minimum concession period.

**b) Build – Own – Operate – Transfer ( BOOT )**

Stacey (as cited in Maluleka, 2008: 69), indicates that in BOOT concession, the infrastructure is held for a long period before being transferred to the public sector. Maluleka (2008: 69) points out that the long duration of the contract is for the investors to realise returns on their invesments. Manchidi and Merrifield (2001: 415) discussed a model termed Lease–Own–Operate (LOO) and argues that it is similar to BOOT, indicating that the only difference is that the private sector partner leases an existing infrastructure which may require, refurbishment or expansion.

**c) Rehabilitate – Operate – Transfer ( ROT )**

According to Sader; Stacey and World Bank (as cited in Maluleka, 2008: 69), the only difference between ROT and BOT, is that in a BOT, the private sector partner rehabilitates an existing infrastructure instead of developing a new one. These views are supported by Nagwachi (2008: 24).

**d) Build – Own – Operate ( BOO )**

According to Nyagwachi (2008: 24), a private sector partner in a BOO owns and operates the infrastructure in perpetuity under a franchise. This view is supported by Haarhoff (2008: 18), Manchidi and Merrifield (2001: 415), FAD (2004: 8), FHWA (2007: 2-10), Mallet (2006: 6) as well as Sader (as cited in Maluleka, 2008: 66). Nyagwachi is of the view that the perpetual ownership of the infrastructure provides a significant incentive to the investors and this is supported by another view from the World Bank (as cited in Maluleka, 2008: 66), which indicates that the infrastructure remains with the private sector partner and thus makes it easier for investors to obtain funding by using such infrastructure as collateral.

Nagwachi argues that while the private sector partner has perpetual ownership, the relevant authority still regulates the rates and the operations, which is supported by Maluleka (2008: 66), who points out that the private sector partner requires an operating license which may be withdrawn as and when necessary. The World Bank (as cited in Maluleka, 2008: 66) also indicates that non-compliance with regulations of the relevant authority can lead to a withdrawal of the license at any time.

**e) Build – Transfer – Operate ( BTO )**

In a BTO concession contract, the private sector partner finances and builds the infrastructure, transfers ownership to the public sector partner once construction is completed and then lease it back from the public sector partner on a long-term lease contract so as to recover their investment from levying user fees (Nyagwachi, 2008: 24). This view is supported by Maluleka (2008: 68) as well as FHWA (2007: 2-10), which also indicates that a BTO contract incentivise the private sector partner to deliver work of high quality. Nyagwachi (2008: 24), discusses about another model termed Lease–Build–Operate (LBO), which works in the manner as the BOT. For the purpose of this discussion, an LBO is considered to be the same as a BTO.

**f) Design – Build – Operate ( DBO )**

In a DBO concession, the private sector partner finances the design and building of the public infrastructure which is then purchased by the public sector partner. Thereafter the private sector partner takes over the operation and maintenance of the infrastructure for a fixed period (Nyagwachi, 2008: 24). This view is supported by Hodge and Greve (as cited in Haarhoff, 2008: 19) and Manchidi and Merrifield (2001: 415).

**g) Design – Build – Finance – Operate ( DBFO )**

According to Haarhoff (2008: 18), the DBFO concession is a 25 to 30 year contract used mainly for the procurement of services with a clear service level agreement which varies payment according to the performance of the private sector partner. The view held by FAD (2004: 8), is that the private sector partner has no obligation to transfer infrastructure ownership to the public sector partner in a DBFO concession. Mallet (2008: 6) points out that the financing of DBFO projects may be supplemented with public funds or servitudes from the public land while FHWA (2007: 2-10) holds the view that the private sector partner is responsible for all the financing or most of it and recovers their investments from operating the facility while the public sector partner is the owner of the infrastructure.

**h) Design – Build – Operate – Maintain ( DBOM )**

FHWA (2007: 2-9) is of the view that the DBOM model encourages the private sector to deliver quality work as they are not only responsible for designing and building the infrastructure but also for its operation and maintenance. Acccording to Mallet (2008:6), the advatage for public sector in a DBOM model is that they get to collect the revenue since they finance the project and also bears the risk.

**i) Design-Build with Warranty ( DB-W )**

FHWA (2007: 2-9) indicates that in the DB-W model the private sector partner guarantees warranty for a period of 5 to 20 years after delivery of the project which reduces the quality control burden on the public sector partner.

**j) Wrap–Around–Addition ( WAA )**

Nyagwachi (2008: 24) is of the view that WAA is a PPP where the private sector partner finances additions to an existing public infrastructure and thereafter takes over the operations of the combined infrastructure for a stipulated period or until they have realised their return on investment. The objective of a WAA is to enable the public sector partner to expand the infrastructure when they have no resources to do so. FHWA (2007: 2-10) indicates that in a WAA contract, the private sector partner purchases or leases the existing infrastructure from the public sector partner, carry out renovation or expansion. Thereafter, they take over the operation and have no obligation to transfer ownership back to the public sector institution.

### 2.4.2 Lease Contracts

Stacey (as cited in Maluleka, 2008: 69) is of the view that a lease contract involves the private sector partner leasing public sector facilities for a stipulated period and carries out the operation and maintenance of the facility at their own costs which are recovered from levying and collecting user fees. This view is supported by UNESCAP (2011: 7), (Nyagwachi, 2008: 24), Haarhoff (2008: 17), Mallet (2008: 6) as well as Kerf et al. (as cited in Maluleka, 2008: 70), pointing out that a concessionaire in a lease contract is not paid any fees by the public sector owner of the facility and thus bears all the risks for the operation of the facility and that their revenue is only generated from the operations of the facility. Mallet also points out that in lease concession, the private sector partner is the one paying concession fees to the public sector owner of a facility. UNESCAP (2011: 7) also supports the afore-mentioned views indicating that a lease concession is also similar to an affermage. Stacey further argues that the private sector partner only carries out specified maintenance without any obligation to invest in the facility. The public sector partner owning the facility is responsible for its capital

expenditure and servicing of its debts. UNESCAP (2011: 7) indicates that lease concessions for fixed facilities and land are long-term contracts, which can be seen from the 99 year lease of the Chicago Skyway as well as the 75 year lease of the Indiana toll road dicussed above where Rall et al. (2010: 3) argue that they have led to a PPP discourse in the USA. However, according to Maluleka (2008: 71), lease concessions are better suited for application in South Africa as this would promote enterpreneurship in the management of South Africa's toll roads.

### 2.4.3 Private Finance Initiative & Private Ownership

According to UNESCAP (2011: 9), the private sector partner in this type of PPP finances the entire development of the public infrastructure and is responsible for its operations. The public sector partner purchases infrastructure services from the private sector partner on a long-term contract. While ownership of the infrastructure reverts to the public sector at the end of the contract, it may be transfered to the private sector partner. The public sector benefits from transfer of risks to the private sector partner who bears the financing cost and is assured of delivery of high quality work since the developer is also responsible for operation of the infrastructure.

## 2.5 FINANCING PUBLIC-PRIVATE PARTNERSHIP PROJECTS

Smith (as cited in Nyagwachi, 2008: 58), argues that PPP projects are financed based on their projected cash-flow as well as revenue which are required for repayment and therefore lenders require projects to be self-liquidating and self-funding as they cannot have any claims beyond the project's asset. According to Nyagwachi (2008: 58); PPP projects are financed through debt and equity. UNESCAP (2011: 40); as well as Estache, Juan and Trujillo (2007: 8), all share the views of the two authors mentioned above. Nyagwachi defines equity finance as the capital injected into the project whereby investors are rewarded with any profits made from the venture and this view is shared by UNESCAP (2011: 40). Lenders include, but are not limited to: Commercial Banks, Pension Funds, Insurance Companies, Investment Banks, Development Banks and Large Corporations (Nyagwachi, 2008: 57).

PPPU (2007:9) indicates that the private sector partner sets up a dedicated project entity known as an SPV (Special Purpose Vehicle), for the purpose of delivering the project (*see Figure 2.2 below for National Treasury's typical SPV structure*). They then provide some initial capital as equity and the rest is debt raised from domestic and/or international markets through the SPV. These views are supported by Estache et al. (2007: 7) as well as FAD (2004: 9), indicating that lenders to the project also become part of the SPV. According to PPPU (2004: 6), the private sector partner is not required to set up an

SPV if they finance the project entirely from their funds but in such cases the financial strength and creditworthiness of the private sector partner needs to be subjected to a due diligence process by the public sector partner. This view supported by Estache et al. (2007: 9), as they point out that throughout the duration of the contract, public sector partners need to monitor the parent companies of their private sector partners whose heavy borrowing may impact on the private sector partners ability to meet their obligations to the project.

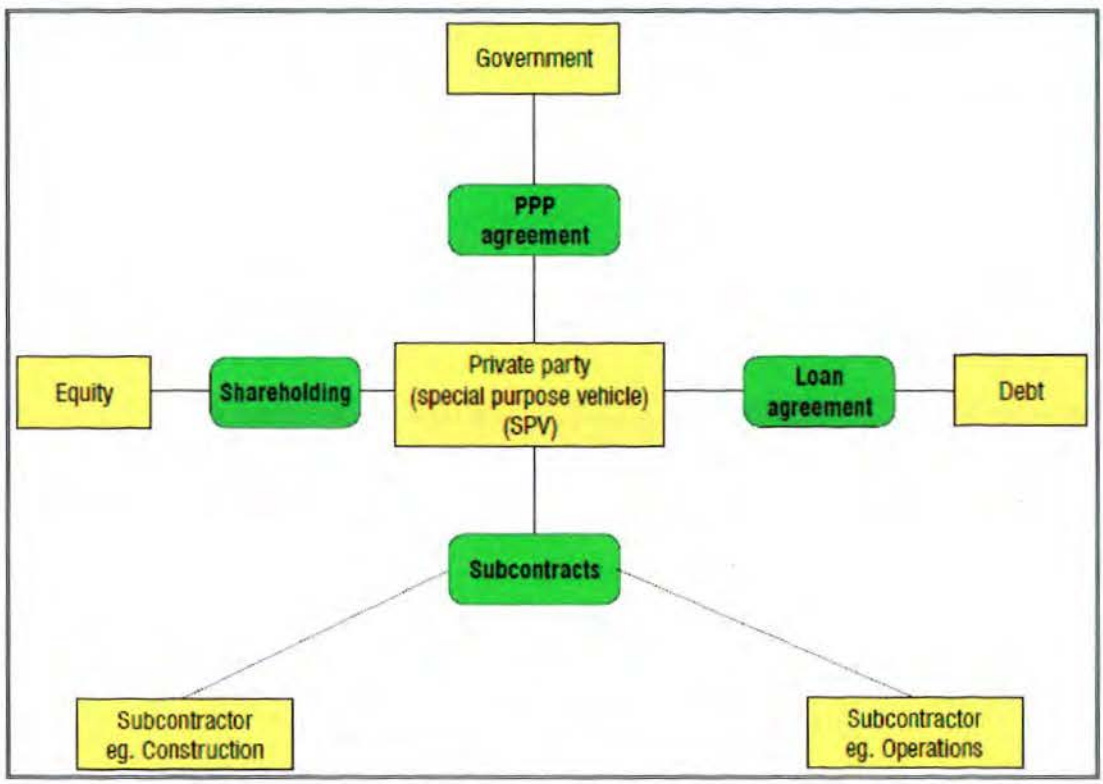


**Figure 2.2: Typical SPV Structure for PPPs**

***(Source: PPPU, 2007: 9)***

PPPU (2007:9) points out that in South Africa, there is no specific financing structure and projects may be funded according to their individual requirements. Some projects may have the public sector partner contributing capital towards the initial project costs while some may be funded entirely by a combination of public funds and private equity without raising any debt. Public funds may also be used for capital as well as operating costs for end-user pay projects. DEA and ADB (2006: 29) point out that in India, the government has enacted legislation which enables them to provide capital assistance of up to 40% for commercial non-viable projects while Rall et. al. (2010: 4) indicates that in the USA, there are mechanisms to reduce the financing costs for the investors. UNESCAP (2011: 48) argues that when PPP projects are not commercially viable for investors but have economic and social benefits for society, governments need to consider various incentives to improve commercial viability.

These incentives may be in a form of revenue guarantees, protection of investors against tariff reduction and shortened concession periods, tax incentives, loan guarantees, performance guarantees, as well as relief of investors in the event of a natural disaster. Estache et al. (2007: 18) supports this view and adds that an equity guarantee may be given where public funds can be used to buy out the private sector partner at an amount guaranteeing a minimum return on equity. Scandizzo (2007: 16) warns that too much guarantees defeat the purpose of private sector participation in the development of public infrastructure. They lead to investors having becoming inefficient in choosing and managing financially sound investments and technological options and furthermore may be too costly for taxpayers and consumers as they do not appear on the fiscal balance sheet.

## 2.6 RATIONALE FOR PUBLIC-PRIVATE PARTNERSHIPS

PPPU (2007: 10) argues that a PPP is an important service delivery mechanism which, when compared to a traditional procurement method, provides the public sector partner with better value for money and that this should be the primary consideration for a decision to use a PPP. The other two considerations are affordability and risk allocation. This view is supported by HMSO (2000: 13); Bastin (2003: 4) as well as UNESCAP (2011: 15), which points out that a PPP is simply a procurement mechanism for a better solution and not a solution to service delivery problems. PPPU also indicates that public sector institutions engaging in PPPs need to ensure that the project has political support and a buy-in from key stakeholders. PPPU cites other considerations for using PPPs in South Africa as rapid development of infrastructure as well as the promotion of BEE whereby the private sector partner risks being penalised if they fail to achieve agreed BEE targets (*see Appendix D for a typical SPV structure which incorporates BEE as indicated by National Treasury*). UNESCAP (2011: 2) also points out that PPPs boost the provision of much needed infrastructure or services.

### 2.6.1 Leveraging Private Sector Capital to Fund Infrastructure

According to IPPR (as cited in Dewulf; Blanken and Bult-Spiering; 2012: 17), the introduction of PPPs is regarded as a mechanism for using private sector capital to provide public infrastructure. This view is shared by HMSO (2000: 13), DEA and ADB (2006: 21) as well as Maluleka (2008: 49), who argues that PPPs should be regarded as a mechanism for obtaining private sector's resources for the purpose of achieving service delivery objectives. Ramanadham (as cited in Maluleka, 2008: 49) warns that failure by the public sector to make use of private sector capital in providing public infrastructure increases the inefficiency of the public sector and also hampers economic growth. FHWA (2007: 2-17) points out the advantage of private sector finance as being an off-balance sheet financing of public infrastructure.

Engel, Fischer and Galetovic (2009: 31) have a slightly different argument. They accept that there is a *prima facie* evidence of PPPs taking the burden off the public infrastructure spending from the fiscus and enabling public funds to be spent on projects that result in high social returns. However, they point out that the resources saved through PPPs are actually offset by loss of future revenue. In their view, the argument for PPPs should be that they provide relief only during periods of severe fiscal constraints in which case governments should not be choosing between PPP and traditional procurement but between PPP and not providing the service completely. The views of Engel et. al. are supported by Forsyth (2010: 10), who argues that the claim of PPPs taking the burden off the public funds is not a genuine benefit since governments are less inhibited by the capital markets when compared to the private sector. They borrow cheaper than the private sector and may borrow to finance projects if they wish to. Forsyth points out that governments are sometimes using PPPs for self-imposed constraints of limiting budget deficit as well as achieving surpluses and that projects have the same macroeconomic impact irrespective of whether they are financed through private sector finance or public funds. Forsyth's argument is challenged by Bastin (2003: 18), who indicates that it does not take into consideration the value of the financial and cost over-runs that occurs in projects financed through public funds.

In an ordinary PPP, the Private sector partner finances the development of public infrastructure through equity as well as raising debt and thus they are encouraged to complete the project on time and within budget (PPPU, 2007: 10). In providing equity and using the debt they raised, the private sector partner ensures that the project is implemented, managed and operated properly to ensure returns on equity and servicing of the debt. Therefore there is rigorous monitoring, control mechanisms as well as due diligence throughout the project to ensure that it stays on track and it is feasible (PPPU, 2007: 12). This view is shared by Manchidi and Merrifield (2001: 417), who argue that the private sector implements capital market discipline and tight budget controls in projects, a thing not done in the public sector. Araújo & Sutherland (2010: 7), also point out that finance obtained from the markets brings in financial expertise for a thorough evaluation of the risks as well as enhanced monitoring in the project.

### 2.6.2 Leveraging Private Sector Skills

Public sector institutions are in short supply of the technical and scarce skills required for specialised projects while the private sector has enough supply of those skills. Therefore PPPs are used to access these skills (PPPU, 2007: 10). According to Manchidi and Merrifield (2001: 416), private sector partners brings with them innovation and efficiency into the construction as well as operation and maintenance of infrastructure. They are exposed to and have access to technology while the same cannot be said of

the public sector. Araújo and Sutherland (2010: 7), point out that private sector partners combine their knowledge as well as technical expertise for the purpose of providing innovative approaches in the project and this ensures efficient results. According to DEA and ADB (2006: 20), the private sector delivers efficient and effective service through modern technology, efficient use of resources as well as better project design.

### 2.6.3 Better Project Planning

PPP projects go through rigorous planning process in accordance with their feasibility studies and thus they are a good way for the public sector to plan projects and align them with strategic delivery responsibilities using well developed business plans (PPPU, 2007: 11).

### 2.6.4 Better Risk Allocation

Where the public sector does not have the relevant skills to manage certain projects over the long term and the private sector has these skills, it is only logical that the private sector take over as they would be able to manage the associated risks. Therefore, a PPP allocate risks to a party which is in a better position to manage them (PPPU, 2007: 11). The same view held by UNESCAP (2011: 3), which indicates that most of the risks are transferred to the private sector partner. Araújo and Sutherland (2010: 7) point out that the private sector has a better appreciation of the risks in a project, their project management expertise is superior to that of the public sector and they frequently demonstrate due diligence on projects. They therefore are in a much better position to carry out risk management. This is supported by Rall et. al.(2010: 10), who argues that project risks are less likely to materialise when allocated to parties best suited to handling them, and that this leads to better risk mitigation as well as a reduction of the general project risk. According to Dewulf et. al., (2012: 17), risk transfer results in improved service delivery. The benefit of bearing construction and operating risks for the private sector partner is that they realizes returns if the risks do not materialize (DEA and ADB, 2006: 21).

### 2.6.5 Transfer of Financial Risks over Project Lifetime

Sponsoring and implementing public sector institutions are liable for delays caused by natural disasters or unforeseen situations in traditional procurement while in a PPP, the private sector partner allows for such delays since they are responsible for operations (PPPU, 2007: 11).

### 2.6.6 Budgetary Certainty

The future cost of the project are specified when a PPP agreement is signed and this enables public sector to budget accordingly as they receive specific outputs at specific costs. In traditional

procurement, the public sector is liable for the costs of completing the project, operating and maintaining the infrastructure and these are not certain. This may lead to the public sector not budgeting accordingly for the operation and maintenance of the infrastructure (PPPU, 2007: 11). The views on budgetary certainty are supported by Alexandersson and Hultén (2007), who argue that the public sector is assured of the costs agreed upon at the time of signing of the contract when the private sector is responsible for the development and long-term operation of the public infrastructure. The possibility of unanticipated huge increases in costs is reduced and this enables the public sector to focus on long-term planning. According to Poulter (as cited in Alexandersson & Hultén, 2007), the results of the studies carried out indicate that on average, PPP projects are less likely to go over budget when compared to traditional procurement projects.

### 2.6.7 Payment on Delivery

It is only when the private sector partner delivers the services that the public sector partner starts to pay and payment is linked to quality of the services. This ensures that the public sector partner does not pay when there are no services delivered or when the quality is unacceptable. The private sector partner is therefore compelled to deliver quality services on time and this is of benefit to the end user (PPPU, 2007: 12). These views are also shared by UNESCAP (2011: 2), which points out that capital investment may not be required from the onset and that PPPs relieve the pressure on the fiscus. HMSO (2000: 12) also supports the view of PPPs benefiting end users and also indicate that the objectives of using PPPs in the United Kingdom are to allow the public to get benefits of PPPs in the form of quality public services.

### 2.6.8 Focus on Outputs & Benefits

The public sector partner focuses only on the required outputs of the project while the private sector partner is responsible for determining how to deliver such outputs (PPPU, 2007: 12). Rall et. al. (2010: 10) also argue that in a PPP, the public sector has an enhanced control on the outcomes of the project by focusing on specifying the required performance standards, holding the private sector financially accountable for achieving them and regulating the contract. Gilroy (2009: 5) is also of the view that PPPs enable the public sector to focus on protecting the public interest and achieve its obligation of ensuring accountability and performance as the PPP contracts encourages high quality work and ensures high performance.

### 2.6.9 Quality Standards Maintained Throughout Project Lifetime

Private Sector partner is compelled to maintain the agreed quality standards throughout the lifetime of the project while in traditional procurement the quality of the service declines over time as the condition of the infrastructure declines (PPPU, 2007: 12).

### 2.6.10 Transfer of Skills to the Public Sector

PPPU argues that it is the interest of the private sector to develop skills to assist the public sector; hence skills transfer and capacity building are included in PPP contracts (PPPU, 2007: 12).

## 2.7 ADVANTAGES/BENEFITS OF PUBLIC-PRIVATE PARTNERSHIPS

### 2.7.1 Accelerated Project Delivery

Engel et. al. (2011: 9), Rall et. al. (2010: 9), Munya (2010: 6), Gilroy (2009: 4) as well as FHWA (2007: 2-17) are all of the opinion that PPPs enable the public sector to develop infrastructure which would have been postponed or never even developed as a result of the fiscal constraint. FHWA argues that this avoids inflationary cost increases on planned projects. An example provided by Gilroy (2009: 7), is that of the South Bay Expressway in San Diego which had been planned for since the 1950's but had no funding to implement it and it was only developed in the early 2000s after government embarked on a PPP.

### 2.7.2 Better use of existing Infrastructure

Rall et. al. (2010: 9) hold the view that PPPs that involve up-front payments or revenue sharing agreements can make better use of existing public infrastructure and provide an example of the Chicago Skyway project where the City of Chicago paid off some of its general debt as well as the Skyway's (freeway) outstanding debt from the 1.83 billion US dollars concession fees they received from the payment of the 99 year concession rights. This is supported by former Minister of Transport, Dullah Omar who indicated during the launch of the N3 Toll Concession in 1999 that, as part of the concession contract, the concessionaire took over the state's R1.38 billion outstanding debt on the N3.

### 2.7.3 Cost Savings

Engel et. al. (2011: 9) as well as Munya (2010: 6) argue that the concession contract of the development of express lanes on in California provides proof that PPPs can lower construction and operations costs as the concessionaire improved traffic management during construction which resulted in reduced construction time and eventually costs. According to Munya, there is an estimation that the relevant authority would have taken five more years with budget over-runs to complete to

develop the lanes while TOLLROADS news (as cited in Engel et. al., 2011: 9), highlighted that the concessionaire's operating costs during their first four years of operations were largely reduced by replacing public sector workers earning US$20 per hour with workers paid at US$12 - US$15. Rall et. al. (2010: 9); also argues that there is existing data which shows that PPPs provides significant saving in costs and time as a result of the contractual performance agreements and efficiencies on the part of the private sector developers. They however, warn that some developers simply lower their costs by reducing employee numbers and wages.

Alexandersson and Hultén (2007) as well as FHWA (2007: 2-17) hold the view that PPPs saves costs and time as a result of the bundling of the design, construction and future service provision in a single contract. Such bundling offers the private sector developers economies of scale and encourages innovation to achieve efficiency through the life-cycle approach. Engel et. al. (2011: 9), Munya (2010: 6) as well as FHWA (2007: 2-17) all argue that the time saving incentive in concession contracts is that the earlier the project is completed , the earlier the developer gets to earn revenue from the operations.

### 2.7.4 Efficiency

Engel et. al. (2011: 8) argue that the bundling mentioned above makes PPP projects efficient as the developers would build in a manner that ensures lower maintenance and operation costs which result in efficiency gains. This argument is supported by Rall et. al. (2010: 10), who states that bundling, saves up to 40% of the costs and there is an assertion that efficiency also results from a better collaboration brought by integrated delivery approach of PPP projects. According to Gilroy (2009: 7), PPPs are efficient as the private sector partners bring in specialised management and equipment to reduce costs and improve operations. In addition they have incentives for managers to achieve performance target at lower costs. FHWA (2007: 2-17) points out that PPPs are efficient as private sector partners are inspired to increase productivity for the purpose of higher returns. They also implements yield and demand management whenever capacity is inadequate and expensive.

### 2.7.5 Flexibility

According to Gilroy (2009: 6) and FHWA (2007: 2-18), one of the benefits of PPP projects is that concession contracts can be structured in accordance with specific needs, goals, outcomes and capabilities of the parties involved. Gilroy (2009: 7) makes an example of availability payment concessions, where the private sector partner finances the development and operations of toll roads but the public sector partner collects the toll fees and compensates the private sector partner

throughout the lifetime of the project. According to Gilroy, this kind of arrangement is seen as being more politically attractive than when the private sector partner collects the tolls and retains the revenue.

### 2.7.6 Improved Service Delivery & Quality

Gilroy (2009: 6) argues that PPP projects provide improved service delivery and quality which emanates from the private sector partners being quick to implement customer friendly approaches as they are customer orientated and less inhibited by political pressure. On the other hand, Alexandersson and Hultén (2007) are of the view that improved service quality is as a result of PPPs offering the public sector partner the opportunity to properly specify and regulate the level of service provided while the private sector partner brings in specialised expertise and technology.

### 2.7.7 Innovation

Munya (2010: 6) and Gilroy (2009: 6) hold a view that PPP projects come with innovation. They cited an example of the concession contract for the development of Express Lanes in California where the concessionaire introduced variable toll system which eliminates traffic congestion during peak periods and maximises throughput while maintaining high speeds. Gilroy also cited an example of the concessionaire on the Capital Beltway project in northern Virginia who used value engineering to add the same physical capacity on the freeway at one-third of the costs initially estimated by the Virginia department of transport.

## 2.8 DISADVTANTAGES/LIMITATIONS OF PUBLIC-PRIVATE PARTNERSHIPS

### 2.8.1 Lack of Accountability & Transparency

Engel et al. (2011: 7) are of the view that PPPs lack transparency as they create a false impression that funding is readily available for the development and maintenance of infrastructure while this is not realistic as such funding is recovered either from user fees or future taxes. They point out that the public sector needs to take into consideration the costs of PPPs as the notion of PPPs relieving fiscal constraints can lead to current governments spending excessively at the expense of the future. Their proposal is that PPPs be included in government's balance sheet as public investment to reduce overspending.

Engel et. al. (2009: 33) hold another view that PPPs do not relieve fiscal constraints. Instead they change the timing of the public sector's expenditure as guarantees provided by the public sector are never included in the fiscal budget despite creating future expenditure obligations. They only get recorded when they are being paid out and this often leads to an increase in expenditure. Hemmings

(as cited in Engel et. al., 2009: 33), argues that guarantees in PPPs are concealed under current accounting standards and they are not recorded properly in most countries. They therefore need to be accounted for accordingly. Araújo and Sutherland (2010: 8) warns that the public sector could use PPPs to disguise fiscal constraints in which case the outcome will be an undesirable one. According to the OECD (as cited in Araújo & Sutherland, 2010: 8) the long-term impact of PPPs on public finances must be based on thorough and transparent evaluation. This view is supported by UNESCAP (2011: 3) which indicates that a PPP may have underlying fiscal costs as well contingent liabilities, and these needs to be taken into consideration.

Rall et. al. (2010: 12) argue that transparency of PPPs is the main concern for 30% of the respondents in a recent survey of states departments of transportation in the USA, where the majority considered it critical in the protection of the public interest. There are concerns that the confidentiality requirement arising from the need to protect the bidder's proprietary information and the public sector's negotiating position during the proposal stage does not provide for sufficient public input as well as the legislative review. While the partners need to be transparent and honest in their dealings with the public, Mitchell D. (2007: 17), points out the need for both public and private sector partners to be also transparent and honest with each other by clearly stipulating their interests from the beginning of the process so that these are incorporated into the contract. Innes and Booher (as cited in Munya, 2010: 7) state that the PPP model itself limits access to information which leads to lack of accountability in decision making and meaningful public participation. According to Munya (2010: 7), three PPPs studied in Australia, the UK and the USA indicated that key information about non-competition clauses, concession payments and toll rate escalation was withheld from the public during the public participation stage. DEA and ADB (2006: 21); also point out that according to many PPP experts, flawed, hasty, non-competitive and non-transparent application of PPP principles is what leads to the failure of some of the PPP projects.

### 2.8.2 Change in Stakeholders

Mitchell D. (2007: 16) highlights that a PPP may be compromised by a change of guard and cited an example of the Siza Water PPP in the KwaDukuza Municipality's area of Ballito. There was a change of guard in both the public and the private sector partners. Responsibilities of the public sector partner became diluted every time there was a change of guard in the public sector and this led to the current public sector partner being entirely dependent of the performance standards set by the private sector partner.

### 2.8.3 Complicated Contracts

According to Alexandersson and Hultén (2007), PPP projects are generally complicated as they have to deal with the development as well as operation and maintenance phases which are different in character and have different demands. Klein (as cited in Alexandersson and Hultén, 2007) argues that what complicates PPP contracts is the difficulty in covering all the effects and risks within a large and long-term project. Mitchell D. (2007: 14) also argues that PPP contracts are complicated and this discourage South Africa's municipalites from engaging in PPPs and points out that the design of the PPP contract needs to optimise the skills and capacities of both public and private sector partners to avoid hampering of service delivery as well as the disintegration of the partnership at a later stage.

### 2.8.4 Higher Costs of Capital

Alexandersson and Hultén (2007) are of the view that PPPs have a higher cost of capital as the private sector partners needs to be compensated for covering most of the risks. However, they point out that a private sector partner may achieve lower cost of capital if they have guarantees from the public sector partner. This view is shared by Forysth (2010: 9), who argues that while the private sector partner is well conversant with management of risks, they have limited chances of spreading the risks as compared to the public sector and this leads to them having higher costs of bearing the risks.

### 2.8.5 Lack of Capacity

According to PPPU (2007: 23), both public and private sectors in South Africa are under-capacitated in the application of PPPs. The public sector is under-capacitated when it comes to the proper implementation and management of PPPs while the private sector is under-capacitated in the development of the PPP market. This view is shared by Ngamlana (2009: 16), who points out that the implementation of PPPs is affected by lack of resources within the PPPU while Osborne ( as cited in Haarhoff, 2008: 35), attributes the failure of PPP projects in South Africa to sponsoring departments being unable to enforce agreements. Mitchell D. (2007: 13) also shares this view and points out that the public sector partner usually has limited institutional capacity and experiences difficulties in DEA and ADB with legal requirements of PPPs which sometimes cripples the partnership. This is supported by Rall et. al. (2010: 13) who argues that there is a general concern about the public sector's ability to carry out a thorough analysis of PPP projects and negotiate contracts that are in the public interest

### 2.8.6 Lack of Monitoring

Mitchell D. (2007: 14) is of the view that most of the traditional PPPs have insufficient or non-functional monitoring systems and indicates that monitoring should be performed by a body independent of both

the public and private partners. Once again citing the example of the Siza Water PPP in the KwaDukuza Municipality's area of Ballito, Mitchell D. highlights that the partnership initially had a proper monitoring system in place which was performed by independent bodies. Over time, this fell away as the PPP experienced changes of its public sector partners.

### 2.8.7 Loss of Public Control & Flexibility

Rall et. al. (2010: 11) points out that while it is said that PPP contracts improves public control and accountability, there is an argument that a contract exceeding 35 years cannot be crafted well enough to determine the future needs of the public and the contingencies. Thus the public sector would not be able to make further policy decisions affecting the infrastructure and its users for the duration of the contract. They point out that while contracts may include the termination or buy-back clause, this will be at the detriment of the public sector partner. According to Rall et. al. (2010: 12), the public sector in the USA has been accused of losing future public revenue to the private sector in brown-filed concessions. Alexandersson and Hultén (2007), argues that the long-term contracts offers reduced flexibility which comes at the detriment of the public sector as profitable projects do not get renegotiated while all loss-making projects may be renegotiated or terminated.

### 2.8.8 Lack of Political Support

A survey carried out by Ukhamba and Castalia Advisory Services (as cited in Ngamlana, 2009: 16), revealed that the respondents felt that there was no clarity as to whether political principals support the general use of PPPs, whether they support it in certain sectors only or under certain situations. Ngamlana (2009: 16) argues that National Treasury regards PPPs as an alternative procurement mechanism which offers value for money and transfers substantial risks to the party best suited to managing them while most of the organs of state incorrectly regard PPPs as a mechanism to finance service delivery. According to Mitchell D. (2007: 16), lack of political support is a national issue affecting PPPs and this is caused mainly by lack of proper understanding of PPPs as well as concerns about job losses and retrenchments.

### 2.8.9 Negotiations

Ngamlana (2009: 16) argues that there is a general scepticism of the private sector partner during negotiations as they are expected to use the prolonged negotiation phase to outmanoeuvre the public sector. Engel et. al. (2011: 12), argues that re-negotiations in PPP contracts sometimes occur after the contract has been awarded, always seem to favour the private party, are used to avoid fiscal controls and they bind future public sector administrations financially. Engel et. al. (2009: 35), also cited the

experience of re-negotiations in the USA where there had been 111 re-negotiations by 2007 and each concession was renegotiated over four times. Most of the re-negotiations took place after the contract had been awarded.

### 2.8.10 Restriction of Competing Facilities

According to Munya (2010: 7), most of the concession contracts forbid the public sector partner to develop a competing facility within the vicinity of the facility under the concession. This view is shared by Rall et. al. (2010: 11), who points out that brown-field concessions mostly include the non-compete clause which inhibits the public sector's ability to deliver services and as a result, there is a shift towards limited compete and compensate clause.

### 2.8.11 Lack of Understanding of PPPs

According to PPPU (2007: 23), there is a general lack of understanding of PPPs within South Africa's public sector and this need to improve so that the public sector can understand how to pursue PPPs and complement traditional procurement. This has been discussed in ***Lack of Political Support*** above where it was indicated that most of the organs of state regards a PPP as a mechanism for financing service delivery instead of an alternative procurement mechanism. Mitchell D. (2007: 18) points out that there is a lack of understaning of PPPs potential to contribute significantly to economic development as well as service delivery. This lack of understanding can also lead to smaller and less resourced state organs embarking on PPPs which cause them to hand over profitable assets to the private sector and lose their potential profits (Mitchell D.,2007: 17).

### 2.8.12 Unsolicited Proposals

According to Rall et. al. (2010: 11), there is a concern that unsolicited proposals leads to the public sector engaging in projects which only benefit the private sector and are of no benefit to the public while there is a view that unsolicited proposals lead to innovation. Munya (2010: 7), also points out that unsolicited proposals enable the public sector to supplement traditional planning processes.

### 2.8.13 Bankruptcy or Default

Rall et. al. (2010: 12) argue that there are concerns about how the public sector would be affected by a default on the part of a private partner in long-term concessions. They cited recent examples in the USA where concessionaires filed for bankruptcy.

## 2.9 CONCLUSION

In terms of the literature review carried out, the common characteristics in the definitions of PPPs are that the partnership has to be between a public and private sector (this is the very foundation of term PPP itself), that the partnership is formed for the purpose of providing a public service for a specific period and that the private sector generates revenue for the services rendered while carrying the associated risks for rendering such service, a win-win situation since chapter one has already indicated the challenges and the backlogs faced by the public sector in the development and maintenance of infrastructure.

The discussion on the origins of PPPs indicates that South Africa, having only embarked on PPPs during the last decade of the 21st century, is a newcomer to this practice while PPPs originated in the USA during the 17th century when they were first implemented in the transportation sector. Their form continuously evolved during the 18th and 19th centuries as they were intensified. The literature has also revealed that some countries seems to consider Supply and Management as well as Turnkey contracts as PPPs, which in the South African context are not PPPs as defined in Treasury Regulations. The Built-Operate-Transfer concession and its variations are the most common types of PPPs in South Africa.

PPPs have a very flexible financing structure which can be adapted to suit any situation in any country. Countries like the USA and India have a developed PPP market where there is legislation to make it easier for private sector partners to become involved in PPPs. While some of the authors of the literature reviewed are of the view that PPPs provide relief from fiscal constraints, some have pointed out that this is merely a delay of expenditure on the part of the public sector as the investments on PPPs is recovered through user fees or direct payment from public funds by the public sector partner at a later stage.

The rationale for PPPs and its benefits shows that when properly understood, they have the potential to contribute significantly to the development of infrastructure. However, South Africa's PPP market has not developed and there is general lack of capacity for implementation of PPP contracts and these are generally complicated. Sub-Saharan Africa in general, experiences challenges with regard to the implementation of PPPs in the transportation sector (*see Appendix E for an overview of PPP experience in the Transportation Sector in Sub-Saharan Africa as indicated by BizClim, 2009: 4).*

# 3. CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

## 3.1 INTRODUCTION

This chapter will deal with the purpose of the study, the research design used as well as the sample design. According to TRAC (2011), the main aim of the establishement of the MDC was to stimulate trade and investment within the route as well as provision of access to global markets at the Maputo port. This was because the Maputo port is closer to Gauteng, Limpopo and Mpumalanga provinces than the ports of Richard Bay and Durban. The establishment of the Maputo Development Corridor is regarded as a revival of the trade corridor which began in 1838 and was destroyed by the Mozambique civil war in the 1980s. At the time, the road to Maputo along the corridor in Mozambique became known as the road through hell as road users were constantly attacked by criminals who took advantage of the instability created by the civil war (Smith J. , 1996).

## 3.2 PURPOSE OF THE STUDY

As indicated before in Chapter 1, the Maputo Development Corridor is an Investment in Infrastructure through Public Private Partnerships. Its key elements are the road, the railway line, the border posts as well as the port of Maputo. Therefore the main aim of this study is to analyse the impact of the Maputo Development Corridor.

## 3.3 RESEARCH DESIGN

Mouton (2001: 55-56), points out that research design is a plan of how one aims to carry out the research. Its focal points being the type of study planned, the outcome sought as well as evidence required to address the research question in a sufficient manner. According to Yin (as cited in Nyagwachi, 2008: 104), a research design is a coherent cycle that links the empirical data collected to original research questions and its conclusions. This study is a secondary research and contains no primary data except for a written response from Intercape, a luxury passenger bus operator running a daily bus service between Johannesburg and Maputo. This study is; therefore, based on existing data of Public Private Partnerships, the Maputo Development Corridor, the users of the corridor, the region in which it is located as well as the communities located along the corridor.

## 3.4 SAMPLE DESIGN

### 3.4.1 Population

The population of the data for this study consists of studies carried out and reports compiled by academic institutions, individual scholars, experts, development institutions and professional

associations, various documents obtained from the MCLI website, on-line newspaper articles and speeches by government leaders as well as internet articles on PPPs and on the MDC.

### 3.4.2 Units of Analysis

The objectives of the study form the units of analysis.

### 3.4.3 Sampling Method and Size

The research sample consists of over 150 articles in the above-mentioned population. A wide range of documents addressing the objectives of the study were obtained in order to present a picture that is as close as possible to being a true reflection of the MDC.

### 3.4.4 Data Collection

All data was sourced on-line with the exception of the MCLI 2011 review report which was received from the MCLI as well as a written electronic response from Intercape. All role players involved in the MDC were identified and as much data as possible was obtained from their websites.

### 3.4.5 Data Analysis

As indicated above, the five objectives of this study forms the units of analysis. They will be analysed in terms of the literature reviewed and the data collected. Since this study is a secondary research, it will make use of secondary data analysis method. According to the CSU (2012), the benefit of secondary data analysis is that the use of its data is flexible as it can extracted according to one's own needs. However, CSU warns that secondary analysis can be employed in a negligent manner where one exploits it in such a manner that it diminishes the validity of the original study.

### 3.4.6 Data Validity & Reliability

All reasonable attempts were made to ensure the integrity of the data as much as possible. This was done by collecting the greater portion of the data from organisations involved in the MDC as well as professional associations, well established research institutions and government website. The integrity of the data from these organisations is deemed to be guaranteed.

### 3.4.7 Research Limitations

This study is only limited to the PPP and MDC data that is freely available online as most of the role players contacted could not provide any additional information. Any availability of additional data may yield findings which are different to the ones contained in this study.

# 4. CHAPTER 4: DATA DISCUSSION

## 4.1 INTRODUCTION

This chapter discusses the data collected. The data is discussed in terms of the objectives of the study which are as follows: Study Objective 1 is the analysis of the rehabilitation of the MDC's core infrastructure, Study Objective 2 is the analysis of the investment made in the corridor up to date, Study Objective 3 is the analysis of the opportunities created by the rehabilitation of the corridor, Study Objective 4 is the analysis of the general approach to development in the corridor and lastly Study Objectives 5 in the analyses of how developments in the corridor are impacting on disadvantaged communities along its path.

## 4.2 REHABILITATION OF THE INFRASTRUCTURE

### 4.2.1 MDC Toll Road: Pretoria – Maputo

The N4 toll road is a cross-border toll route connecting Pretoria in South Africa to Maputo in Mozambique (*see Appendix F for the N4 route map*) and stretching over a distance of 503km with six toll gates (TRAC, 2010). It is operated by TRAC under a 30 year BOT concession contract which was worth R3billion when it was signed in 1997, and the road is scheduled to be handed back to SANRAL of South Africa and ANE of Mozambique at the end of the contract. The two agencies maintain the ownership of the land on which the road is built. TRAC is a consortium of three construction companies, namely Basil Read and Stocks & Stocks of South Africa as well as Bouygues of France (TRAC, 2011).

The toll road was financed from 20% equity and 80% debt where TRAC raised R331million worth of equity and the debt raised from the South African Infrastructure Fund, DBSA, FNB, Nedcor, Standard Bank, Rand Merchant Bank Asset Management, ABSA as well as the Mine Eployees and Officials Pension Funds. TRAC guaranteed the equity while governments of South Africa and Mozambique guaranteed the debt jointly and severally (Farlam, 2005: 10).

Construction of the N4 toll road commenced in June 1998 and included the following: construction of 56km of a completely new road in Mozambique, widening and rehabilitation of 46km section, complete reconstruction of 120km, rehabilitation of 198km as well as addressing maintenance backlog on 84km section of the road (SANRAL, 2002: 18). The construction period was estimated at 42 months. However, the road was completed after 34 months in March 2001, 8 months ahead of schedule (SANRAL, 2001: 12).

It is well known that overloaded heavy vehicles damage the road and reduces its lifespan. According to Meeuws (2004: 29), the concession contract for the N4 toll road did not provide for load control and by 2004 overloaded trucks had already caused a R200 million damage to the South African part of the road. Discussions held to with regard to the claims for this damage ended in an agreement where TRAC would assist the authorities with load control measures. TRAC also held discussions with the authorities in Mozambique to address overloading which had already caused damages worth R18 million to the Mozambique part of the road.

Through SANRAL, TRAC introduced overloading control strategy which resulted in an impressive reduction of overloading on the MDC toll road. This strategy consisted of traffic control centers, sophisticated software and a network of measuring points. Overloaded trucks are placed in the holding yard until the loading is rectified or the owner sends a new truck, which causes lots of delays for overloaded vehicles. An independent engineer auditing the system indicated that it was this delay that discouraged freight operators from overloading their vehicles (Venter, 2004).

Farlam (2005: 10) points out that TRAC faced demand risk as the traffic volumes were not as high as the project finaciers predicted. In Mozambique, communities were poor and unwilling to pay the toll fees, which created user pay risk. TRAC then used the toll revenues earned from South Africa to cross-subsidise Mozambique. Discounts were also provided to local users and public transport in both countries. AfDB and OECD (2006: 396) indicate that traffic on the N4 toll road had been rising at 6% annualy since the road was completed due to traffic from the Mozal and industrial parks, with volumes reaching 60 000 vehicles per day, while according to MCLI AGM Minutes (2007: 2), a slightly different version of annaul traffic growth given by TRAC was that vehicle traffic grew by 5-7% since 1998 while truck traffic grew by 10% (*see reported traffic volumes in Tables 4.1 and 4.2 below*).

| **Toll gate** | **2009/10** | **2010/11** |
|---|---|---|
| Diamond Hill | 529116 | 566091 |
| Middelburg | 845850 | 945374 |
| Machado | 405138 | 436094 |
| Nkomazi | 384857 | 408714 |
| Moamba | 162488 | 176094 |
| Maputo | 1837350 | 1846845 |

**Table 4.1: Traffic Volumes for Passenger Vehicles**

***Source: (MCLI, 2011)***

| Year | Class 2 (Medium Heavy Vehicles) | Class 3 (Large Heavy Vehicles) | Class 4 (Extra Large Heavy Vehicles) | Vehicles/day |
|---|---|---|---|---|
| **2000** | 22023 | 5447 | 12219 | 265 |
| **2001** | 48990 | 12176 | 31810 | 255 |
| **2002** | 48912 | 13089 | 48244 | 302 |
| **2003** | 45211 | 12481 | 45083 | 282 |
| **2004** | 35498 | 14134 | 52532 | 280 |
| **2005** | 28842 | 14471 | 52037 | 261 |
| **2006** | 31407 | 16504 | 48552 | 264 |
| **2007** | 34042 | 18492 | 90339 | 431 |
| **2008** | 36810 | 30004 | 90339 | 431 |
| **2009** | 40320 | 33322 | 101315 | 479 |
| **2010** | 47003 | 26005 | 143153 | 592 |

**Table 4.2: Traffic Volumes for Freight**

***Source: (MCLI, 2011)***

Since 2006, TRAC has been busy with new and additional work on the road which included resurfacing in Maputo where they were already experiencing overloading damage, resurfacing in Machadodorp, addition of an extra lane in both directions from Wonderfontein to Belfast, resurfacing of the concrete section near Middelburg toll plaza, construction of a pedestrian bridge in Maputo as well as the erection of street lights in Mozambique. In addition, they were also testing camera systems to prevent corruption and dedicated toll lanes to relieve traffic congestion at the Maputo plaza (TRAC, 2007).

The Road Freight Association indicated their challenges on the MDC as too much border controls, curfew on road usage, legislative move to rail, extreme road user charges as well as too much load control and delays. The benefits they were receiving were indicated as a shorter distance to a deep water port/harbour as well as a high quality and well maintained road (Kelly, 2007). Another benefit for the road freight operators indicated by AfDB and OECD (2006: 396), was that the trucks entering Mozambique at the Ressano-Garcia border post were not required to pay border tax.

In 2008, TRAC reported that they have already spent R3 billion on the toll road since 1998 and that they have budgeted to spend another R3 billion for the remainder of their concession contract. They place the maintenance cost of the road at R6,000 per kilometer per month and reported that various improvements and upgrading activities were in progress. TRAC has also launched a 24hour roadside assistance with accident response and emergency support services for all users of the toll road. They also weighed 1.4million vehicles since 2002 and 90,000 vehicles were fined a combined R100 million for overloading (TRAC. 2008). By 2010, TRAC has already completed the additional upgrading of the

toll road. They also developed a R900 million bypass route around Nelspruit, which releived traffic congestion and shortened travelling times for the toll road users (SANRAL, 2010: 24). The cost of the bypass route was later reported as R750 million (SANRAL, 2011: 24).

### 4.2.2 MDC Railway Line

The Maputo Corridor railway line is regarded as the shortest railway line linking Botswana, South Africa's four provinces (North West, Gauteng, Limpopo and Mpumalnaga), Swaziland and Zimbabwe to a deepwater port. The MDC railway lines on the South African part are operated by Transnet. They were in a good condition. Rehabilitation was only required on the Mozambique side and it did not start as smootlhy as the road did. A Transnet led consortium was named as the preffered bidder for the rehabilitation in December 1997 only for the negotiations to break down in February 1999 (MCLI, 2012).

Although the MDC railway line in Mozambique is the 90km line from Ressano Garcia border post to the Maputo Port, its concession contract package also included the Limpopo line to Zimbabwe and the Goba line to Swaziland. The lines needed to be rehabilitated and also provided with signalling equipment as well as rolling stock as a result of a two decade sabotage by South Africa's apartheid government (Bek and Taylor, 2001: 3). In December 2002, a 15 year concession contract was awarded to an international consortium led by New Limpopo Bridge Projects Investments together with Transnet and CFM. This contract also included the railway line to the port of Matola (MCLI, 2012).

The railway line from Ressano-Garcia to the port of Maputo was reported to be fully operational by 2004, yet it was also indicated that the concessionaire is still to rehabilitate the line and improve it to the same standards as the South African railway network. Issues with regard to the use of rail transport in the MDC included long turnaround times and rates were higher than competing corridors. Customers considered it unrealible as there was no regular trains to Maputo, insufficient capacity for fruit shipment, security of the cargo was not assured and railways preffered bulk than container freight (MCLI: 2004).

CFM reported that they were working together with Transnet on the Ressano-Garcia to Maputo line where they had experienced an increase in rail traffic and they were scheduled to increase the number of trains per week. They also pointed out that they would be able to run longer and heavier trains once rehabilitation of the line was completed (MCLI AGM Minutes, 2007: 2). The rehabilitation of the Ressano-Garcia to Maputo line was completed in May 2008 and this led to an improvement in the movement of rail cargo. An airbrake system was also installed which enabled the doubling of previous capacity. However, additional locomotives and wagons were still to be procured (Picanyol, 2009: 13).

In 2010, it was reported that the MDC still did not have sufficient railway linkages to the Maputo port, turn-around times for trains was 20 – 40 days and the trains were not operating on regular basis. In addition, there was no rail passenger service from South Africa into Mozambique (The World Bank, 2010: 118). Transnet reported that they would be increasing the train services between South Africa and Mozambique and that they were also working with CFM and Swaziland railways on various interventions to ensure increased regional trade. The organisation also indicated that they were looking into playing a bigger role in the MDC by investing in the railways and port concessions in Mozambique (MCLI AGM Minutes, 2010: 2). In June 2011, it was reported that Transnet had drastically cut down the turnaround time for trains on the MDC from 200 to 90 hours. The MPDC Chairman and CEO of a South African logistics and shipping company was qouted indicating that there is a huge improvement in efficiency, and that their terminal at the Maputo ports is operating at full capacity as a result of intervention by Transnet (Allix, 2011). In September the MCLI indicated that there were still challenges with rail transportation and that the situation was desperate. They called on Transnet to provide vibrant and responsive rail service on the South African side of the border (Phosa, 2011). However, MDC's challenges with rail transportation are on the Mozambique side as discussed above.

### 4.2.3 MDC Ports

In 1997, the government of Mozambique invited international bidders for the financing, rehabilitation, operation and upgrading of the Maputo and Matola ports. MPDC was named as the preferred bidder in 1998 for a 15 year concession contract. The consortium was 51% owned by Mersey Docks Group of the United Kingdom, Skanska of Sweden and Liscont of Portugal while the remaining 49% was owned by the Mozambique government, broken down to 33% by CFM and 16% by the central government. The MPDC only began its operations of the ports in April 2003 after facing challenges which were eventually resolved with the assistance of the World Bank and other stakeholders (Picanyol, 2009: 7).

In 2004, Engineering News Online reported that delegates from the South African automotive industry visited the port of Maputo to assess the viability of using it and their findings were that as a result of the MDC, the benefits of using the port outweighed the challenges the port development was facing at the time (Rota: 2004). By the end of the year MCLI reported that significant progress at the Maputo port where 40million US dollars had already been spent on new security systems, new cargo handling equipment, new ferrow slab, new port entrance and access to the toll road, upgrading and construction of warehouses and terminals, recruitment of new personnel and training programs, new tugs and wharf upgrades as well as dredging of channels and 24 hours marine services (MCLI: 2004).

Farlam (2005: 13) pointed out an increase from 4.3 million tons in 2002 to 5.54 million tons in 2004 at the Maputo harbour where the port experienced a 25% increase in the export of first class citrus fruits. According to AfDB and OECD (2006: 396), major South African exporters were already using the Maputo port due to distance and congestion of the Durban and Cape Town ports. By 2007, MPDC reported that the port had an annual growth of 12 – 16% since 2003, which had slowed to 2% due to a scanner being introduced at the port (MCLI AGM Minutes, 2007: 3).

According to The World Bank (2010: 118), congestion at South Africa's ports is not enough to get shippers to use the Maputo. Firstly, South Africa is develping the Port of Ncqura (a deep water port in Port Elizabeth which has since become operational), which is large enough to serve as a hub for the entire Southern Africa. Secondly, many shippers regards Mozabique's business climate as unpredictable and corrupt. Thirdly, the Maputo port has no advanced computerised system, and they have a compulsory scanning fee. Lastly, the Maputo port is inadequate to handle large vessels.

### 4.2.4 MDC Border Infrastructure

There are four border posts along the MDC. The first one is the Lebombo/Ressano Garcia border post on the South Africa/Mozambique border. This border could be regarded as the main border on the corridor while the rest feed into it. The second one is the Namaacha/Lomahasha border post on the Mozambique/Swaziland border. This border is situated on the north-eastern corner of Swaziland. The third one is the Jeep's Reef/Matsomo border post on the South Africa/Swaziland border, located 60 km south of the town of Malelane in the Mpumalanga Province. The fourth one is the Mananga border post also on the South Africa/Swaziland border and it is located 70 km south of the town of Komatipoort in the Mpumalanga Province (MCLI, 2012).

Preliminary designs for a one-stop border post at Lebombo/Ressano Garcia were completed by 1998 as the existing facilities were already under strain and could not cope with the increased freight and passenger volumes (Mitchell J. , 1998: 761). In February 2000, the CEO of TRAC was qouted in *Engineering News* pointing out that the development of the one-stop border post is imminent due to a rapid procurement programme initiated (Engineering News , 2000). This is supported by de Beer (2001), who indicates that the first phase of the upgrading of systems and facilities at Lebombo/Ressano Garcia was in progress.

Significant progress was reported at the Lebombo border post by end of 2004. Construction of various improvement and upgrading facilities was completed and the contractor was still on site busy with the

others while various other improvements were also being planned. However, there were no developments or improvements at Mozambique's Ressano-Garcia border post and as a result there were still bottle necks and serious constraints on the borders. Challenges experienced included, limited border operating hours, lack of proper communication from border authorities, too much maual procedures, visa restriction between the two countries, lack of space for trucks at border posts, damage to perishable goods as a result of the lack of plug-in reefer points as well as lack of cargo pre-clearance on the Mozambique side (MCLI: 2004). By 2007, signficant progress was reported with regard to the establishment of a one-stop border post. It was reported that legal processes were being finalised and would be signed off at a Heads of States meeting. The project was scheduled to be launched in June 2007 for completion by August 2009 (MCLI AGM Minutes, 2007: 3). In 2008, final designs had been completed and it was reported that the project will start on July 2008 and end on March 2010 (MCLI AGM Minutes, 2008: 3). The lifting of visa requirments in 2005 led to an 80% increase in travellers between the two countries, which put the Lebombo/Ressano-Garcia border under huge pressure as it became the busiest for both countries (Picanyol, 2009: 13).

The development of the Maputo corridor was reported to be having negative unintended consequences as it led to a boom in truck traffic at border posts where truck drivers spend up to two days waiting for documentation clearance. There are fears that this long delays may lead to transactional sex at the borders which would spread HIV infections (Afrol News, 2010). However, there was hope as authorities in both countries agreed to implement a 24 hour operation at Lebombo/Ressano-Garcia border post from 10 December 2010 (MCLI Newsflash 910, 2010). There were also reports of the construction of a single border post facility for buses and taxis having been completed. This will enable passengers to be processed by both authorities at the same time and thereby saving time (Freight Into Africa Online, 2010).

Magagula (2011), reported that a 10-month old Mozambican baby died while waiting with the mother to cross the border from Mozambique into South Africa on 17 January 2011. In reaction, the Mpumalanga acting coordinator for the Border Control Operations Coordinating Committee was quoted asking how can they claim equal rights for all when at the land side port of entry, users have to stand in sweltering heat for many hours as compared to the air-conditioned environments and fast facilitation at the airports. The MCLI called for an urgent implementation of a 24 hour joint One-Stop Border Post, pointing out that although there was a truck bypass route and one-stop procedure for cargo clearing, a lot still needed to be done (Matos, 2011).

## 4.3 INVESTMENTS MADE IN THE CORRIDOR

According to Mitchell J. (1998: 762), the South African and Mozambique governments presented investors with 180 project proposals valued at 7 billion US dollars at the launch of the MDC 1996, with 1.5 billion US dollars being already committed to the Mpumalanga province alone. The projects covered the areas of Mpumalanga and Limpopo Provinces as well as Mozambique and they were said to have the potential of creating 35000 jobs. Mitchell J. (1998: 763), argues that there was uncertainty as to whether such investment would not have been made without the MDC as some of the projects were in the pipeline before MDC was launched and that it was too early to determine the investment made as a result of the development of the corridor. This view is supported by Roodt (2007: 8). The only investments that Mitchell J. attributed directly to the development of the corridor were the 1.5 billion US dollars Mozal project (Mozambique aluminium smelter) launched in May 1998 as well as Maputo's large iron and steel plant. Although users of the N4 toll road were going to be getting a quality road and the distance to Maputo reduced, there was going to be a huge increase in the cost of using the road and this was going to diminish the advantage of road haulage exporters being based in Mpumalanga for the purpose of using the Maputo port (Mitchell J.,1998: 763). The MDC succeeded to mobilise 200million US dollars for the development of infrastructure in Mpumalanga by 1998 while secondary investment was higher in Mozambique (Mitchell J.,1998: 763).

The CEO of the Maputo Corridor Company, Dave Arkwright was qouted in *Engineering News* in February 2000 pointing out that an estimated R36 billion had already been committed to infrastructure and other investment projects in the corridor. The breakdown was given as 150 million US dollars on the toll road, 700 million dollars on Mozal, 300 million dollars by SASOL, 400 million dollars on the development of hotels and 100 million dollars on mining developments. Arkwright indicated that the corridor also facilitated agricultural investments and cited a revival of the sugar and cotton sectors in Mozambique, the wool cluster processing in Ermelo as well as the sugar and tropical fruit processing in Nkomazi.

Söderbaum and Taylor (2001: 682), indicated investments in the MDC as follows: 400 million US dollars on the toll road, 85 million dollars on rehabilitation of the Maputo port, 70 million dollars on the rail network, 1.5 million dollars on the main border post, 105 million dollars on the Mozambique energy transmission company, 1.3 billion dollars on Mozal, 1.5 billion dollars on the Maputo Iron and Steel plant as well as 250 million dollars on the Pande/Temane Gas project. However, they pointed out that while such mega projects contributed to economic growth, their job creation was at 200,000 US dollars per job and therefore it was naive for the MDC proponents to beleive that they will address

unemployment in labour surplus economies. In addition, they argue that implementation of the Mozal project was never meant to create jobs but to demonstrate that big projects can be undertaken in Mozambique, which would in turn raise the regions credit profile and rating (Söderbaum & Taylor, 2001: 686). The views that mega projects do not address unemployment and under-development are supported by Mulaudzi (2006: 14), who argues that an investment of R67 billion in the MDC only created 63 000 jobs which translates into R1 million per job.

The MCLI reported that 5 billion US dollars had been invested in infrastructure for the MDC since its inception and that the corridor had created economic growth and made a successful contribution to the improvement of the lives of the people in its areas (MCLI, 2009: 2). In 2009, the Mpumalanga provincial government was reported to be investing R533 million on the MDC secondary projects programme which they termed "Maputo Development Corridor Flagship Projects" (Opportunity Online, 2009).The projects under the flagship programme are Industrial Parks, Tourism Infrastructure, Truck Stops, Border Infrastructure, Technology Centers, Information Centers, Portuguese Language Insitute as well as the Lowveld Showgrounds (Fernandez & Campbell, 2010).

### 4.4 OPPORTUNITIES CREATED BY THE MDC

Peberdy and Crush (2001: 116 & 120), studied informal cross-border traders between South Africa and Mozambique. Their study indicated that they are barely mentioned in the MDC policy documents and not much was known about their activities while there existed a case study evidence indicating informal sector cross-border trade as a significant part of the regional trade and in other places surpassing formal sector cross-border trade. The findings of the study by Peberdy and Crush (2001: 122), was that the traders were benefitting from the development of the N4 toll road. However, most of them were sourcing their goods from Johannesburg and the toll fees were a significant cost to their businesses through which they supported their children, spouses, family members, employees and other dependents. The study also found that visa requirements, customs and execise duties affects the profit margins of the informal traders. In April 2005 visa requirements for South Africa and Mozambique citizens travelling between the two countries was abolished for less than 30 day visits (MCLI, 2007).

The view of toll fees on informal traders is also shared by Söderbaum (2004: 17), who pointed out that the informal traders from Mozambique source their goods from Gauteng and risk losing out to more large-scale and organised businesses as a result of the high toll fees. Söderbaum (2004: 21) is very critical of the MDC and argues that its policies ignored the informal sector, and that they were formulated against it and they prevent local partcipation as well as people-oriented development path.

Opportunities created by construction of the N4 toll road were indicated as follows: 6220 job opportunities; R304 million spent on 702 contracts awared to SMMEs as well as 20260 people receiving training in management, project management and life skills. It was also indicated that further road construction and maintenance would create more job opportunities and more business development opportunities (de Beer, 2001). Another view is that 680 projects valued at R226 million were awarded to 160 SMMEs for grass cutting, fencing, catering, signage and haulage and other types of work (Havemann, 2001: 617). However, SANRAL (2002: 18) reported that construction of the road created 5677 job opportunites valued at R136 million and SMME contracts valued at R136.25 million. A year later SANRAL (2003: 25), reported that after construction TRAC maintained employment of 146 previously disadvantaged indviduals at an annual cost of R13 million and provided SMME contracts valued at R17 million between April 2002 and March 2003.

Schutte (2005) argues that the areas along the MDC in Mpumalanga experienced higher growth rates while there were still experiencing poverty increase at the same time. Schutte pointed out that MDC was more expensive than other corridors in South Africa despite shipping charges at the Maputo port being lower than other ports. This was attributed to the combination of rail and road transport costs, toll fees, limited backhaul as well as the lengthy clearing time at the border posts. Another argument by Schutte was that there was negative perception about the MDC due to its history of non-completion of the rehabilitation of the rail and the ports as well as inefficient marketing and developments in the MDC and that the level of cross-border trade due to Suoth Afrrica's strict visa requirements.

Between April 2005 and March 2006, TRAC is reported to have awarded SMME contracts valued at R16 million, donated R400,000 to a Nelspruit community project which created 20 job opportunities during construction and created 34 permanent jobs, sponsored auditing of financial statements and management of the N4 local Hawker Management Committees for R21,000 and also sponsored an art festival in Nelspruit for R35,000. It was also indicated that TRAC had previously constructed hakwer stalls along the N4, offered training to the hawkers and supported them in establishing the Hawker Management Committees (SANRAL, 2006: 53).

SANRAL (2007: 53) reported that TRAC awarded SMME contracts valued at R19.5 million between April 2006 and March 2007. TRAC (2007) also indicated that they were employing 400 full time staff for the operation and maintenance of the toll road. While SANRAL and TRAC were reporting on the socio-economic benefits of the toll road, the MCLI and one of its focus groups were working on measures to remove hawkers and taxi operators at the Lebombo border post as well as setting up truck stops for the

benefit of the freight operators (MFLF, 2007: 1-2). TRAC reported that they spent a total of R23 million on social responsibilities and R450 million on SMME contracts since 1997 (TRAC, 2008).

According to TRAC (2010), the organisation created permanent jobs for 1000 members of the local communities broken down as 71% female and 84% black. SANRAL (2010: 50), reported that TRAC and TSB Sugar sponsored the writing of a book entitled: *The N4 Book – The Road to Maputo*. The purpose of the book is to encourage tourism growth along the MDC by higlighting its places of interest. TRAC enrolled their employees on a three year life skills development programme (SANRAL, 2010: 50). They created fire breaks along the N4 for the purpose of minimising the threat of runaway veld fires and supplied fire fighting equipments to farmers, nature conservancy's and fire protection agencies (SANRAL, 2010: 55).

TRAC (2011) indicates that trade developed between South Africa and Mozambique because of the MDC, that opportunities were further created for the SMMEs, that there was huge economic growth in Nelspruit and that there was a surge in tourism along the MDC. They also attributed Mozambique's impressive economic growth to the MDC. The Sojitz Corporation of Japan reported that they established a company in Mozambique and that they will be making use of the Maputo corridor by procuring raw timber in Mpumalanga as well as Swaziland and then export it to Japan from the Maputo Port (Sojitz, 2011). The views of TRAC are supported by Hauptfleisch and Marx (2011). They argue that data supporting growth from the MDC is undeniable and that physical developments are clearly visible. They also point out that local municipalities along the MDC perceive it as a significant element of their planning and marketing. It must however be noted that the study carried out by Hauptfleisch & Marx was actually commisioned by TRAC.

According to Tate (2011: 9), objectives 1 and 2 of the MDC are prioritised over objectives 3 and 4 which the MDC is only paying lip service to. Quoting the World Bank's Deputy Director to South Africa indicating that the MDC should be a means to an end where the end is poverty alleviation, Tate argues that the MDC is market orientated with the hope that it is the market that would bring development and that an export-led growth that concentrates on economic instead of social goals is unsuitable for community goals in Mozambique. In support of the view that the MDC's mega projects do not deliver jobs, Tate (2011: 10), points out that most of the jobs at Mozal require high level of skills and indicate a suitable option as an industrial sector which creates high volume of low skills jobs. At the same time Mozal is credited with linking their business to SMMEs and offering them training as well as creating secondary businesses which employ 1600 local community members (Tate, 2011: 11).

Tate (2011: 14) also support the views on informal trading by Peberdy and Crush as well as Söderbaum discussed above by arguing that in some areas along the MDC, 80% of business takes place outside the formal economy with most of it happening through illegal border crossing and when this is coupled with the MDC's inability to create jobs it boosts the second economy and provides a fertile ground for criminal activities. Tate points out that without addressing poverty it would be impractical to deal with informal traders engaged in illegal activities. Boylan (2012), concluded few things about the MDC. Firstly, the countries of China, India and Brazil are keen to invest in Mozambique as they rely on the MDC for supply of aluminium and coal. Secondly, local businesses in Mozambique are yet to benefit from the spill-over promised from the MDC and the country needs to develop a comprehensive plan to enable Mozambicans to benefit from the MDC. Lastly, it is worth investigating the prospects of tying SMMEs to PPPs for the purpose of promoting local participation.

Intercape intercity bus service is a regular user of the N4 toll-road from Pretoria to Maputo. About 90% of their passengers are Mozambican nationals. The company runs daily services from Johannesburg-Maputo as well as from Maputo-Johannesburg simultaneously day and night. Their Johannesburg-Maputo service starts in Johannesburg and then Pretoria from where the bus proceeds to Maputo while their Maputo-Johannesburg service also goes via Pretoria before it terminates in Johannesburg. This means that on any given day, the company has a bus using the entire length of the N4 toll road day and night. In an e-mail reply received from Intercape on 15 March 2012, the company's Gauteng Operations Manager, P. Nortje indicated that they introduced this service 15 years ago when the MDC started. Nortje pointed out that the N4 toll road is not a profitable route as it is the most expensive toll route in the country and the only benefit they are getting is a well maintained road. As indicated above, road freight operators also complain about the toll fees on the N4, which are also said to be a significant cost on the businesses of the informal traders. It can therefore be said that toll fees on the N4 are excessive for all road users (*see Table 4.3 below for the current schedule of the N4 toll fees in South Africa and refer to Appendix G to see how TRAC spend the toll fees collected* ).

| Description | Diamond Hill Plaza | Middelburg Plaza | Machado Plaza | Nkomazi Plaza |
|---|---|---|---|---|
| Class 1 | R 26.00 | R 43.00 | R 64.00 | R 48.00 |
| Class 2 | R 36.00 | R 92.00 | R 176.00 | R 97.00 |
| Class 3 | R 67.00 | R 140.00 | R 256.00 | R 141.00 |
| Class 4 | R 111.00 | R 183.00 | R 366.00 | R 203.00 |

**Table 4.3: Current Schedule of Toll Fees on the N4**

***(Source: TRAC, 2012)***

## 4.5 APPROACH TO DEVELOPMENT

As indicated above, the MDC is the shortest route to a deepwater port for Botswana; Swaziland; Zimbabwe as well as the provinces of the North West, Gauteng, Limpopo and Mpumalanga. Despite this obvious regional signifiance, it was regarded as a ploy by the ruling party to take business away from the ports located in Kwa-Zulu Natal province, which was then governed by an opposition party. A DBSA official was qouted indicating that other SADC countries have asked them when are they going to build them a corridor since they are building one for Mozambique. Zimbabwe and Swaziland were reported to be enraged as they were the main users of the Maputo port and they were not invited to the investors conference which launched the MDC at Maputo on 06 May 1996. The managing director of the Beira Corridor, launched by SADC during the apartheid era, was qouted implying that South Africa behaves like it owns Maputo (Morna, 1996). The MDC has had the support of the presidents of South Africa and Mozambique since its inception while two countries ministers of transport were interacting on regular basis (Mitchell J.,1998: 758). Swaziland on the other hand, had a reactive approach to the MDC and could not participate as they were excluded during the inception stages. Mitchell J. blamed the South African and Mozambique governments for failing to promote regional integration, but pointed out that the situation was saved by the plan to establish the Maputo Corridor Company which was to be owned by the private sector in conjunction with the governments of South Africa, Mozambique, Swaziland, Zimbabwe and Botswana (Mitchell J.,1998: 759).

According to (Mitchell J.,1998: 760), an all-inclusive communication strategy was developed after the realisation that the communities directly affected by the MDC knew very little about it despite it being well known nationally and internationally. However, Söderbaum and Taylor (2001: 692), argue that the state will not be able to implement the MDC in a participatory and people-centered manner as it was merely a facilitator for private and commercially viable investments. Citing a statement by a very senior government official qouted in *The Mail & Guardian* newspaper on 7 Novemebr 1997 indicating that initiatives such as the MDC were too important to be derailed by vested interests and narrow agendas. Söderbaum and Taylor warned that the MDC could be faced with problems in the future as a result of the civil society being marginalised and ignored. According to Roodt (2007: 8), initiatives like the MDC focus on investment opportunities as well as project profiles and do not include local communities.

Söderbaum (2001: 11), argued that the MDC had no organisational and legal structure responsible for it. In 2004, the MCLI (Maputo Corridor Logistics Initiative), a non-profit organisation made up of Infrastructure Investors, Service Providers, MDC users and other Stakeholders from South Africa, Mozambique and Swaziland was established for the purpose of interacting with governments of the

three countries to remove barriers along the MDC, provide information on developments as well as to market the strategic benefits and opportunities of the MDC. The MCLI aims to make the MDC the corridor of first choice for importers and exporters in the region (MCLI, 2012). A year after its formation, the MCLI reported that it had raised level of awareness about the MDC, focused attention to it as well as received acknowledgement as a medium of communication between users of the MDC and the relevant authorities and that they have also identified challenges in the MDC by assisting in establishing various forums and focus groups (Ferraz, 2005).

According to Mulaudzi (2006: 14), the MDC was established to benefit South Africa, Mozambique, Swaziland, Botswana and Zimbabwe, yet only South Africa and Mozambique benefited from it with South Africa benefitting the most as its interests in the MDC were to access the Maputo port and develop Mpumalanga. Mulaudzi's view is supported by the MCLI AGM minutes (2007: 4).The view that South Africa is benefiting the most from the MDC is shared by Roodt (2007: 7), who cited the differences between the MDC border towns. The demand for residential and commercial land in Komatipoort grew by 50% as a result of tourism, commercial and industrial development. At the same time Ressano-Garcia suffers from economic depression with limited water and sanitation services and an extremely high unemployment rate of 80%.

In December 2011, the BCS (Burnside, Cairn and Sterkspruit) communities, located along the N4 outside Nelspruit wrote an open letter to SANRAL and TRAC indicating their concerns regarding the design of access points which are to be constructed where their local roads intersect with the N4. They raised various issues. Firstly, the design will cut them off and not allow for any future developments in their areas. Secondly, they made various examples of how the designs are unsafe and will lead to road fatalities in their areas. Thirdly, they accused TRAC of misleading them during environmental impact assessment stages. Lastly, they pointed out that farms and businesses in their areas employ a large number of people, who use public transport and yet TRAC does make an allowance for public transport to operate safely in the areas (BCS Communities, 2011).

The communities proposed that the design be modified to an interchange as planned for since the 1970s and they also proposed a development of a taxi rank. They indicated that Nature's Gate plans to invest over R100 million in their areas while Pimlico plans to invest over R2 billion in the next 3 to 5 years. However, these investments are dependent on their concerns with access points and taxi rank being addressed (BCS Communities, 2011). In their response, TRAC indicated various issues. Firstly, an access interchange for Pimlico's anticipated township development is Pimlico's responsibility. In

terms of SANRAL policies access interchanges for townships not yet developed are the developer's responsibility (TRAC, 2012). Secondly, the design of the access points has been fully dealt with and explained at a public participation meeting held on 13 April 2010 and TRAC emphasized that the design will improve the current access points as it allows connecting traffic from both directions to independently negotiate entering the N4. Thirdly, if Pimlico and Nature's Gate will be investing such huge amounts of money then it will benefit them to also invest in financing the Burnside interchange of which they will be the main beneficiaries. Lastly, TRAC recommended that a proper preliminary design of the proposed interchanges be carried out before any further negotiations can be held (TRAC, 2012).

### 4.6 COMMUNITIES ALONG THE CORRIDOR

According to Mitchell J. (1998: 764), most of the job creation was anticipated from secondary projects in the corridor as the N4 toll road was expected to create only 1000 to 2000 jobs throughout its constrution period due to the national Department of Transport being unwilling to stipulate that construction should have high content of local labour. Another argument by Mitchell J. (1998: 766) is that the SMMEs along the MDC in Mpumalanga had high expectations that it will bring them business opportunities, which needed to be addressed. Firstly, communities along the MDC could receive only a few benefits as its strategy was based purely on attracting maximum investment and economic growth. Secondly, Mpumalanga's advantaged urban areas had 23% of its population and were the only ones located along the corridor. Therefore, they could benefit more than the poor rural areas. Thirdly, Mitchell J. cites a survey of 1000 tourist facilities along the MDC having discovered that they were all owned by individuals advantaged by apartheid.

The arguments above were supported by Bek and Taylor (2001: 4), who pointed out that the previously disadvantaged communities along the MDC received few opportunities. According to Bek and Taylor (2001: 7), citizens of Mpumalanga were fuming, emphasizing that the toll roads will make it expensive for them to access their schools, jobs and the main shopping centers in Nelspruit while the taxi associations argue that they were left out of the decision making processes. In Mozambique, there was a wide-ranging view that the MDC projects led to water and electricity shortages and that the corridor was only developed for the convenience of South Africans when they go to Mozambique. Bek and Taylor however, added that civil society had not always responded positively to the MDC's public participation forums while the Mpumalanga provincial government admitted that ordinary citizens had not been part of the MDCs planning. Mulaudzi (2006: 14) argues that the MDC has failed to benefit communities along its path and that instead it raised the cost of living for these communities as sustainable farmers have to pay toll fees for accessing agricultural inputs or the markets. TRAC reports

that they regularly liaise with communities along the N4 and have held over 400 meetings with them and that they also give discounts to these communities valued at R40 million per annum to these communities (TRAC, 2010). They also indicated that they have ceded R30 million of equity in the toll road to a community trust in Mpumalanga (TRAC, 2011).

In 2011, TRAC was reported to be involved in a number of community projects. They built a multi-purpose roof shelter at Takheleni Primary School in Matsulu near Malelane in the school's quad area providing the learners with shelter from the sun and the rain. The shelter is also used for assemblies, meetings, cultural events as well as the communities meetings. They also held a fundraising golf day for the school's water shortage problems. TRAC supports the annual Greatest Train Race which raises funds for charities in eMalahleni and Middleburg areas. They also supports the *Highlands Herald* and *Emakhazeni* newspapers which are distributed at the Machado and Nkomazi toll plazas to provide news on the local communities and promote tourism by highlighting the local places of interest (SANRAL, 2011: 51).

# 5. CHAPTER 5: DATA INTERPRETATION AND ANALYSIS

## 5.1 INTRODUCTION

*"We have long cherished the dream that one-time allies in the struggle for liberation would become partners in development."* - Nelson Mandela, speech at the MDC Investors Conference held at Maputo on 6 May 1996

This chapter interprets and analyses the data. Tables are used to interpret the objective in terms of the literature reviewed in Chapter 2 and this objective is rated in terms of the data discussed in Chapter 4. Thereafter, the data is analysed in a graphical format for the purpose of visualising the findings of this study. In Objective 2 of the study, data discussed in Chapter 4 is analysed in a graphical format for the purpose of visualising the findings of this study. Border posts are exempted for two reasons. Firstly, they are national key points and not generally suitable for PPPs. Secondly, data discussed in this study indicates that traditional procurement method is being used for rehabilitating and/or upgrading with each government being responsible for funding their own border post. Objectives 3, 4 and 5 of this study present a unique challenge as they cannot be interpreted in terms of the literature reviewed. Therefore tables are used to interpret issues arising from the Chapter 4 data which are then rated according to the discussions thereof.

## 5.2 INTERPRETATION OF THE RATINGS USED

| **Interpretation of the ratings for PPP Benefits** | |
|---|---|
| **Rating** | **Description** |
| High | Purpose has been achieved and there is a high benefit for the public. |
| Medium | Purpose has been partially achieved and there is a medium benefit for the public. |
| Low | Purpose has not been achieved and there is a low benefit for the public. |

**Table 5.1: Interpretation of the Ratings for PPP Benefits**

| **Interpretation of the ratings for PPP Limitations** | |
|---|---|
| **Rating** | **Description** |
| Low | The limitation has been successfully mitigated and there is a low negative impact to the public. |
| Medium | The limitation has been partially mitigated and there is a medium negative impact to the public. |
| High | The limitation has not been mitigated and there is a high negative impact to the public |

**Table 5.2: Interpretation of the Ratings for PPP Limitations**

## 5.3 ANALYSIS OF STUDY OBJECTIVE 1

| N4 Toll-Road benefits ratings | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Leverage Private Sector Capital | High |
| 2. | Leverage Private Sector Skills | High |
| 3. | Better Project Planning | High |
| 4. | Risk Allocation | Medium |
| 5. | Budgetary Certainty | Medium |
| 6. | Focus on Outputs & Benefits | High |
| 7. | Quality Standards | High |
| 8. | Skills Transfer | Medium |
| 9. | Accelerated Project Delivery | High |
| 10. | Cost Savings | High |
| 11. | Efficiency | High |
| 12. | Flexibility | High |
| 13. | Innovation | High |

**Table 5.3: Ratings for the N4 Toll-Road Benefits**

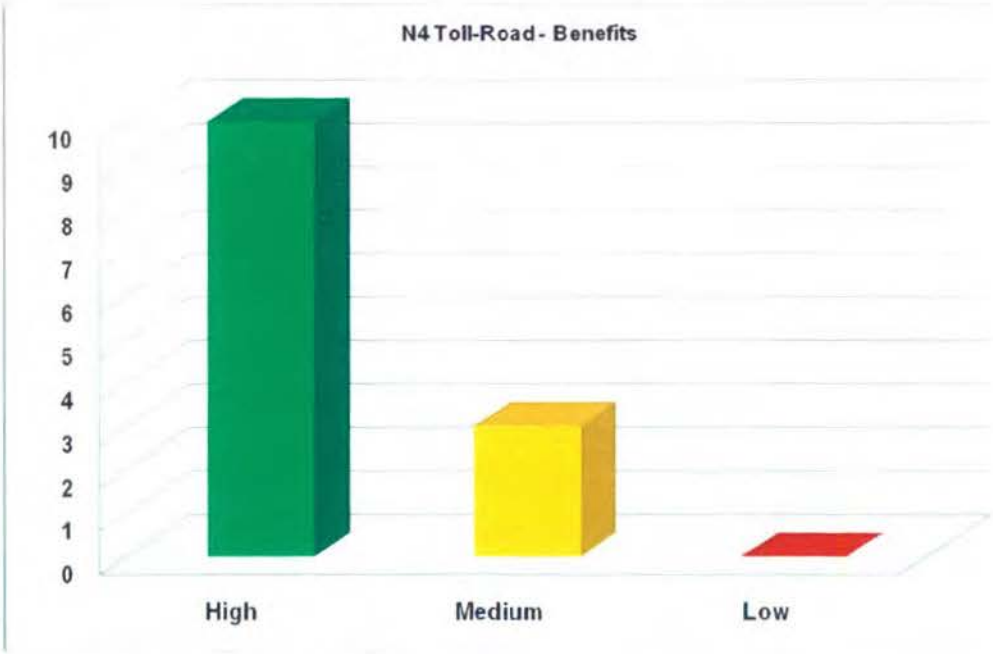


**Figure 5.1: N4 Toll-Road Benefits**

The findings of this study are that, in terms of the information obtained and the data discussed in Chapter 4, there is a general achievement on the purpose of using PPP for the N4. The high benefit ratings are more than three times the medium ratings while there is no low rating. These findings are only applicable to the economic and technical aspects and do not include the social aspects.

| N4 Toll-Road: PPP Limitations | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Accountability & Transparency | High |
| 2. | Change in Stakeholders | Low |
| 3. | Complicated Contracts | Low |
| 4. | Lack of capacity from the public sector | High |
| 5. | Lack of Monitoring | Low |
| 6. | Lack of Political Support | Low |
| 7. | Negotiations | High |
| 8. | Restriction on Competing Facilities | Medium |
| 9. | Bankruptcy or Default | Low |

**Table 5.4: Ratings for the N4 Toll-Road Limitations**

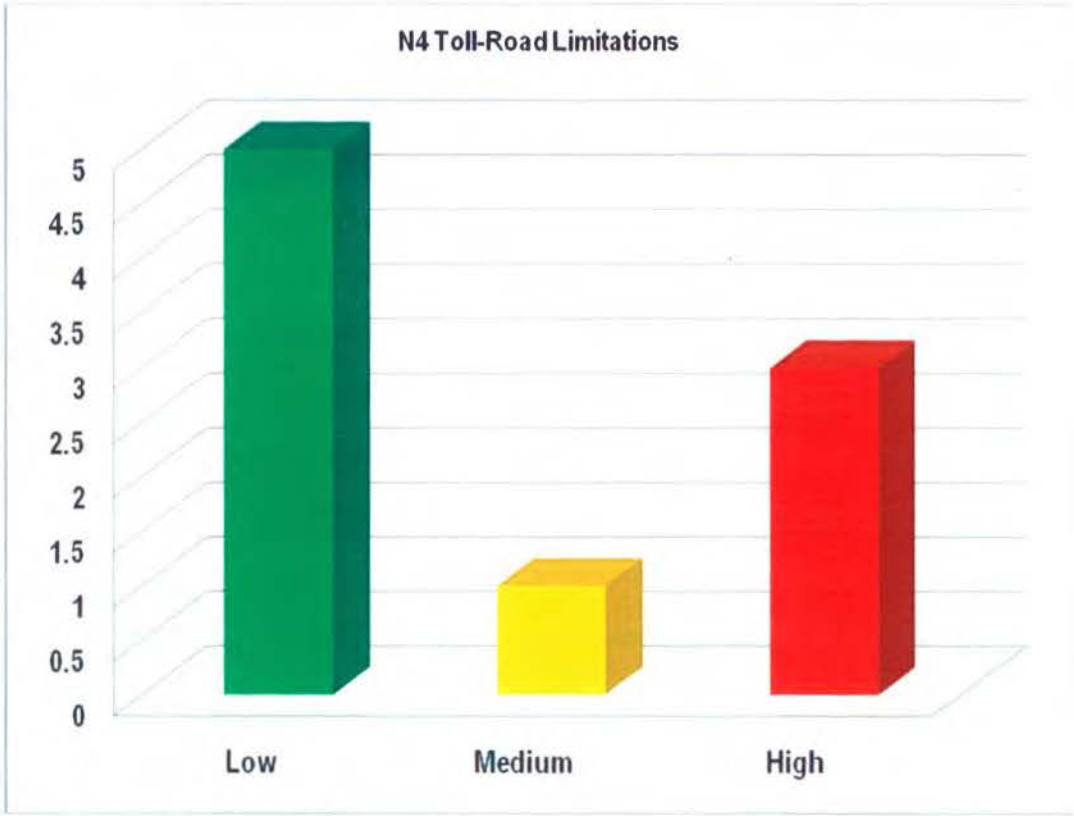


**Figure 5.2: N4 Toll-Road Limitations**

This study finds that the limitations of using PPPs have been mostly mitigated on the N4 toll road. However, a serious concern is raised with regard to the number of high negative impact ratings which are equivalent to 60% of the low negative impact ratings achieved.

| MDC Rail: Benefits | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Leverage Private Sector Capital | High |
| 2. | Leverage Private Sector Skills | High |
| 3. | Better Project Planning | Low |
| 4. | Risk Allocation | Low |
| 5. | Budgetary Certainty | Low |
| 6. | Focus on Outputs & Benefits | Medium |
| 7. | Quality Standards | High |
| 8. | Skills Transfer | High |
| 9. | Accelerated Project Delivery | High |
| 10. | Cost Savings | Low |
| 11. | Efficiency | Low |
| 12. | Flexibility | High |
| 13. | Innovation | High |

**Table 5.5: Ratings for the MDC Rail Benefits**

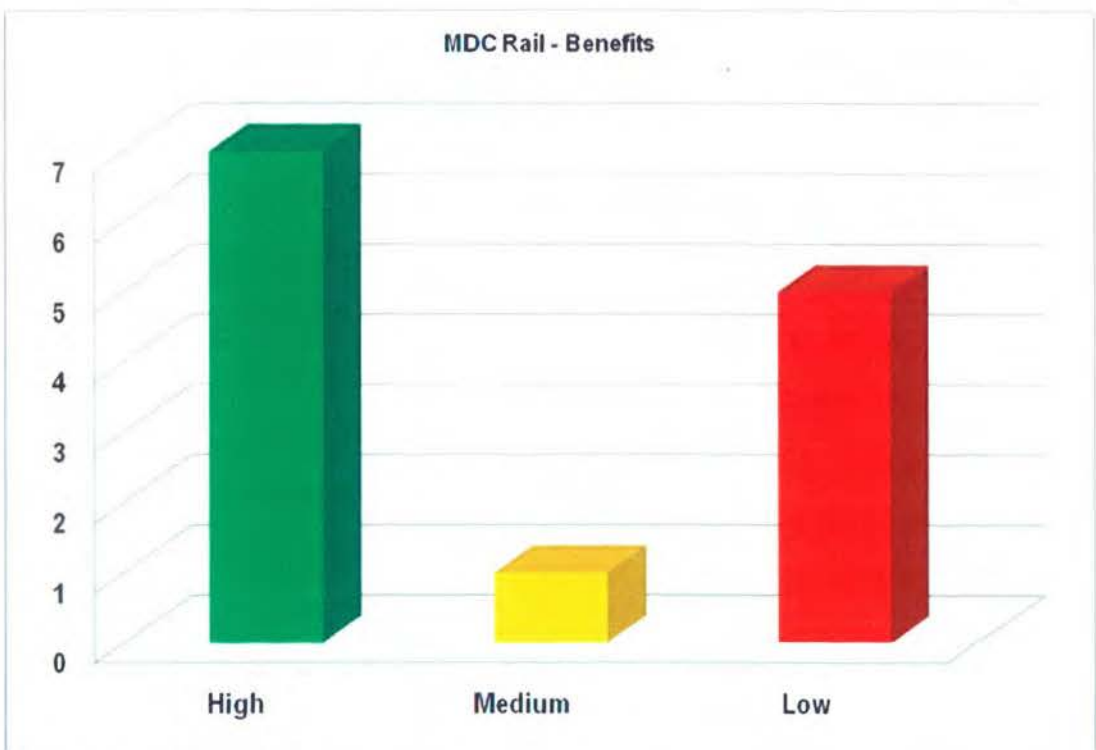


**Figure 5.3: MDC Rail Benefits**

On the rehabilitation of the rail network, the findings of this study are that while there is a high number of positive benefits for the public, there is a staggering number of low benefits which are equivalent to 71% of the high benefits achieved, almost eroding the gains made.

| MDC Rail: Limitations | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Accountability & Transparency | No rating |
| 2. | Change in Stakeholders | Low |
| 3. | Complicated Contracts | High |
| 4. | Lack of capacity from the public sector | High |
| 5. | Lack of Monitoring | Low |
| 6. | Lack of Political Support | Low |
| 7. | Negotiations | High |
| 8. | Restriction on Competing Facilities | Medium |
| 9. | Bankruptcy or Default | Low |

**Table 5.6: Ratings for the MDC Rail Limitations**

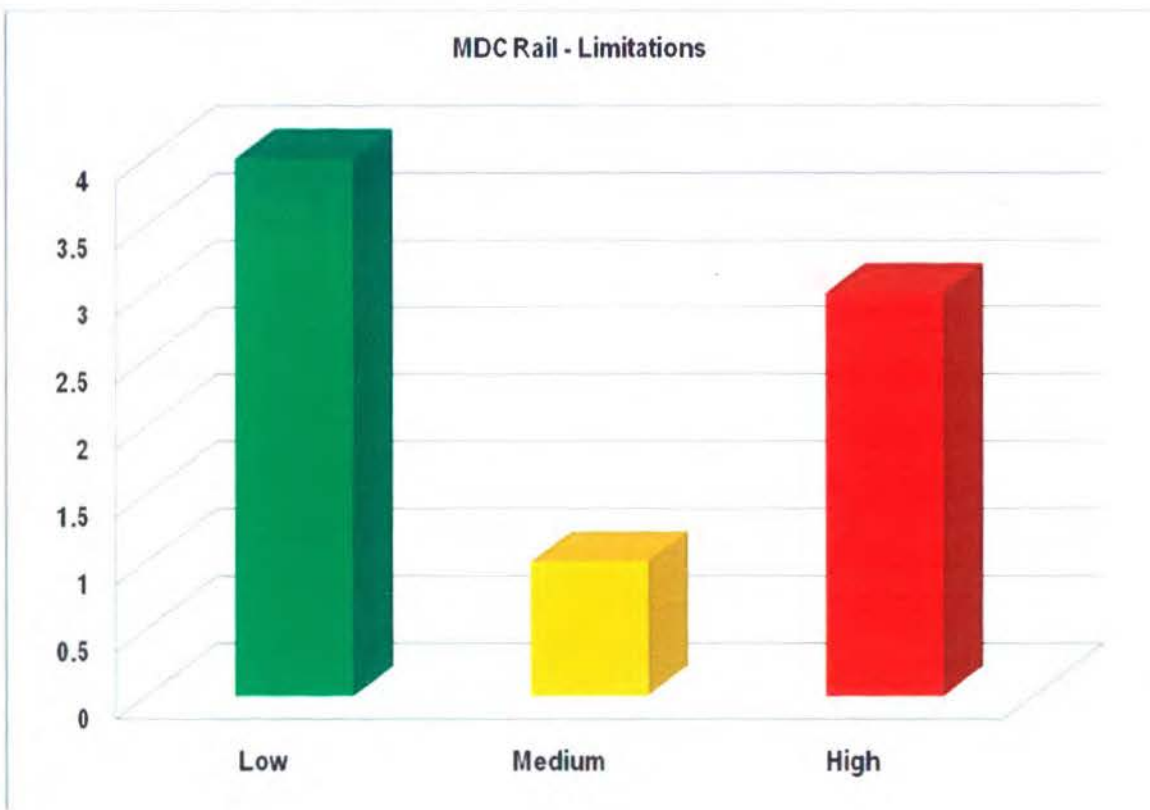


**Figure 5.4: MDC Rail Limitations**

The graph of the limitations on the rehabilitation of the rail network mirrors that of the benefits. The number of low negative impacts is high; however, the gains made are almost eroded by the equally high number of high negative impacts, which are 75% of the low negative impacts. It is not acceptable that the high negative impacts exceed the medium impacts.

| MDC Ports: Benefits | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Leverage Private Sector Capital | High |
| 2. | Leverage Private Sector Skills | High |
| 3. | Better Project Planning | High |
| 4. | Risk Allocation | High |
| 5. | Budgetary Certainty | Low |
| 6. | Focus on Outputs & Benefits | Medium |
| 7. | Quality Standards | High |
| 8. | Skills Transfer | High |
| 9. | Accelerated Project Delivery | High |
| 10. | Cost Savings | Medium |
| 11. | Efficiency | Medium |
| 12. | Flexibility | High |
| 13. | Innovation | Low |

**Table 5.7: Ratings for the MDC Ports Benefits**

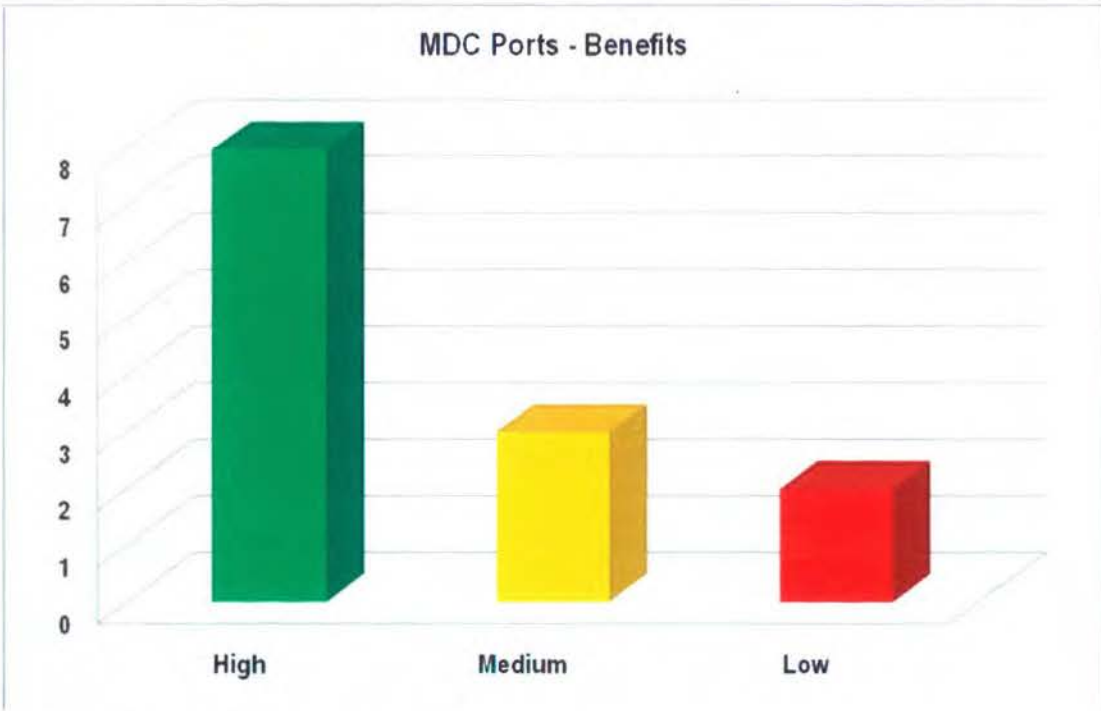


**Figure 5.5: MDC Ports Benefits**

This study finds that the story of the benefits of the rehabilitation of the port infrastructure almost followed that of the road. The only difference being that the road PPP has no low benefit rating while the ports have low benefit ratings which are equivalent to 25% of the high ones. However, one positive aspect of the findings is that the low benefits are lesser than the medium benefits.

| MDC Ports: Limitations | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Accountability & Transparency | No rating |
| 2. | Change in Stakeholders | Low |
| 3. | Complicated Contracts | High |
| 4. | Lack of capacity from the public sector | High |
| 5. | Lack of Monitoring | Low |
| 6. | Lack of Political Support | Low |
| 7. | Negotiations | High |
| 8. | Restriction on Competing Facilities | Medium |
| 9. | Bankruptcy or Default | Low |

**Table 5.8: Ratings for the MDC Ports Limitations**

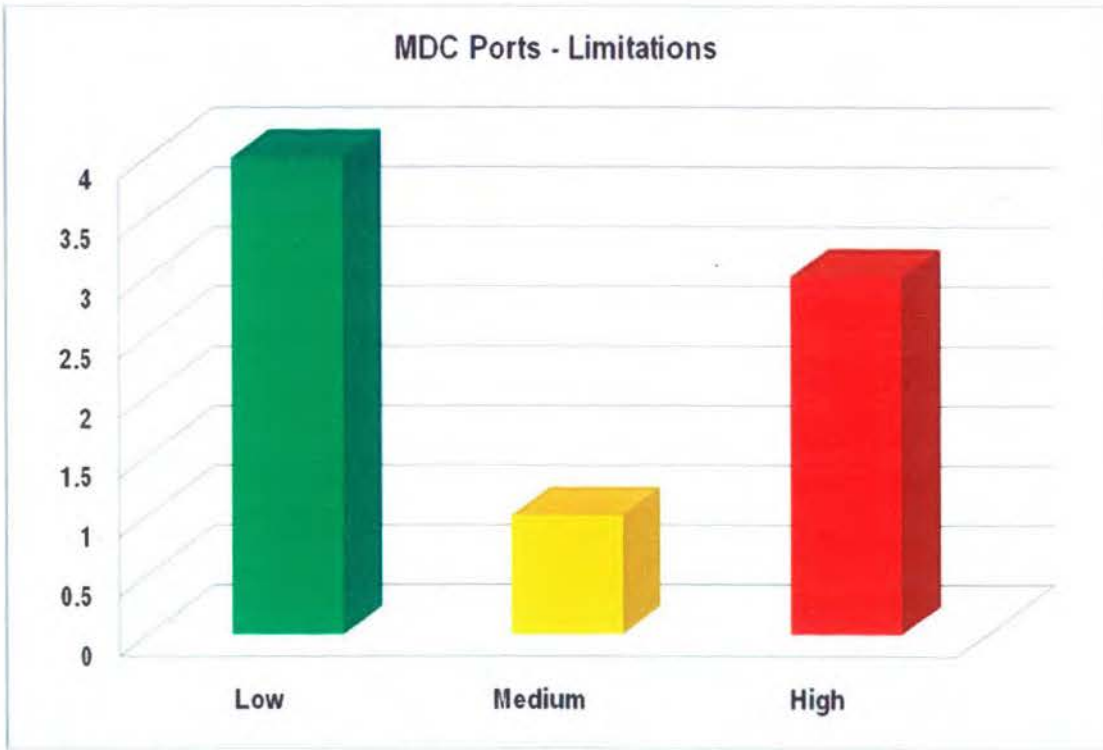


**Figure 5.6: MDC Ports Limitations**

With regard to the limitations using PPP for the ports infranstructure, the story is different from that of the benefits, and instead, it mirrors that of the rail infrastructure. The number of high negative impacts stand at 75% of the low negative impacts, which almost erode any gains made. It also presents an unaceptable picture where the number of the medium negative impact ratings are exceeded by the number of the high negative impact ratings.

## 5.4 ANALYSIS OF STUDY OBJECTIVE 2

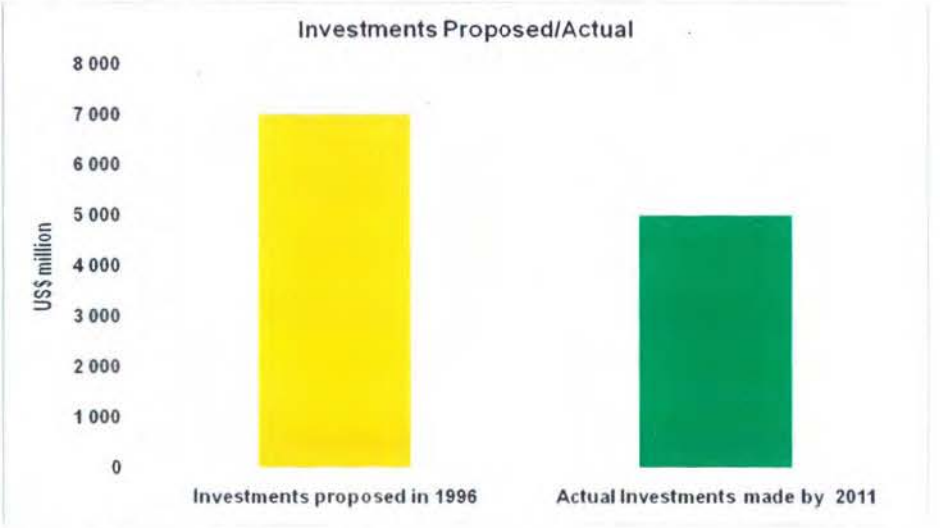


**Figure 5.7: MDC Investments**

As indicated in the data discussed in Chapter 4, investments projects proposed to the investors during the launch of the MDC in 1996 were valued at 7 billion US dollars. Meanwhile, the actual investments made on the MDC to date have are valued at 5 billion dollars, 71% of what was anticipated in 1996. The findings of this study are that this does not necessarily presents a negative picture as the MDC is a long-term initiative where there is still room for more investments to be made.

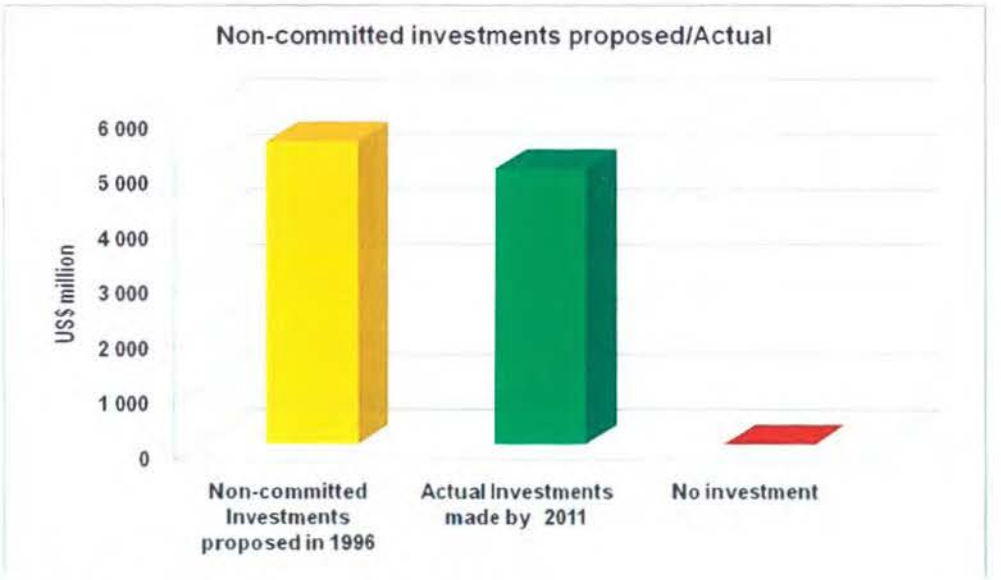


**Figure 5.8: MDC Investments (Non-Committed)**

It was indicated in Chapter 4 that 1.5 billion US dollars was already committed to the Mpumalanga province alone and that it cannot be direcctly attributed to the MDC. If the 1.5 billion dollars is excluded then the picture shows and improvement where actual invetsments made equals to 91% of the projects proposed in 1996.

## 5.5 ANALYSIS OF STUDY OBJECTIVE 3

| Social & Economic benefits of opportunities created by the MDC | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | SMMEs | High |
| 2. | Informal Traders | Low |
| 3. | Employment | Low |
| 4. | Tourism | High |
| 5. | Economic growth | High |

**Table 5.9: Ratings for the MDC Social & Economic Benefits**

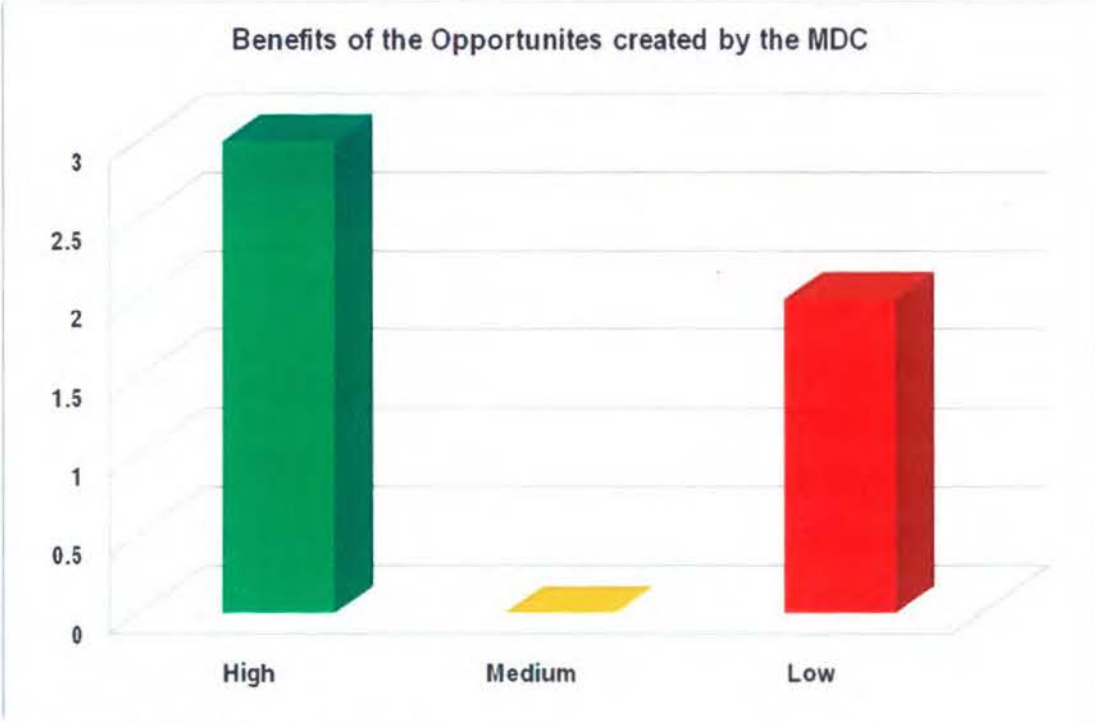


**Figure 5.9: MDC Social & Economic Benefits**

The findings of this study are that the low benefits of the opportunites created by the MDC are equivalent to 67% of the high benefits. It must be noted that in terms of the data discussed in Chapter 4, economic growth resulted from investment in the mega projects that do not address social reform. The low benefit ratings are mostly informed by the social aspects and therefore the findings of this study are that the MDC is failing to address social aspects.

## 5.6 ANALYSIS OF STUDY OBJECTIVE 4 (MDC Objective 3)

| Benefits on the approach to Development | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Other countries in the region. | Medium |
| 2. | Other affected and interested parties (local communities, informal traders and taxi operators). | Low |

**Table 5.10: Ratings on Benefits of the MDC's approach to development**

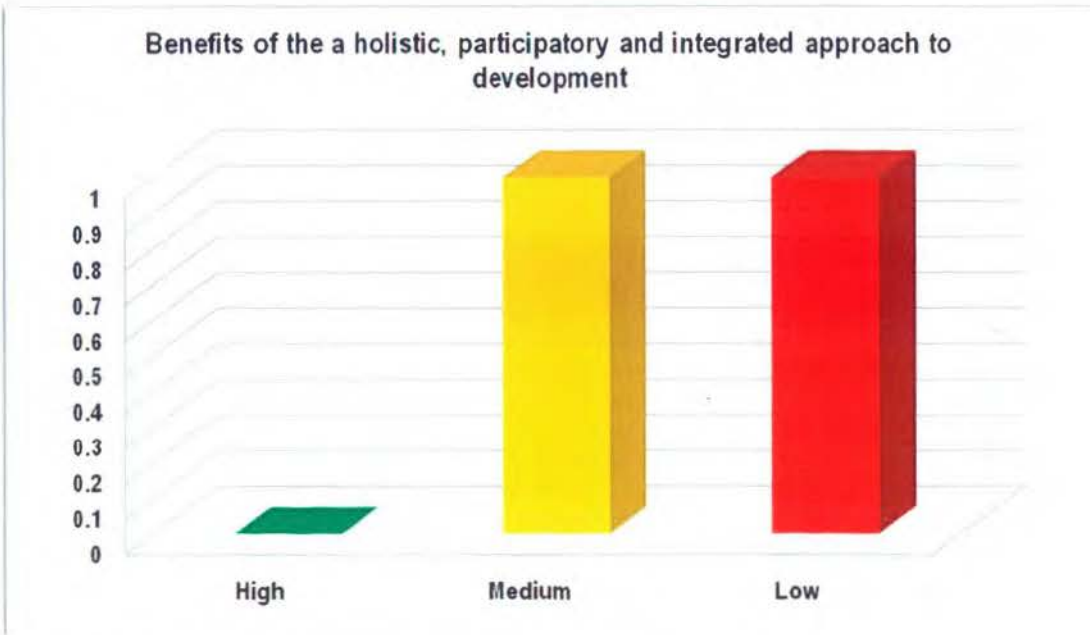


**Figure 5.10: Benefits of the MDC's approach to development**

In terms of data discussed in Chapter 4, the MCLI is the party responsbile for this function. The medium impact rating is equivalent to the low impact rating. This study finds that this objective is not being met due to two reasons. Firstly, informal traders, hawkers and taxi operators are in one way or another users of the MDC. However, the MCLI is losing the opportunity of involving them. Secondly, there seems to be no indication that Zimbabwe and Botswana have ever been involved in the MDC or that they are benefitting from it. In addition, there is also no indication that Swaziland has also experienced the benefits of the MDC. This study finds that policies, strategies and framework of the MDC do not encompasses a holistic, participatory and integrated approach to development.

## 5.7 ANALYSIS OF STUDY OBJECTIVE 5 (MDC Objective 4)

| Impact of investments maximised to disadvantaged communities and ownership base changed | | |
|---|---|---|
| **No.** | **Description** | **Rating** |
| 1. | Disadvantaged communities | Medium |
| 2. | Other communities along the MDC | Medium |

**Table 5.11: Ratings of the MDC Benefits to the Communities**

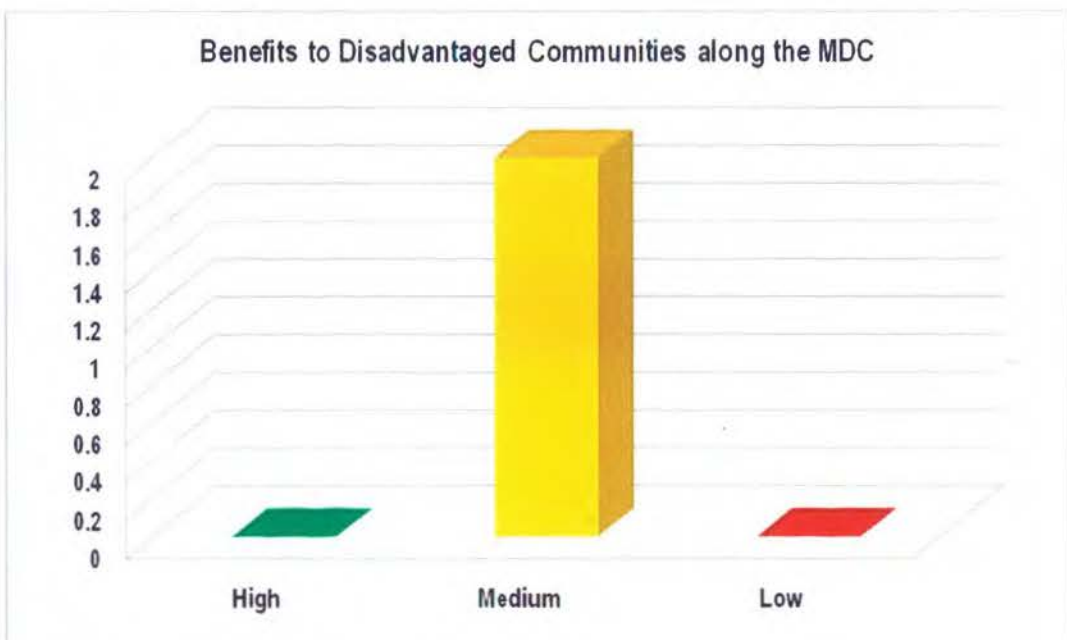


**Figure 5.11: MDC Benefits to the Communities**

In terms of the data discussed in Chapter 4, the N4 project is the only one where developmental impact has been maximised to the disadvantaged communities and change of ownership base is taking place. However, all of this is diluted by other MDC mega projects where the local communities are yet to see the spill over effects from the MDC. Therefore, the finding of this study is that this objective can only be achieved if other concessionaires within the MDC also get involved.

# 6. CHAPTER 6: CONCLUSION OF THE STUDY

## 6.1 KEY FINDINGS

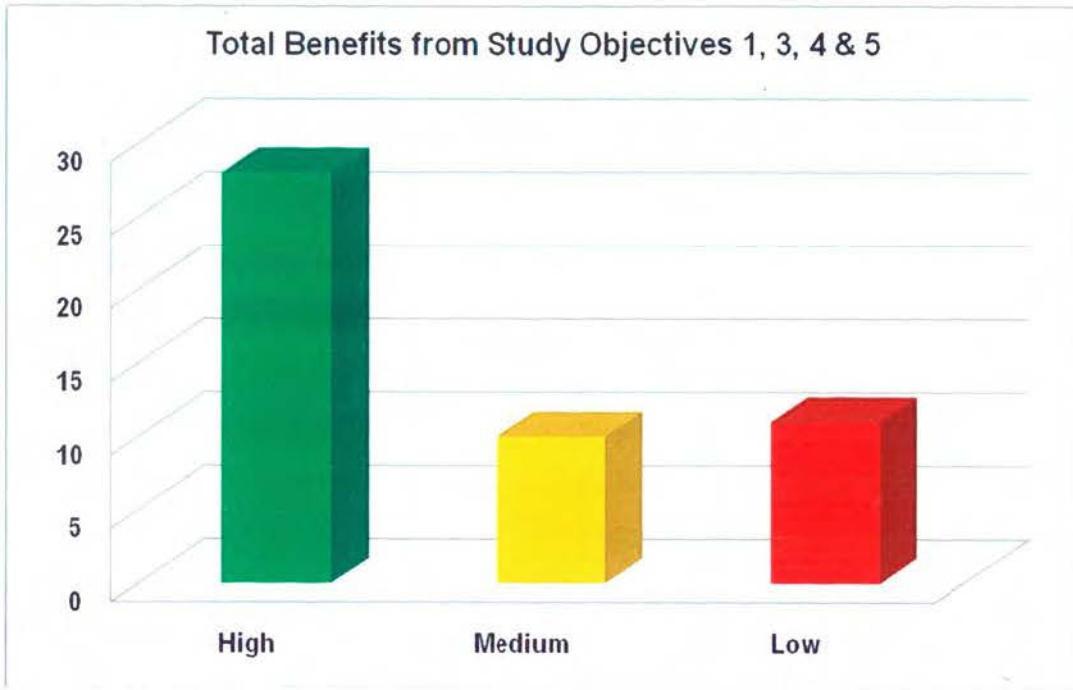


**Figure 6.1: Total Benefits Combined**

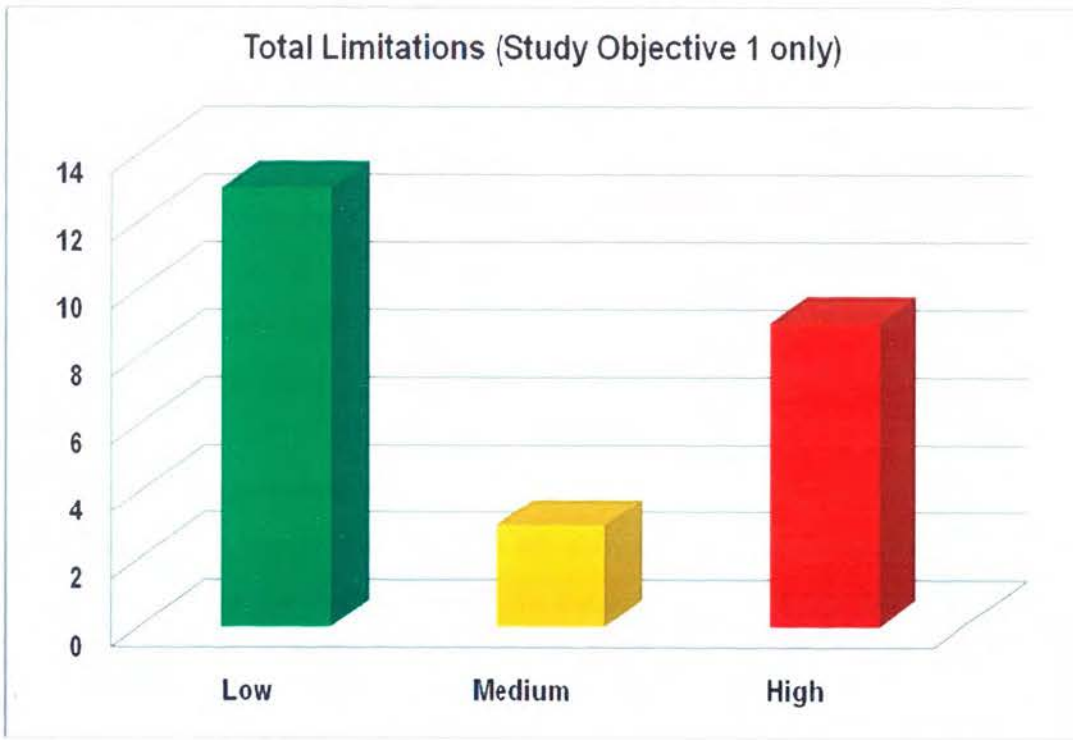


**Figure 6.2: Total Limitations Combined**

The combined benefits of the MDC shows a general positive picture where the number of high benefits is more than double the number of the low benefits with the only concern being that the number of the low benefits is 10% more than that of the medium benefits (*see Appendices H1 – H6 for comments on the ratings given for each benefit*). The high number of the low benefits emanates from the challenges experienced with the rehabilitation of the rail network and ports as well as the MDC in general having not delivered sufficiently on social aspects.

The combined limitations of the rehabilitation of the road, rail network and the ports shows a general picture where there was a failure to mitigate the negative effects of PPPs and thereby causing a high negative impact to the public (*see Appendices I1 – I3 for comments on ratings given for each limitation*). This results from long negotiations, complicated contracts and lack of capacity for the rail and ports. On the N4 toll roads, high impact limitations emanated from negotiations, lack of capacity from SANRAL and ANE as well as the lack of transparency on the part of the concessionaire. Overall, the number of the limitations with a high negative impact to the public is equivalent to 70% of the number of low negative impacts while number of the medium impacts is only equivalent to 23% of the number of the low negative impacts.

As indicated before the results of this study are based only on the information that the researcher could obtain, which is freely available to the public. The researcher made all attempts to obtain electronic copies of the annual reports of the organisations involved in the MDC's PPP projects, particulary TRAC. These reports were first searched for online. They are not available and written correspondence (e-mail) was sent to the concessionaires requesting copies of their annual reports. However, no response was received. Perhaps this is due to confidentiality issues as literature reviewed in this study indicates that PPP contracts generally limit access to information. Venter W. (2011), reported that TRAC could not even provide information requested formally through legislative channels.

The main aim of this study was to analyse the development of transport infrastructure through PPPs. As indicated above, the general findings of this study are that using PPPs results in more benefits than limitations. However, the main concern is that the limitations are a high percentage of the benefits. In addition, most of the benefits do not have high social rewards, which is unsuitable for South Africa where it is well known that the number of people dependent on the social welfare far exceeds the number of people who are contributing to the tax revenue and that the country also suffers from a high unemployment rate. One of the limitations that is also of concern is that in 2011, SANRAL reported that TRAC was also contracted to manage the weighing facilities on the N1 toll road in Limpopo (SANRAL,

2011: 36). The implication here is that there is no skills transfer to SANRAL as the toll road is operated by SANRAL. As discussed in Chapter 4, TRAC assisted SANRAL with overloading by introducing wheighing facilities on the N4 toll road in 2002. It is expected that by 2011 SANRAL would have aqcuired the skills to operate and manage these weighing facilities.

## 6.2 RECOMMENDATIONS FOR FUTURE STUDIES

Hauptfleisch and Marx (2011), argue that it is not easy to evaluate the MDC's positive developments into detailed socio-economic segments and called for further studies to be carried out on the spill over effects of development corridors. This study supports their view in principle, with the only difference being that the recommendations of this study are for further research to be carried out specifically on the socio-economic benefits of the tolling of roads through PPPs. This recommendation is motivated by the challenges faced in the funding of infrastructure as discussed in Chapter 1 as well as the current public opposition to the tolling of roads. This researcher is of the view that South Africa needs to find a suitable solution to the funding of infrastructure whereby the financiers, users and local communities will all be able to receive maximum benefits without one party benefitting at the expense of the other.

## 6.3 CONCLUSION

According to Hauptfleisch and Marx (2011), the findings of prior studies carried out on the MDC are an interpretation of those who carried out the studies. This is also true for this study, despite the fact that Hauptfleisch and Marx's study which is critical of negative findings on the MDC was commisioned by TRAC, the concessionaire of a major project of the MDC. Therefore the findings of this study are an interpretation of this researcher and the interpretation is based purely on the data obtained. Any additional data may lead to different findings. Different researchers may also have different findings with the same data used in this study. This researcher trusts that the findings of this study would be of value in addressing and mitigating the limitations experienced with regard to the development of infrastructure through public private partnerships.

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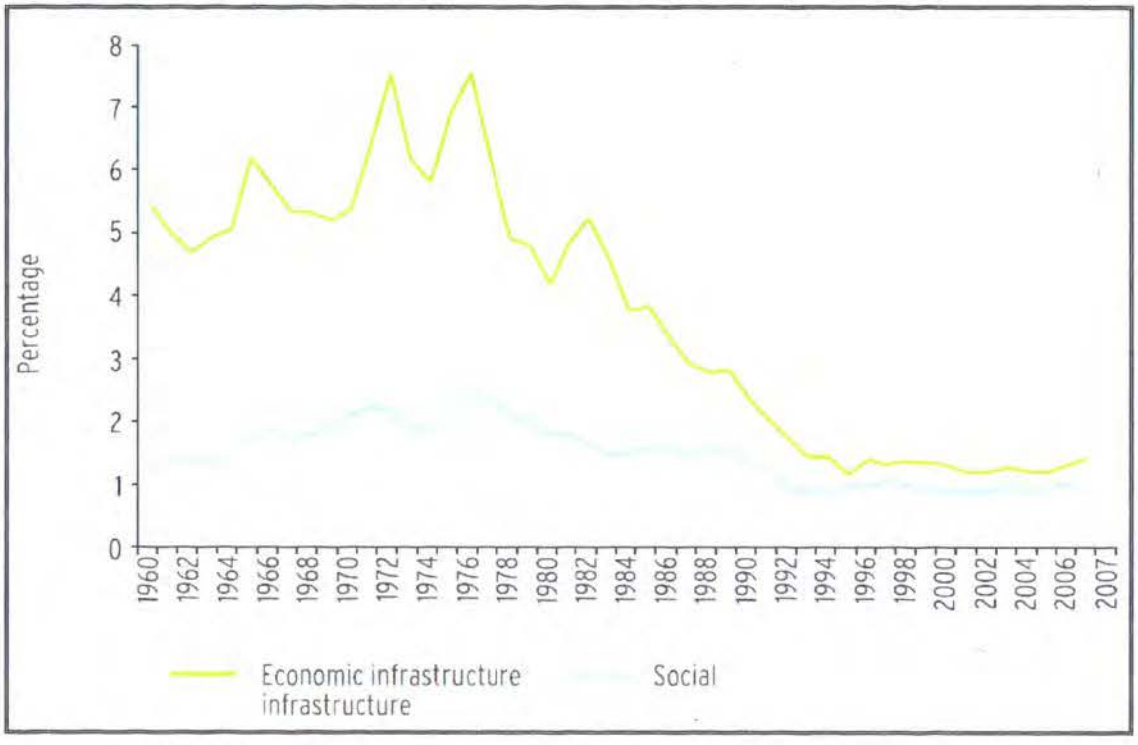
## 8. APPENDICES

### Appendix A: Public Sector Infrastructure Investment as % of GDP




***(Source: DBSA, 2008: 15)***

### Appendix B: SAICE Infrastructure Report Card for South Africa – 2006

| Category | Grade | Remarks by SAICE |
|---|---|---|
| **Roads** | **C** (*for national roads*) | Most in fair to very good condition, with recent strategic acquisitions in poorer shape. Increasing use of user-pays (tolling), but funding remains a challenge, especially given that key roads will soon require extensive refurbishment. |
| | **D-** (*all other roads*) | Generally inadequate funding and management systems leading to neglect of maintenance, combined with over-loading, means that maintenance backlogs are growing. Less condition monitoring than in the past. Shortages of skilled personnel. Decisions have been taken to stop maintaining some roads. |
| **Ports** | **C+** (*Transnet owned facilities only*) | Proper management practices on ageing infrastructure have extended its useful life. Increased investment and support underway to address increased demand. Further improvement expected as Transnet profitability improves. |
| **Rail** | **B** (*for heavy haul freight lines*) | The iron ore and coal lines are world class and well maintained. Profitable. Where demand is approaching capacity, upgrading is is programmed. |
| | **C** (*for general freight lines being retained*) | Condition declined in recent years due to maintenance backlogs and skills reduction. Traffic volumes are increasing, and upgrading urgently required. Improvement expected as Transnet profitability improves. |

| Category | Grade | Remarks by SAICE |
|---|---|---|
| Rail | E (*for uneconomical general freight lines*) | Low volume low profitability lines in the process of being disposed of. |
| | D+ (*for passenger lines*) | Gradual deterioration due to inadequate maintenance funding, reducing skills base, and vandalism, with resulting increased safety risks. Refurbishment underway. Improvement expected with the transfer to Department of Transport. |
| Overall | D+ (*average grade for all categories combined*) | Although South Africa's built environment infrastructure is very good, even world class in parts, the relatively poor grade reflects extensive maintenance and refurbishment backlogs. These backlogs are caused primarily by funding and skills shortages. |

| Grade | Interpretation | Description |
|---|---|---|
| A | World Class | Infrastructure is comparable to the best internationally in every respect. It is in excellent condition and well maintained, with capacity to endure pressure from unusual events. |
| B | Fit for the future | Infrastructure is in good condition and properly maintained. It satisfies current demands and is sufficiently robust to deal with minor incidents. |
| C | Satisfactory for now | Infrastructure condition is acceptable although stressed at peak periods. It will need investment in the current Medium-term Expenditure Framework period to avoid serious deficiencies. |
| D | At Risk | Infrastructure is not coping with demand and is poorly maintained. It is likely that the public will be subjected to severe inconvenience and even danger without prompt attention. |
| E | Unfit for purpose | Infrastructure has failed or is on the verge of failure, exposing the public to health and safety hazards. Immediate attention is required. |

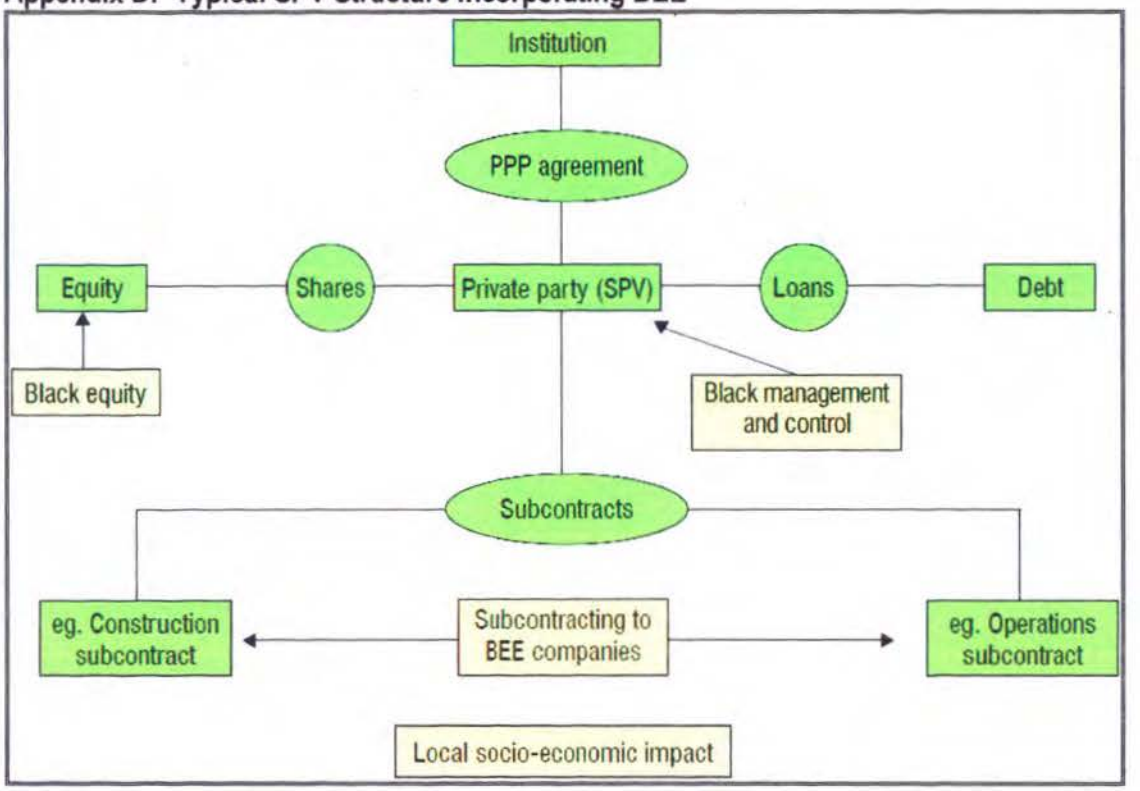
***Source: (SAICE, 2006: 6)***

**Appendix C: PRMG MTEF Allocation per province**

| Province | 2011/12 | 2012/12 | 2013/14 |
|---|---|---|---|
| Eastern Cape | R 1 034 086 000 | R 1 215 920 000 | R 1 312 210 000 |
| Free State | R 447 165 000 | R 525 794 000 | R 567 433 000 |
| Gauteng | R 566 917 000 | R 583 226 000 | R 625 542 000 |
| Kwa-Zulu Natal | R 1 236 648 000 | R 1 454 099 000 | R 1 569 251 000 |
| Limpopo | R 934 208 000 | R 1 098 478 000 | R 1 185 468 000 |
| Mpumalanga | R 1 016 603 000 | R 1 253 564 000 | R 1 449 002 000 |
| Northern Cape | R 308 760 000 | R 363 053 000 | R 391 803 000 |
| North West | R 501 826 000 | R 590 067 000 | R 636 795 000 |
| Western Cape | R 411 141 000 | R 483 437 000 | R 521 720 000 |
| **Total** | **R 6 457 354 000** | **R 7 567 638 000** | **R 8 259 224 000** |

***Source: (SANRAL - Presentation, 2011)***

**Appendix D: Typical SPV Structure incorporating BEE**



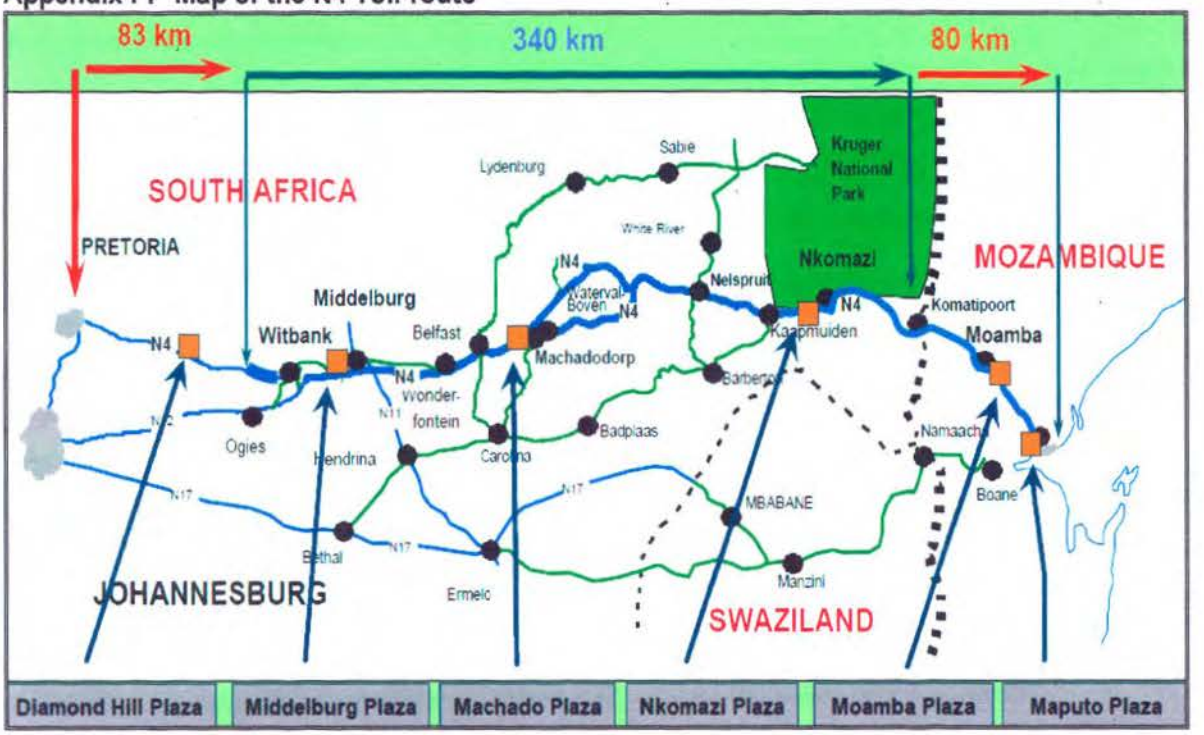

*(Source: PPPU, 2007: 16)*

**Appendix E: Overview of PPP experience in the Transportation Sector in Sub-Saharan Africa**

| Category | Extent of PPP | Nature of experience | Prospects |
|---|---|---|---|
| **Ports** | 26 container terminal concession, investing USD 1.3 billion. | Processes can be controversial but cancellations have been few and results positive. | Good potential to continue. |
| **Rail** | 14 railroad concessions, investing USD 0.4 billion. | Frequent re-negotiations, low traffic and costly PSOs keep investments below expectations. | Likely to continue but model needs to be adapted. |
| **Road** | 10 toll road projects almost all in South Africa, investing USD 1.6 billion. | No cancellations reported. | Limited as only 8 percent of road network meets minimum traffic threshold, almost all in South Africa. |

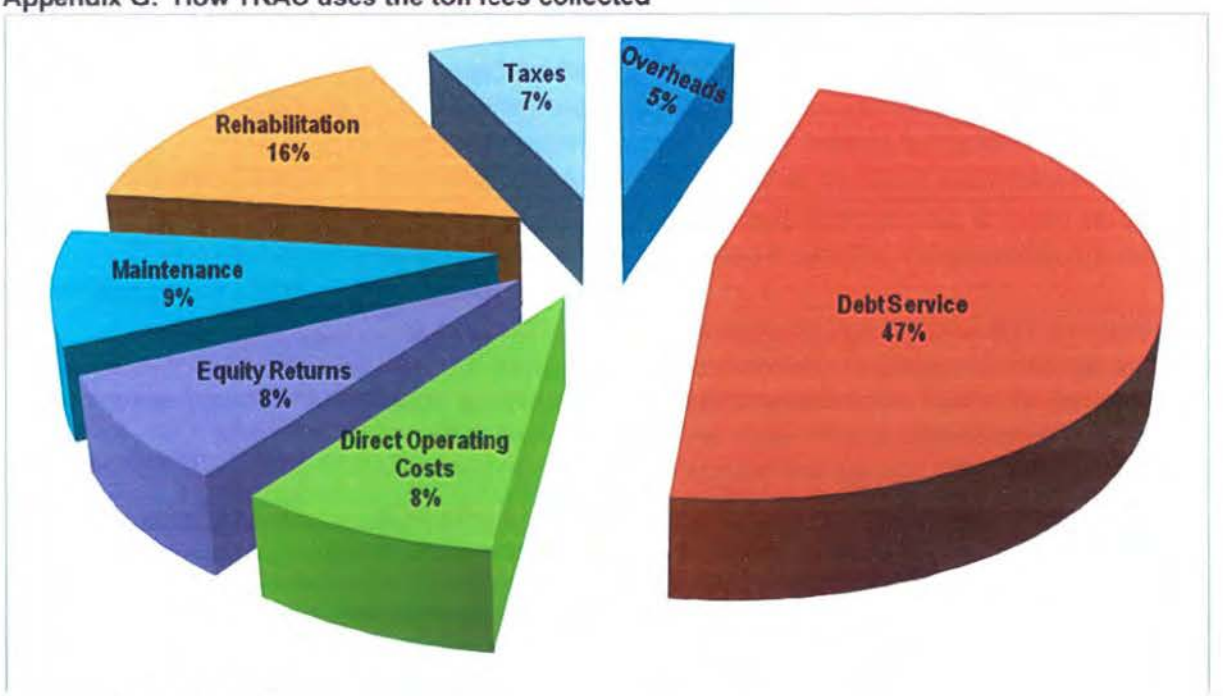
*(Source: BizClim, 2009: 4)*

## Appendix F: Map of the N4 Toll-route




*(Source: TRAC, 2010)*

## Appendix G: How TRAC uses the toll fees collected




*(Source: MCLI, 2010)*

**Appendix H1: Comments on the N4 Toll Road benefit ratings (Study Objective 1)**

| Description | Rating | Comments |
|---|---|---|
| Leverage Private Sector Capital | High | All construction, rehabilitation and upgrading activities on the N4 toll road were funded entirely through private capital. This includes the R900 million bypass at Nelspruit. |
| Leverage Private Sector Skills | High | In terms of the data discussed in Chapter 4, there is no indication that the concessionaire does not or did not have the required technical skills. |
| Better Project Planning | High | The rating given refers to planning of the technical aspect only and does not cover social ones. In terms of the data discussed in Chapter 4, there is no indication that there was poor planning. |
| Risk Allocation | Medium | Data discussed in Chapter 4 indicate that most of the risk was allocated to the concessionaire who was able to handle it. However, overloading was not covered. |
| Budgetary Certainty | Medium | This rating is given as a result of overloading not being covered. Data discussed in Chapter 4 indicate that discussions had to be held with regard to the claims for damage incurred by overloading |
| Focus on Outputs & Benefits | High | In terms of the data discussed in Chapter 4, it is the concessionaire responsibility to determine how to deliver the services while SANRAL and ANE are only focused on regulation and supervision. |
| Quality Standards | High | In terms of the data discussed in Chapter 4, road users, academics and other authors indicated well maintained and road as a benefit of the N4. The data also indicated that the concessionaire maintains quality. |
| Skills Transfer | Medium | Although the concessionaire has provided a lot of training to the local communities and they are also providing training to their employees, data discussed in Chapter 4 does not indicate that technical skills possessed by the concessionaire are being transferred to SANRAL, ANE or other road authorities in the two countries. |
| Accelerated Project Delivery | High | Data discussed in Chapter 1 clearly indicate that government would not have been able to fund the project at the time it was implemented. |
| Cost Savings | High | Construction was completed ahead of scheduled. It is well known and supported by the data discussed in Chapter 1 indicate that this leads to significant cost savings. |
| Efficiency | High | The concession contract bundled design, construction and operation into one contract. Literature reviewed in Chapter 2 indicate that this leads to efficiency as the concessionaire builds to ensure lower operation and maintenance cost. This is also supported by data indicating that the concessionaire only spends 17% of their revenue on operation & maintenance. |
| Flexibility | High | Literature reviewed in Chapter 2 indicates that a PPP can be structured in accordance with the specific needs, goals, outcomes and capabilities of the parties involved. Data discussed in Chapter 4 indicates that the concession contract was structured according to the needs of SANRAL, ANE and TRAC. |
| Innovation | High | In terms of the data discussed in Chapter 4, TRAC is credited with introducing innovative three-pronged strategy that successfully addressed the challenges of overloading. According to SANRAL (2011: 36), TRAC is even contracted to manage weighing facilities on the N1 in Limpopo province. |

**Appendix H2: Comments on the MDC Railway benefit ratings (Study Objective 1)**

| Description | Rating | Comments |
|---|---|---|
| Leverage Private Sector Capital | High | All construction, rehabilitation and upgrading activities on the MDC rail were funded entirely through private capital. |
| Leverage Private Sector Skills | High | In terms of the data discussed in Chapter 4, there is no indication that the concessionaire does not or did not have the required technical skills to rehabilitate the railway lines. |
| Better Project Planning | Low | Data discussed in Chapter 4 indicate that the rehabilitation of the railway encountered lots of challenges and was only completed in May 2008. |
| Risk Allocation | Low | Data discussed in Chapter 4 indicate that the risk from the slow progress on the rehabilitation of the railway line from Ressano-Garcia to the Maputo port was also borne by the operations of the port as well as the general public in Mozambique as passenger train services only ended up to Komatipoort. |
| Budgetary Certainty | Low | It is very likely that the costs of the rehabilitation of the railway lines were affected by inflationary increases as a result of the delays and slow progress indicated in the data discussed in Chapter 4. |
| Focus on Outputs & Benefits | Medium | CFM is an entity of the government of Mozambique and they are also part of the railway consortium. Thus it is unlikely that they would focus entirely on the outputs and benefits as discussed in the Literature reviewed in Chapter 2. |
| Quality Standards | High | Data discussed in Chapter 4 indicate that the concessionaire has managed to rehabilitate the lines to the same standards as the South African network. |
| Skills Transfer | High | Skills transfer should come automatically due to CFM being part of the consortium. |
| Accelerated Project Delivery | High | Although the rehabilitation suffered lots of delays, data discussed in Chapter 4 indicate that the Mozambican would have never been able to rehabilitate the line on their own. |
| Cost Savings | Low | This rating is given for two reasons. Firstly, it is very likely that the costs of the rehabilitation of the railway lines were affected by inflationary increases as a result of the delays and slow progress indicated in the data discussed in Chapter 4. Secondly, as much as completing a project ahead of schedule results in costs savings, a project that is behind schedule incurs additional costs. |
| Efficiency | Low | Data discussed in Chapter 4 indicate that there are still challenges with regard to rail transportation on the MDC. |
| Flexibility | High | Data discussed in Chapter 4 indicate that the government of Mozambique structured the concession contract according to their specific needs. |
| Innovation | High | Data discussed in Chapter 4 indicate that the concessionaire installed an airbrake system which doubled the capacity. |

**Appendix H3: Comments on the MDC Ports benefit ratings (Study Objective 1)**

| Description | Rating | Comments |
|---|---|---|
| Leverage Private Sector Capital | High | All construction, rehabilitation and upgrading activities at the ports were funded entirely through private capital. |
| Leverage Private Sector Skills | High | In terms of the data discussed in Chapter 4, there is no indication that the concessionaire does not or did not have the required technical skills to rehabilitate the ports. |
| Better Project Planning | High | Although the port only started operating in 2003, data discussed in Chapter 4 above indicates that the rehabilitation project went smooth once it started. |
| Risk Allocation | High | Data discussed in Chapter 4 indicate that the most if not all of the risk were borne by the concessionaire. |
| Budgetary Certainty | Low | It is very likely that the costs of the rehabilitation of the port were affected by inflationary increases as a result of the delays indicated in the data discussed in Chapter 4. |
| Focus on Outputs & Benefits | Medium | CFM is an entity of the government of Mozambique and they are also part of the railway consortium. Thus, it is unlikely that they would focus entirely on the outputs and benefits as discussed in the Literature reviewed in Chapter 2. |
| Quality Standards | High | Data discussed in Chapter 4 indicate that the ports experienced growth and that the South African motor industry delegates were satisfied with the ports. All these are an indication of quality standards. |
| Skills Transfer | High | Skills transfer should come automatically due to CFM being part of the consortium. |
| Accelerated Project Delivery | High | Although the rehabilitation suffered lots of delays, data discussed in Chapter 4 indicates that the Mozambican would have never been able to rehabilitate the ports on their own. |
| Cost Savings | Medium | It is very likely that the costs of the rehabilitation of the port were affected by inflationary increases as a result of the delays indicated in the data discussed in Chapter 4 |
| Efficiency | Medium | The port maintained high quality standards which should have resulted in efficiency. However, data discussed in Chapter 4 indicate that one of the challenges shippers had with the port was its lack of advanced computer systems. |
| Flexibility | High | Data discussed in Chapter 4 indicate that the government of Mozambique structured the concession contract according to their specific needs. |
| Innovation | Low | Data discussed in Chapter 4 indicate that one of the challenges shippers had with the port was its lack of advanced computer systems. |

**Appendix H4: Comments on the Social & Economic benefit ratings (Study Objective 3)**

| Description | Rating | Remarks |
|---|---|---|
| SMMEs | High | Data discussed in Chapter 4 indicate that SMMEs continues to be contracted by TRAC and Mozal. |
| Local Communities | Low | While TRAC seems to be doing its best, information obtained and data discussed in Chapter 4 indicate that this is eroded by the communities in general not having seen the spill over effects from the MDC. |
| Informal Traders | Low | This low rating has been awarded for two reasons. Firstly data discussed in Chapter 4 indicate that although the informal traders benefits from a well maintained road and shorter distance, most of them source their goods from Gauteng and the toll fees affect their profits while they have many people dependent on their businesses. Secondly there is no indication of any attempt being made to assist the informal traders crossing the border illegally. |
| Employment | Low | In terms of the data discussed in Chapter 4, unemployment continues to rise along the MDC and the investment projects themselves provide low volume permanent jobs. |
| Tourism | High | Data discussed in Chapter 4 indicate that the MDC has seen a surge in tourism along its areas. |
| Economic growth | High | Data discussed in Chapter 4 indicate that the impressive economic growth rate in Mozambique is attributed to the MDC and that in general the areas along the MDC are experiencing higher growth. |

**Appendix H5: Comments on the development approach benefit ratings**

| Description | Rating | Remarks |
|---|---|---|
| Other countries in the region. | Medium | Mozambique is fully involved in the MDC and was fully involved from the onset. Swaziland is starting to come on board. However, countries such as Zimbabwe and Botswana have never been involved. |
| Other affected and interested parties (local communities, informal traders and taxi operators). | Low | The MCLI prides itself in coordinating the users of the MDC and the authorities. Informal traders, Hawkers and taxi operators are also users of the MDC. However, data discussed in Chapter 4 indicate that the MCLI is working with one of its focus groups to remove hawkers and taxi operators at the Lebombo border post without liaising with these parties. In addition, the MCLI recruits only big business to their forum and there is no indication of them recruiting or engaging with the informal traders |

**Appendix H6: Comments community impact benefit ratings**

| Description | Rating | Remarks |
|---|---|---|
| Disadvantaged communities | Medium | It is noted that TRAC contributes to disadvantaged communities along the N4 and that they ceded R30 million in equity to a community trust in Mpumalanga. However, data discussed in Chapter 4 indicate that communities along the N4 are yet to see the spill overs promised from the MDC. |
| Other communities along the MDC | Medium | This issue deals with the BCS community whereby TRAC did not address their concerns and they did not dismiss them either. |

**Appendix I1: Comments on the N4 Toll Road limitations ratings (Study Objective 1)**

| Description | Rating | Remarks |
|---|---|---|
| Accountability & Transparency | High | Literature reviewed in Chapter 2 indicates that the PPP model itself limits access to information which leads to lack of transparency. The rating given is also supported by Venter W. (2011), who reported that TRAC refused to disclose income generated from the Middleburg toll plaza. The Democratic Alliance submitted a formal question to the Mpumalanga MEC for Roads and Transport requesting details on the income generated by TRAC from the Middleburg plaza. This is after a bridge on the alternative route between Middleburg and eMalahleni (formerly Witbank) collapsed, blocked the road and forced traffic to use the N4 toll-road. |
| Change in Stakeholders | Low | In terms of the data discussed in Chapter 4, there is no indication that the PPP for the N4 toll road has ever been affected by any change in stakeholders. |
| Complicated Contracts | Low | Literature reviewed in Chapter 2 refers to where an issue disrupts services as a result of the parties to the contract having being unable to cover such issues due to the contract being complicated. In terms of the data discussed in Chapter 4, there is no indication of services being disrupted due to SANRAL/ANE and TRAC being unable to resolve any issues that are not covered in the contract. |
| Lack of capacity from the public sector | High | Both SANRAL and ANE seemed to have been un-capacitated at the time of signing of contracts with TRAC as they failed to cover the issue of overloading. |
| Lack of Monitoring | Low | This rating covers the South African part only. The review of SANRAL's annual reports indicates that they are able to monitor all activities by the concessionaire. |
| Lack of Political Support | Low | This rating does not cover social aspects. In terms of the data discussed in Chapter 4, the concession contract of the N4 received the highest level of political support from both countries. |
| Negotiations | High | Data discussed in Chapter 4 indicate that discussions had to be held with regard to the claims for damage incurred by overloaded heavy duty vehicles. |
| Restriction on Competing Facilities | Medium | This aspect is rated as medium for two reasons. Firstly, details of the contracts signed between SANRAL & TRAC and ANE & TRAC could not be obtained, and it cannot be said that there is a limitation clause. Secondly, even if they were known data discussed in Chapter 1 indicates that SANRAL does not have the resources to provide a competing route. |
| Bankruptcy or Default | Low | Data discussed in Chapter 4 indicates that TRAC is currently able to honour their debt obligations. |

**Appendix I2: Comments on the MDC rail limitations ratings (Study Objective 1)**

| Description | Rating | Remarks |
|---|---|---|
| Accountability & Transparency | No rating | No relevant information could be obtained for the purpose of rating this aspect. |
| Change in Stakeholders | Low | Although there were changes in the consortium, it cannot be deduced from the data discussed in Chapter 4 that this is what led to the challenges experienced. |
| Complicated Contracts | High | Data discussed in Chapter 4 indicate that negotiations broke down. |
| Lack of capacity from the public sector | High | Data discussed in Chapter 4 indicate that negotiations broke down and that there were still challenges even after the new concession contract was awarded. |
| Lack of Monitoring | Low | It should be possible for the government of Mozambique to effectively monitor the concession contract due to CFM being part of the consortium. |
| Lack of Political Support | Low | In terms of the data discussed in Chapter 4, the concession contract of the rehabilitation of the railway lines received a high level of political support due to its strategic significance. |
| Negotiations | High | Data discussed in Chapter 4 indicate that negotiations broke down and that there were lots of negotiations. |
| Restriction on Competing Facilities | Medium | The details of the contract could not be obtained and it cannot be said that there is a limitation clause. However, data discussed in Chapter 4 indicates that due to the challenges experienced in rail transportation, there is competition from the road, which in itself is a contracted awarded by the government of Mozambique. |
| Bankruptcy or Default | Low | Data discussed in Chapter 4 indicate that at this stage there is an unlikely hood of a bankruptcy or default. |

**Appendix I3: Comments on the MDC ports limitations ratings (Study Objective 1)**

| Description | Rating | Remarks |
|---|---|---|
| Accountability & Transparency | No rating | No relevant information could be obtained for the purpose of rating this aspect. |
| Change in Stakeholders | Low | Although there were changes in the consortium, it cannot be deduced from the data discussed in Chapter 4 that this is what led to the challenges experienced. |
| Complicated Contracts | High | Data discussed in Chapter 4 indicate that some of the delays that led to the port being only operational in 2003 were contractual issues. |
| Lack of capacity from the public sector | High | Data discussed in Chapter 4 indicate that the project was delayed as a result of lack of capacity from the public sector in Mozambique and the situation was only resolved after the World Bank intervened. |
| Lack of Monitoring | Low | It should be possible for the government of Mozambique to effectively monitor the concession contract due to CFM being part of the consortium. |
| Lack of Political Support | Low | In terms of the data discussed in Chapter 4, the concession contract of the rehabilitation of the port received a high level of political support due to its strategic significance. |
| Negotiations | High | Data discussed in Chapter 4 indicate that negotiations broke down and that there were lots of negotiations. |
| Restriction on Competing Facilities | Medium | The details of the contract could not be obtained and it cannot be said that there is a limitation clause. However, data discussed in Chapter 4 indicate that due to the challenges experienced in rail transportation, there is competition from the road, which in itself is a contracted awarded by the government of Mozambique. |
| Bankruptcy or Default | Low | Data discussed in Chapter 4 indicate that at this stage there is an unlikely hood of a bankruptcy or default. |

## Appendix J: Research Letter

NORTH-WEST UNIVERSITY
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March 7, 2012

Dear Sir/Madam

**MBA Research: Developing Infrastructure through Public-Private Partnerships**

Mr. Tshiamo Moleme is a registered student of the North West University, Mafikeng Campus. He is currently carrying out a study on the Development of Infrastructure through Public-Private Partnerships as a partial fulfilment of the requirements of a Masters of Business Administration Degree.

This study is for academic purposes only and it is anticipated that its successful completion will enhance the research capabilities of the student. The North West University, Mafikeng Campus hereby kindly request you to provide the student with any assistance possible so as to enable the successful completion of the study. Kindly inform us should you wish to receive a summary of the findings on completion of this study. Please do not hesitate to contact me on the details mentioned below should you require any further clarity on this matter.

Kind Regards,

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