

Public Private Partnerships (PPPs) in South Africa

To what extent are PPPs suitable for the long-term development of infrastructure in South Africa?

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Abstract

South Africa has benefited from high economic growth rates since the beginning of the 2000's, allowing the country to be considered a member of the group of the large and fast-growing emerging economies, the so-called BRICS. South Africa faces serious infrastructure deficits, however, which are said to have dampened economic growth in recent years, and which will undoubtedly slow it down in the years to come. Responding to these needs will force South Africa into finding an alternative way of financing its infrastructure. Public private partnerships (PPPs) may be an interesting mechanism to respond to these upcoming challenges.

This study analyses what has been done in terms of PPPs in South Africa so far. It aims to determine to what extent PPPs are, in the current situation, adequate to respond to the long-term infrastructure needs of the country. Results show that these partnerships are still far from being such a tool in South Africa. Too few large-scale infrastructure projects are implemented through PPPs and in sectors that are not considered as ideal according to the literature. Reforms are required to make processes and legislation simpler, to increase the public sector's capacity to deal with these partnerships and to give a higher visibility and general commitment to the PPP concept among politicians, authorities and the population. Were these issues to be resolved, these partnerships would have great potential as a tool for the long-term development of South Africa's infrastructure.

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List of Acronyms

ANC	African National Congress
Asgi-SA	Accelerated Shared Growth Initiative for South Africa
BEE	Black Economic Empowerment
BOT	Build-Operate-Transfer
CSATU	Congress of South African Trade Unions
GFIP	Gauteng Freeway Improvement Project
IBRD	International Bank for Reconstruction and Development
MDC	Maputo Development Corridor
NPM	New Public Management
NPV	Net Present Value
OECD	Organization for Economic Co-operation and Development
PFMA	Public Finance Management Act
PPP	Public-private partnership
SADC	Southern African Development Community
SANRAL	South African National Roads Agency Limited
SDI	Spatial Development Initiative

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1. Introduction

Infrastructure, whose main aim is the provision of long-term public services (Pérez, 2011, p.15), is a very broad notion that covers a large variety of diverse facilities: transportation, water and waste facilities, ICT, power, social infrastructure, etc. (Pérez, 2011, p.16 & Prud'Homme, 2004, p.3-4). Infrastructure usually requires large financial investments that are spread over several decades. Built facilities, which are generally seen as indispensable for society (Brandao & Saraiva, 2006, p.1037), are space specific. As they cannot be removed from a region, they will shape the long-term economic geography of an area (Prud'Homme, 2004, p.4-5). It is generally admitted that infrastructure investment leads to higher economic growth, at least in the middle or long-term (Prud'Homme, 2004, p.1).

Being aware of the positive correlation between higher infrastructure investments and economic growth (Fourie, 2008, p. 481), the South African government has placed the development of infrastructure high on the country's expenditure list (Fourie & Burger, 2010, p.177). A study (Deloitte, 2010, p.1) found out that three quarters of the senior global business executives in South Africa believe that public infrastructure won't be sufficient to support their companies' long-term expansion. Moreover, the macroeconomic growth of the country will force the South African authorities to invest more and more in its already overloaded infrastructure (Deloitte, 2010, p.1); building more roads and railways, extending its electricity network and its power generation capacity, adding more telephone lines and providing more households access to water and sanitation (Fourie, 2008, p.482).

These needs are obviously far too high to be financed by the public sector alone. As such, more creative mechanisms have to be found (Kaberuka, 2011, p.9). One of these mechanisms could be public-private partnerships (PPPs). This type of agreement emerged in the 1980's with the concept of New Public Management, partly as a response to public resource scarcities and globalization. This new approach should lead to a more efficient and more transparent government (Velotti et al., 2012, p.340), implementing incentives and managerial techniques of the private sector, as well as increasing the involvement of this sector in domains that used to be held by public monopolies. Many public services, such as

procurement of roads, schools, prisons, among others, could thus be delivered through PPPs (Reynaers & De Graaf, 2014, p.120-121).

Governments all around the world have increasingly called upon PPPs for the development of infrastructure in the last two decades (Raja & Narain, 2011, p.1), however the UK is clearly a pioneer in this domain, since it started using this mechanism to finance its public infrastructure at the beginning of the 1990's (Heald et Georgiou, 2011, p. 217). African governments, which increasingly rely on the private sector to build, finance and operate infrastructure facilities that were previously managed by state-owned companies, are no exception. The number of PPP projects in Africa has been steadily growing since 1990 (Kaberuka, 2011, p.17).

After the first democratic election in South Africa in 1994, a shift from “government” to “governance” took place, leading to an increasing use of mechanisms such as concessions, PPPs and privatisations (Burger, 2006, p.1). A so-called “PPP Unit” was set up in 2000, following the approval of a “Strategic Framework for PPPs” in 1999. Its key role is the procurement and management of PPPs in South Africa (IBRD, 2013, p.72). PPPs are said to be important for the South African government. This mechanism must facilitate the rapid delivery of infrastructure throughout the country (PPP Unit – National Treasury, 2007, p.10), contribute to the overall economic development, the expansion of social and economic infrastructure, the improvement of human resource management, and the alleviation of poverty (Department of Economic Development – Kaiser Associates, 2005, p.22).

Even if South Africa is sometimes said to have a long experience in PPP projects at national, provincial and municipal levels (Raja & Narain, 2011, p. 284), and although it is supposed to be characterized by a strong PPP framework (IBRD, 2013, p.17), these partnerships are not realising their potential (Mitchell, 2007, p.5). The number of implemented PPP projects from 1998 to 2014, 24, has therefore been disappointingly low. That said, the budgetary constraints that the South African government increasingly faces, as well as the rapidly growing needs for up-to-date infrastructure could foster the use of new and innovative mechanisms. The question then is to determine if PPPs could end up being part of a long-term policy for the development of the South Africa's infrastructure (Deloitte, 2010).

There is a lack of research on PPPs in South Africa, especially in the domain of infrastructure. This thesis aims to give an overview of what has been done in the PPP market in South Africa

over the last 16 years. It will analyse certain characteristics of these PPP projects, based on the literature, the project data provided by the PPP Unit, and interviews with experts on the topic. The idea is to find out if PPPs, as they are set up today, could help to resolve the challenges that South Africa will face in the coming decades regarding the development of its infrastructure. If it comes out that they aren't, the critical issues that currently prevent PPPs from becoming such a tool will be identified, and recommendations for improvement will be made.

The research question of this master thesis is therefore the following:

“To what extent are PPPs suitable for the long-term development of infrastructure in South Africa?”

Such a study makes sense given that PPPs have been used in South Africa for the last 16 years. It is therefore not too premature to perform such an analysis, which would have been problematic in most other African countries, where the use of PPPs is more recent. The potential for further development of infrastructure in South Africa being enormous, the government will surely keep on looking for the best mechanisms to finance it in the long run.

2. Theoretical background

2.1 Infrastructure

2.1.1 Overview

The ultimate goal of infrastructure is to provide a long-term public service (Pérez, 2011, p.15). Infrastructure projects usually require large amounts of investment, have a long-term maturation, and provide services often seen as indispensable for society (Brandao & Saraiva, 2006, p.1037). Such projects, which normally cover several decades and are location specific, cannot be removed or displaced. As such, they have the potential to influence the economic geography of a country or a region in the long run (Prud'Homme, 2004, p.4-5).

The following table illustrates the different categories and subcategories contained within the notion of “Infrastructure”.

Table 1: Categories and subcategories of infrastructure.

Categories	Subcategories
Transportation	Roads, bridges, tunnels, rail tracks, ports, airports, canals, subways and tramways, etc.
Water supply	Dams, reservoirs, pipes, treatment plants, etc.
Water disposal	Sewers, used water treatment plants, etc.
Irrigation	Dams, canals, etc.
Garbage disposal	Dumps, incinerators, compost units, etc.
Heating	Plant, network, etc.
ICT	Internet, telephone exchanges, telephone lines, etc.
Power	Power plants, transmission and distribution lines, oil and gas pipelines, etc.
Social Infrastructure	Hospitals, schools, courts, prisons, libraries, sport centres, universities, etc.

Source: (Pérez, 2011, p16; Prud'Homme, 2004, p.3-4).

Better infrastructure stimulates the economic growth of a region as it can allow time-space convergence, enlarges markets, lowers trading barriers, and increases the size of the labour market and the goods or ideas market (Prud'Homme, 2004, p.1). Investments in core infrastructure sectors, such as transportation, telecommunication, energy, water & sewerage,

as well as housing, have a particularly positive impact on growth (Fourie, 2008, p.481-494; Fedderke et al., 2006, p.2; Heintz et al., 2009, p.1). Investing in roads, for instance, reduces transportation costs, and developing ports can lower trade costs for firms (Fedderke & Bogetic, 2006, p.2). Investing in social infrastructure can also provide benefits to the whole economy. For example investing in schools or hospitals, will lead to a healthier and more educated population, which in turn has an additional beneficial impact on the economy as a whole (Kularatne, 2006, p.25).

Investing in infrastructure has a net positive effect in both the short and long run (Heathcott, 2010, p.54). This is why governments often react to economic crisis by setting up stimulus packages that are mainly based on the development of infrastructure. Such packages provide benefits both in the short-term, for example by increasing the employment rate and stimulating the economy, and in the long-term, by providing better conditions for trade (Stilwell & Primrose, 2010, p.5-6).

2.1.2 Infrastructure in South Africa

Public sector investment in infrastructure in South Africa rose as a percentage of GDP between 1960 and 1976, before going into long-term decline. The strongest growth for South Africa's railways, for instance, was between 1875 and 1930. After that only little changes or extensions have been made (Perkins et al., 2005, p.223). Construction of national and provincial roads reached a plateau around 1940. They were then paved, which led to a rapid growth in road traffic. The capacity of South Africa's ports was substantially extended in the 1970's. Airports became widely available during the second part of the 20th century. The fixed telephone lines network grew rapidly in the 1980's and 1990's due to the worldwide revolution in information technology, and the mobile telephony exploded in the 1990's and early 21st century (Perkins et al., 2005, p.223).

That said, South African infrastructure lags far behind that of the richest countries of the world (Fourie, 2008, p.481). Logistic costs of South Africa, 15% of the GDP, are significantly higher than those of its trading partners, 8.5% of GDP (Kularatne, 2006, p.2). According to a study (Deloitte, 2010, p.3), 77% of senior global business executives in South Africa estimated that the current level of infrastructure will hinder their company's growth in the

long run, and that infrastructure would become over the next five years a more important factor in the choice of location for their operations (Deloitte, 2010, p.3). Being aware of the importance of the development of its infrastructure for the provision of better services, for a reduction in unemployment and in order to meet the rising needs of a growing population (Shaik & Narain, 2011, p.283), the South African authorities launched several infrastructure investment projects. A good example is the “Accelerated Shared Growth Initiative for South Africa” (Asgi-SA), a R415.8 billion program for the development of infrastructure over a period of three years, starting from 2008 (Fourie, 2008, p.481). In 2010 the government announced a range of investment projects for an amount of R785 billion, also over a period of three years (Deloitte, 2010, p.5). As proven by the organization of the Football World Cup in 2010, South Africa is able to undertake the required investments. For this event, it invested considerably in the expansion of public transport and road infrastructure, in the upgrading of the railway network, in the development of intermodal facilities, of bus rapid transit systems, inner-city mobility systems, airport-city links, freight services and passenger safety, as well as in intelligent transport systems (IBRD, 2010, p.294).

In comparison with its benchmark, i.e. the middle-income countries, South Africa enjoys relatively good infrastructure. That said, major issues exist in the following sectors (Bogetic & Fedderke, 2006, p.3 and p.15):

- Access to electricity and reliability of electricity provision: the existing electricity generation capacity is still inadequate to handle peak electricity demand. There is therefore an urgent need for new capacity (Perkins et al., 2005, p.223).
- Water and sanitation: The access in these domains is much lower than the benchmark, especially in rural areas.
- ICT: Good and competitive services exist for the wealthier segment of the population and the international enterprises, but this is not the case in rural areas at all.
- Transport (road, rail and ports): South Africa performs worse than most middle-income countries in this category. This can partly be explained by the legacy of the apartheid, which led to the current distribution of these facilities. Congestions at ports and unreliable railway services may hamper the future economic growth of the country. The underinvestment in roads over the last decades is said to have dampened the economic development of South Africa (Perkins et al., 2005, p.223).

Investment in these four sectors is thus urgently required to catch up with the group of the middle-income countries (Bogetic & Fedderke, 2006, p.15).

2.2 Public private partnerships (PPPs)

2.2.1 General considerations

PPPs emerged in the 1980's in the context of privatisation and de-regularisation under Regan in the USA and Thatcher in the UK (Heinze & Strünck, 2005, p.X). At that time the role of governments in the economy and society was intensely debated (Fourie & Burger, 2000, p.696). These reflections gave birth to the concept of New Public Management (NPM) that aimed to use competition mechanisms and market-based incentives in the public sector, and that considered the inclusion of the private sector in the delivery of public responsibilities. PPPs are part of this trend, which is why their popularity grew strongly during the 1990's in developed countries (UK) as well as in some emerging countries in Latin America, Eastern Europe and Asia (China) (Maskin & Tirole, 2007, p.1).

A PPP is a contractual agreement between a public agency and a private sector entity (Bloomfield & Ahern, without date, p.2). Its purpose is to combine the capacities of these two worlds (Engel et al., 2011, p.2) in order to implement a project that either side cannot carry out as effectively on its own (Grossman, 2012, p.184). Through a long-term agreement, the skills and assets of each sector, as well as the process of decision-making (Landow & Ebdon, 2012, p.728), are shared in delivering a public service or facility. Each of the parties bears the risks, but also the potential rewards of the procurement of public services (Bloomfield & Ahern, without date, p.2).

The public and the private sectors have distinct reasons to undertake a PPP. These are summarised in the table below, based on several studies.

Table 2: Reasons for the public and the private sectors to undertake a PPP.

Reasons for the public sector to undertake a PPP	Reasons for the private sector to undertake a PPP
<ul style="list-style-type: none"> - Lower overall costs and lower initial capital costs that enable the government to avoid or reduce budget deficits. - Shortage of public sector managerial and technical skills. Greater efficiency and creativity in the delivery of public services thanks to the use of private sector's managerial and technical skills that provide a surplus for PPPs in comparison with traditional projects, i.e. financed solely by the public sector. - Wish to reduce the risk for taxpayers, maximizing users' charges whenever it is possible. - Introduction of competition among the private sector entities, which fosters the reduction of costs and the delivery of quality services. 	<ul style="list-style-type: none"> - Opening of markets that were so far monopolized by the public sector, and therefore existence of new investment opportunities. - Long-term guarantees that cooperation with the public sector gives, which enables private entities to launch projects that would be, under normal conditions, too risky.

Source: Ahadzi & Bowles, 2004, p.968; Landow & Edbon, 2012, p.729; Van Ham & Koppenjan, 2002, p.597.

The basic efficiency-engine of a PPP is the transfer of risk to the private sector (Monteiro, 2007, p.1). Thanks to their better understanding of how competition works and their ability to manage risk, private entities can provide the right incentives for an efficient management of public services (Gerstlberger & Schmitt Wolfram, 2004, p.9). Thanks to their overall better management of risk, private actors can serve as a safeguard against “white elephants”, e.g. multilane freeways that run from nowhere to nowhere (Sadka, 2007, p.473).

One of the main characteristics of PPPs is the bundling of the building and the operation of a certain activity. This means that the same private entity will be responsible for both activities. It will therefore be less reluctant to invest in the construction phase, since it will benefit from this in the future, namely during the operation phase. This mechanism is realistic when the quality of the service that has to be delivered can be clearly specified and verified in the contract between the public and the private participants, e.g. a minimum flow on a motorway with a minimum speed guarantee and a maximum of noise (Sadka, 2007, p.469-470). Facilities are usually transferred to the public sector after a pre-determined period. This period should be long enough to allow the private entity to cover the construction, maintenance and operation costs (Sadka, 2007, p.480-481).

The roles of both parties must be clearly defined in the contract. The public participant should be responsible for the determination of the social utility of a project, the coordination with politicians, the monitoring of quality, the safeguard of public interest, and it should bear financially unprofitable investments. The private party should be in charge of the project

management, the involvement of other private parties (banks for instance), the technical specifications, the estimation of the costs, and the provision of information about the project (Mitchell, 2007, p.23).

The potential for successful implementation of PPPs is particularly high when projects are characterized by the features presented in the table below.

Table 3: Conditions for successful implementation of a PPP.

Conditions for successful implementation of a PPP
<ul style="list-style-type: none"> • A clear definition of the desired outputs is possible, allowing a payment mechanism adapted to the objectives of the project. • The project has a scope for innovation. • A partial transfer of risk to the private party is possible and desired (e.g. design, cost and time overruns etc.). • A whole life costing perspective can be undertaken, so that incentives for a better overall quality can be set up. • The project can be partly or entirely financed by user fees. This encourages private partners to provide best quality and to satisfy customers. • The private party has to be tied into a long-term commitment, with its own capital at risk, so that it wouldn't walk away if the cash flow were insufficient.

Source: Grimsey & Lewis, 2007, p.174; Spackman, 2002, p.290.

So, if a PPP project contains most of these criteria, it may be more beneficial for society than a traditional procurement would be, i.e. a procurement made directly by the state or through contracting-out (Mitchell, 2007, p.23).

Table 4: Advantages of PPPs over traditional procurements.

Advantages of PPPs over traditional procurements
<ul style="list-style-type: none"> • PPPs are supposed to be cheaper in the long run, since they include the expertise of private entities. • They may be more efficient and more responsive, thanks to private expertise. • Since public sector remains owner of the facilities, and private partners are responsible for the maintenance of them, every investment made by the private parties remains property of the public sector at the end of the contract period. • Better delivery on time and budget. Delivery standards can be improved, thanks to the implementation of business incentives. • The public sector may acquire some specific knowledge and skills from its private partner. • Employee performance being higher in the private sector, the entire project and therefore society as a whole can benefit from it.

Source: Mitchell, 2007, p.23.

The novelty of PPPs is that they provide a flow of infrastructure services over time. In traditional procurement, so called “contracting-out”, the private party designs and builds a facility according to the requirements of a public entity. When the contract is completed, the public sector assumes the operation and the maintenance of these facilities. These may then be contracted out once again to other private entities (Grimsey & Lewis, 2007, p.172).

In the case of PPPs, however, the private sector not only designs and builds, but also finances, operates and maintains new or refurbished facilities under a long-term contract (20, 30 or more years). At the end of this contract, facilities are transferred to the public sector (Grimsey & Lewis, 2007, p.172). In a PPP, both parties are equal partners, while in a traditional procurement there is a clear hierarchy, the public entity contracting a private one (Van Ham & Koppenjan, 2002, p.598). Such partnerships are particularly suited for complex projects, where so many interests are involved that the government needs private expertise, resources and innovative capability (Van Ham & Koppenjan, 2002, p.598). PPPs usually present a better delivery on time and budget than traditional procurement, because the public partner pays if and to the extent that results are delivered, year after year. In traditional procurement, the government pays whether or not the required service is delivered (Department of Economic Development – Kaiser Associates, 2005, p.39).

Van Ham & Koppenjan (2002, p.598) give a good, summarizing definition of PPPs:

“ [A PPP is a] co-operation of some durability between public and private actors in which they jointly develop products and services and share risks, costs and resources which are connected with these products or services”.

That said, a partnership between the public and the private sector is not always easy to put in place, especially because of a persistent lack of knowledge and understanding about each other’s interests and risks conceptions. The table below gives an overview of these cultural differences (Van Ham & Koppenjan, p.601-602; Flinders, 2005, p.216).

Table 5: Cultural differences between the public and the private sectors.

	Public sector	Private sector
Culture	<ul style="list-style-type: none"> • Long-term orientation • Not geared to exploitation and cash flows • Political primacy 	<ul style="list-style-type: none"> • Short-term orientation • Fixation on returns and cash flow.

Source: Van Ham & Koppenjan, p.601-602; Flinders, 2005, p.216.

In summary, PPPs can provide efficiency gains and improve public services in some cases, however their short-term benefits may be outweighed by long-term problems (Flinders, 2005, p.216).

2.2.2 PPPs in infrastructure

Private sector participation in the provision of infrastructure became more and more common in the 1980's (Vickerman, without date, p.2). Several reasons can explain this shift from public procurement towards partly or fully private procurement of infrastructure services: state budget deficits, inability of the public sector to manage complex infrastructure efficiently (Vickerman, without date, p.2), technological change, a better appreciation of linkages between incentive structures and operational efficiency, a better acceptance of the "user-payer" concept (Davis, 2005, p.439), the development of competitive markets (Calitz & Fourie, 2010, p.179), as well as a perceived or actual deterioration of infrastructure necessary to sustain economic growth (Heald & Georgiou, 2011, p.217). A much larger range of goods and services traditionally "tax-financed" are now regarded as "priceable" self-financing activities; the ability to determine a price ("user payer principle") having gained ground over taxation. This has fostered greater private investment in the provision of infrastructure (Calitz & Fourie, 2010, p.179). It also reflects a shift in mentalities, since tax-financed infrastructure projects gave the wrong impression to the citizens that they used a facility for free and that the state would pay for the bill (Krumm & Mause, 2009, p.112).

Due to the monopoly nature of infrastructure, its provision cannot be left to pure market forces. The public sector has to bear the possible policy failures (Prud'Homme, 2004, p.5-6). This justifies the fact that strategic decision-making remains under public responsibility during the whole life cycle of facilities (Araujo & Sutherland, 2010, p.6).

Infrastructure PPP agreements are said to have the capacity to fill the gap between the costs of investment needed and the resources available to ensure that infrastructure is delivered efficiently and cost-effectively (Saussier, 2013, p.143). They can be defined as "long-term contractual relationship[s] between a public body and a private partner (or a consortium of private firms) for the construction and the operation of infrastructure" (Araujo & Sutherland, 2010, p.6). The private partner will be in charge of the building, the managing and asset maintenance, the service provision and the investment, in exchange for regular payments by the government and/or user charges (Araujo & Sutherland, 2010, p.6). An optimal risk allocation between both parties assigns each risk to the party that can best manage it. The government should therefore assume the risks that its private partner cannot bear (Araujo & Sutherland, 2010, p.9).

Choosing PPPs for the financing of infrastructure presents several advantages. Since infrastructure has a long-term use, it makes sense to spread its financing over several generations. PPPs are thus fairer than traditional procurements in terms of intergenerational justice (Pérez, 2011, p.30). The user-payer mechanism, which enables pricing that aligns beneficiaries closer to their responsibilities for the costs of facilities, is an interesting tool as well. This is particularly the case for developing countries where infrastructure is usually the first budget item to be cut in time of crisis (Calitz & Fourie, 2010, p.180).

Respecting some basic elements can make PPPs in infrastructure successful, as has been the case in several countries all around the world (the UK, Australia, Canada, South Africa, etc.).

Table 6: Elements to ensure the success of infrastructure PPPs.

Elements to ensure the success of infrastructure PPPs
<ul style="list-style-type: none"> - The public sector must define long-term needs (15-30 years) with an output specification and performance criteria, but without being too prescriptive about the means that have to be used. - No payment should be made before the asset is delivered and working; a reduction of the subsequent payments can be set up if service performance standards are not met. - The “design risk” should be left to the private party; the private partner should effectively own the assets. - There should be no funding for the private sector during the construction phase; the risks of cost overruns and of delays must remain on the private side. - The public sector should give the control over the resources and assets to its private partner, so that the latter bears risks, but also receives the rewards of effective ownership (Grimsey & Lewis, 2004, p.6-7). - The public sector has a certain expertise in assessing and managing risk. - Clear lines of accountability and responsibility must be defined (Murphy, 2008, p.120).

Source: Grimsey & Lewis, 2004, p.6-7; Murphy, 2008, p.120.

According to Murphy (2008, p.120), if all these criteria are met, the only reason for failure is the lack of political will.

2.2.3 PPPs in South Africa

The first democratic election in South Africa took place in 1994, just after the fall of the apartheid regime. This caused a shift in the philosophy of the South African state, from “government” to “governance”, and new mechanisms such as concessions, PPPs and privatisation emerged in the second half of the 1990’s (Burger, 2006, p.1). Since then, the number of partnerships between the public sector, the private sector, communities and civil society is said to have grown steadily. A legislative framework has been developed at national, provincial and municipal levels (Mitchell, 2007, p.5).

In 1999, the government passed the so-called “Public Finance Management Act” (PFMA), to create a governance structure for the procurement of goods and services by the public sector (Farrugia et al., 2008, p.21) and to start a decentralization process (The World Bank, 2007, p.31). Other goals of the PFMA were to ensure transparency, equitability and fairness, as well as to regulate PPP procurements (Farrugia et al., 2008, p.21). In 2000 a PPP Unit was established within the Treasury Department, and in 2004 a detailed PPP guideline was published (Dewulf et al., 2011, p.XXX). The first PPP projects in South Africa took place earlier, however, namely between 1998 and 2000, under the responsibility of the South African National Roads Agency (SANRAL), with the building of two toll roads (N3 and N4) (IBRD, 2013, p.72).

The PPP Unit was created to prevent line ministries from undertaking PPPs that would enable them to avoid formal budget limits, as happened in the late 1990’s. The PPP Unit was hence implemented to prevent fiscally irresponsible PPPs from being set up and to maintain investor confidence in the viability of such partnerships (The World Bank, 2007, p.48). Shifting risk to the private sector and achieving a greater efficiency were secondary goals, at least initially (The World Bank, 2007, p.31).

The PPP Unit is a centre of knowledge and expertise that provides technical assistance during the creation of a PPP (Burger, 2006, p.5). It develops, formulates and promotes PPP policy, formalises and standardises PPP processes, ensures that international best practices are followed and provide PPP training for both the public and private sectors (PPP Unit – National Treasury, 2007, p.20). It doesn’t actively seek the development of new projects, which remains under the initiative of the government departments or the provinces (Burger, 2006, p.15). It doesn’t have an approval authority in practice, but in the reality it is said to benefit from a high level of influence and credibility and therefore effectively has the last word on PPP projects (The World Bank, 2007, p.49).

A PPP is defined in South African law as a “contract between a government institution and a private party, where the private party performs an institutional function and/or uses state property in terms of output specifications, [where] substantial project risk (financial, operational and technical) is transferred to the private party, [and where] the private party benefits through unitary payments from the government and/or user fees” (PPP Unit- National

Treasury, 2007, p.5). PPPs are said to be important for the South African government. This mechanism must facilitate the rapid delivery of infrastructure (PPP Unit – National Treasury, 2007, p.10), participate in overall economic development, the development of social and economic infrastructure, the improvement of human resource management as well as the alleviation of poverty (Department of Economic Development – Kaiser Associates, 2005, p.22).

Despite the high potential for PPPs in South Africa, the pace of their implementation has been relatively slow. Since 1998, only 24 PPPs have been set up, which represents not more than 1.5 per year on average (Burger, 2006, p.7-8). Finding out what explains this very slow pace of implementation is the main objective of this research. This is the only way to determine whether PPPs can become a long-term tool for the development of South African infrastructure.

Thanks to its well-developed financial market, South Africa benefits from a relatively favourable access to private capital (Calitz & Fourie, 2010, p.186). The SANRAL has many years of experience in the implementation of PPPs and is therefore internationally recognized as a centre of expertise for PPPs in roads (Castalia Strategic Advisors, 2007, p.5). South Africa also has developed hospital schemes where the private sector provides and maintains health infrastructure facilities for the public sector under a long-term contract. These projects are said to be testing the applicability of PPPs for a large-scale provision of affordable medical services in Africa (IBRD, 2009, p.99). However, it is the conclusion of the Gautrain Project in 2007 that was considered as the most promising sign of the burgeoning activity in the infrastructure PPPs market (Levinsohn & Reardon, 2007, p.4).

The Gautrain is a high-speed train (up to 160km/h) connecting Johannesburg, Pretoria and the OR Tambo International Airport, together making up the economic powerhouse of South Africa. Debates about its construction first took place in 2000. In 2006, after a 20-year PPP contract was signed between the Gauteng Province and the Bombela Concession Co consortium, works were initiated (Gauteng Provincial Government, 2013, p.12-14). The government is responsible for the regulatory framework, subsidies and guarantees, while its private partner has to deal with the design and construction, as well as the operation and the maintenance of the facilities. The funding of the Gautrain is mainly based on the user-pay principle (Gauteng Provincial Government, 2013, p. 12-14).

The Maputo Development Corridor (MDC), a toll road (N4) linking the South African mines and other industries to the port of Maputo (Mozambique), is said to be another PPP success story in the country (World Economic Forum, 2013, p.69). Its origin goes back to the 1995 Spatial Development Initiative (SDI), an agreement to re-establish the transport axis between the Gauteng Province, the economic heartland of South Africa, and Maputo, its nearest port (Roodt, 2008, p.90), in order to boost the economic productivity and growth in both regions (World Economic Forum, 2013, p.69). The 30-year PPP contract was signed in 1996 on a Build-Operate-Transfer (BOT) basis (Shaik & Narain, 2011, p.283).

In chapter 2.1.2, South Africa's high need for infrastructure was presented. As this need is higher than what the government can provide with traditional procurements, South African authorities have to find alternative means of funding the development of its infrastructure. PPPs are such a means. An important advantage over total privatization is that they are politically more acceptable. Governments fear the loss of their sovereignty over their infrastructure. In this sense PPPs enable them to remain the owner of the assets, at least after the contract period. The main question of this paper is therefore:

“To what extent are PPPs suitable for the long-term development of infrastructure in South Africa?”

This chapter has shown that even though PPPs are considered well established in South Africa, they are actually not very common in this country. As previously noted, only 24 PPPs have reached financial closure so far. One explanation could be that the South African authorities use a very strict definition of PPP and thus that not every partnership between the public and the private sector is considered as a PPP. Their definition of PPPs is based on the UK model, which is very strict about that. Concessions¹ are for instance not considered as PPPs in South Africa.

The low number of implemented PPPs in South Africa cannot be explained simply by this strict definition though. Given that an entire Unit, the PPP Unit, has been set up to deal

¹ A distinction between PPPs and concessions has to be made. Concessions also make use of private parties to achieve value for money, but in this case the assets remain public property all the time. Private parties operate and finance the maintenance of the assets, but they are generally not involved in its construction. They pay the public sector for the right to operate already existing facilities. Gaining their revenues through user charges, there is usually no payment from the public side.

with the issue of PPPs in South Africa, the pace of one and a half PPPs per year on average cannot be considered as satisfying. There must be other factors that limit the pace at which such partnerships are undertaken in this country. Finding out what factors are responsible for this and determining if these factors can be overcome are therefore the main targets of this study.

In order to identify the possible causes of the low number of PPPs in South Africa, three hypotheses have been set up, based on literature and successful experience in this domain. These three hypotheses are presented and justified in the next chapter.

2.3 Hypothesis

2.3.1 Hypothesis one

Infrastructure can be separated very basically into two types: economic infrastructure (transport, fleet, energy, water, waste, ICT, etc.) and social infrastructure (schools, universities, clinics, hospitals, prisons, etc.) (Akitoby et al., 2007, p.8; Prud'Homme, 2004, p.6). Economic infrastructure is said to be long lasting, while social is comparatively shorter lasting (Prud'Homme, 2004, p.6). According to the literature, economic infrastructure is more suitable for PPPs than social infrastructure. Several reasons, summarized in the table below, support this argument.

Table 7: Reasons for the high suitability of PPPs in economic infrastructure.

Reasons for the high suitability of PPPs in economic infrastructure
<ul style="list-style-type: none"> • A solid project that addresses bottlenecks in infrastructure such as roads, railways, ports or power plants and distribution is more likely to have high economic return and therefore to attract private investment, than a social infrastructure project. In addition, investors often are more interested in long-term and large projects that bring in steady return.
<ul style="list-style-type: none"> • PPPs should ideally be financed through user charges. This way of payment is more feasible and more desirable in economic infrastructure projects than in social ones.
<ul style="list-style-type: none"> • One of the key mechanisms that make PPPs successful is the bundling of the construction and the provision of the infrastructure. This mechanism is obviously much easier to implement in economic infrastructure, e.g. construction, operation and maintenance by the same private partners, than in social infrastructure; building and operating a hospital, for instance, are two totally different things.
<ul style="list-style-type: none"> • Due to their long-term nature, PPPs work better in domains where realistic demand forecasts can be made over a long period of time. Domains such as transportation or water provision are not subject to sudden and strong technological advancement or innovation that can render the facilities obsolete.
<ul style="list-style-type: none"> • In the case of schools or prisons, where the actions of the public sector can directly and strongly affect the demand level, the public party has to bear the demand risk. Such a situation is not ideal, since PPPs aim to transfer an important part of the risk to the private sector.

Source: Akitoby et al. (2007, p.8), Kaberuka (2011, p.18), Pérez (2011, p.30), Ferreira da Cruz & Cunha (2012, p.1434) and Araujo & Sutherland (2010, p. 9-10).

According to the literature, not every type of economic infrastructure is equally adequate for the implementation of PPPs. Such agreements have to be made for a few decades, in order to guarantee a revenue stream that will compensate private entities' investment and thus attract private investors. In sectors where demand or supply conditions change rapidly and therefore cannot be properly foreseen, contracts will necessarily be incomplete in their construction. This can lead to opportunistic behaviour, underinvestment and a lack of innovation on the private sector's side (Araujo & Sutherland, 2010, p.10). On one hand, PPPs are thus not ideal for sectors where user's needs or technology change fast, as the costs of renegotiating PPP contracts are high. The ICT sector is particularly exposed to such unpredictable technological progress. On the other hand, PPPs seem to be adequate for transportation and water facilities, where demand remains relatively stable and predictable (Araujo & Sutherland, 2010, p.10).

That said, undertaking PPPs in the ICT domain could be of interest to the public sector. Indeed, the private sector enjoys greater experience in building and operating communication networks, from which public institutions might benefit. Another reason for the private sector to participate in the development of ICT infrastructure is that it is the main user of the ICT networks built in cooperation with public sector (IBRD, 2011a, p.198).

Generic facilities (e.g. leisure centres, public housing, etc.) have a high number of potential buyers. This increases the bargaining position of private investors, especially in comparison to a situation where the public sector is the sole buyer of services (prisons, hospitals etc.). Thus, PPPs seem to be particularly suitable for the construction and the operation of generic facilities (Araujo & Sutherland, 2010, p.32).

At world level, PPPs are more common in the ports, telecommunications and transportation domains than in the power or the waste fields (Shaik & Narain, 2011, p.283; Department of Economic Development – Kaiser Associates, 2005, p.33). Moreover, the interest of the private sector in undertaking a PPP in the water, waste and power domains is said to be relatively low (Kaberuka, 2011, p.18).

In the OECD countries, from 2000 to 2007, PPPs were mostly implemented in transportation (especially for roads). Very few were undertaken in the telecom and energy markets, while several projects were launched in the water and sewerage sectors (Araujo & Sutherland, 2010, p.13). This doesn't mean, of course, that what works in the OECD countries would necessarily work in South Africa and vice-versa. The idea here is rather that it is easier

to implement PPPs in domains where “champions” can be taken as examples, either abroad or within the country. If very few, moderately successful projects were undertaken in ICT in the OECD countries, it makes the task more complicated for authorities interested in setting up a PPP in that sector.

The table below summarizes the key points so far.

Table 8: Potential of infrastructure domains.

Domains	Potential for PPPs	Reasons
Transportation (e.g. Roads, railways, ports, etc.)	High	<ul style="list-style-type: none"> - Large-scale projects with long-term high and steady economic return. - User charges. - Bundling construction/operation. - Realistic demand forecast over long periods of time. - Low exposure to technological advancement and innovation. - Stable and relatively predictable demand that can hardly be influenced by government’s actions. - Most implemented PPPs in the OECD countries during the 2000’s.
Generic facilities (e.g. leisure centres, public housing, etc.)	Middle/High	<ul style="list-style-type: none"> - High number of potential buyers.
ICT	Middle	<ul style="list-style-type: none"> - High interest on the private sector’s side to benefit from efficient ICT networks. - High experience of building and operating ICT networks in the private sector. <p>BUT</p> <ul style="list-style-type: none"> - Unpredictable technological changes. - Only a few projects implemented in the OECD countries. Lack of “champions” or models that could be taken as examples.
Power	Middle	<ul style="list-style-type: none"> - Large-scale projects with long-term high and steady economic return. - User charges. - Bundling construction/operation. - Realistic demand forecast over long periods of time. - Stable and relatively predictable demand that can hardly be influenced by government’s actions. - Low exposure to technological advancement and innovation. <p>BUT</p> <ul style="list-style-type: none"> - Low private sector interest in investing. - Only a few projects implemented in the OECD countries. Lack of “champions” or models that could be taken as examples.
Water, sewerage and waste	Middle	<ul style="list-style-type: none"> - Large-scale projects. - Common in the OECD countries. - Stable and relatively predictable demand that can hardly be influenced by government’s actions. <p>BUT</p> <ul style="list-style-type: none"> - Low private sector interest in investing.
Social infrastructure (e.g. schools, hospitals,	Low	<ul style="list-style-type: none"> - Short-term and low economic return. - No user charges. - Public sector as unique buyer of the services. - Bundling hardly possible.

prisons, etc.)	- Demand strongly affected by government's actions.
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Source: Araujo & Sutherland, 2010, p.10, p.13 and p.32; IBRD, 2011a, p.198; Shaik & Narain, 2011, p.283; Department of Economic Development – Kaiser Associates, 2005, p.33; Kaberuka, 2011, p.18.

The idea isn't that PPPs in social infrastructure, for instance, have no chance of being successful. The table above only reflects the main patterns according to the literature. If the empirical evidence in South Africa shows a distinct pattern for a certain type of infrastructure, this wouldn't automatically mean that PPPs in South Africa are successful or not. The issue is more about the likelihood of PPPs of being successfully implemented in the distinct sub-sectors of infrastructure.

Another aspect is that South Africa needs large infrastructure projects, especially in transportation, power, ICT, water and sewerage, if it wants to fill the infrastructure gap existing with other middle-income countries (Bogetic & Fedderke, 2006, p.15). Growing public investment in these types of infrastructure should be reflected by an increase in the number of PPPs undertaken in these sectors (Department of Economic Development – Kaiser Associates, 2005, p.33). Only that way could PPPs be considered as a long-term tool for the development of South African infrastructure.

The first hypothesis is therefore the following:

“In South Africa PPPs are implemented in the most adequate sectors and where South African needs for infrastructure are.”

This hypothesis is voluntarily formulated so that it doesn't say clearly in which domains PPPs should be implemented. The choice not to cite explicitly sectors can be justified by the methodology that has been used to answer this question. As detailed in the next chapter, this hypothesis will be answered comparing the data, i.e. where PPPs are implemented in South Africa, with the literature (table above), South Africa's infrastructure needs and the opinion of experts. Because of the specificities in the South African case, it is essential to take into account expert opinions rather than relying solely on the quantitative data available.

So, to summarize, there are two distinct and important aspects behind this first hypothesis. Firstly, the sectors in which PPPs have been or are being undertaken in South Africa will be compared with the findings of the literature based on sector-related suitability (Table 8)

Secondly, this actual implementation of PPPs in South Africa will be compared to the needs of the country to undertake large-scale infrastructure projects in precise sectors, i.e. transportation, power, ICT, water and sewerage. For PPPs to become a long-term tool for the development of South African infrastructure, these two features are essential.

2.3.2 Hypothesis two

PPPs are usually associated with high transaction costs, due to their long-term character, their ownership and financing structures and their risk-sharing features. Transactions costs are the costs to establish and maintain a partnership, the legal, financial and technical advisory costs for both the public and the private partners, as well as the costs for organising the bidding process (Gerstlberger & Schmittl, 2004, p.2-4). Moreover, PPPs are recognized as complex agreements, costly both in money and time terms (Sadka, 2007, p.488), which often make them beyond the implementation and management capacity of the public sector (Grimsey & Lewis, 2007, p.185). A minimum project size seems therefore to be necessary for a PPP to be financially and economically profitable (Gerstlberger & Schmittl, 2004, p.15-26). The high complexity of such partnerships makes them more suitable for expensive, large-scale projects, rather than short-term, simpler ones (Araujo & Sutherland, 2010, p.33). The substantial transaction costs of PPPs would make small projects unprofitable. Long-run projects, spread over decades, allow the partners to cover their investment and to reach long-term overall efficiencies (PriceWaterHouseCoopers, 2010, p.2 and p.11). These particular characteristics make PPPs less attractive, or even impracticable for small undertakings (Sadka, 2007, p.488).

The South African PPP Unit itself admitted (PPP Unit – National Treasury, 2007, p.14) that very large infrastructure assets are the most suitable type of projects for the implementation of PPPs.

The private sector also considers, on the one hand, that the complex rules that have to be followed for the implementation of PPPs make sense for large-scale projects, which are profitable over a longer period of time, allowing the important initial investment to be covered. On the other hand, the existing rules are said to be too restrictive for smaller projects, mostly implemented at municipal level (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007, p.i-ii).

Another aspect is that the public sector in South Africa is said to be characterised by a lack of capacity. This lack is highest at municipal level (Levinsohn & Reardon, 2007, p.5). Local authorities may face enormous difficulties in dealing with the complexity of legal procedures that go with PPPs in this country (Mitchell, 2007, p.14). Moreover, the completely different market and legal environment at that level of the state is an additional issue for local authorities who wish to enter into a PPP agreement (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007, p.i-ii). Transferring what works at higher levels of the state (national or provincial levels) to municipalities cannot be done systematically in South Africa given the particularities of local government. PPPs are no exception here.

Almost 10 years ago, in 2005, the PPP pattern in South Africa did not correspond to what would be considered as a long-term use of PPPs for the development of infrastructure. There was no significant national PPP project, which is, or at least was, not a good sign for the use of PPPs as a long-term tool to foster the development of the infrastructure of the country. Significant PPP projects, above R1 billion were totally absent in South Africa (Department of Economic Development, 2005, p. 22).

As discussed in chapter 2.1.2, South Africa urgently needs investment in large-scale infrastructure projects. If PPPs are to become a long-term tool for the development of the countries' infrastructure, they have to be implemented for these important projects as well. Using PPPs for the development of small-scale projects is naturally positive, however this could hardly contribute significantly to filling South Africa's infrastructure gap. In the rest of the world, PPPs are successfully used for large-scale projects, especially in the transportation systems (Department of Economic Development – Kaiser Associates, 2005, p.33).

Thus, the second hypothesis is the following:

“In South Africa PPPs are mostly implemented for large-scale projects, i.e. at national or provincial level.”

2.3.3 Hypothesis three

Making a PPP successful is a complicated matter. The success of such an agreement depends not only on internal, but also on external factors, on which PPP partners cannot have a direct influence. Based on the earlier literature review, several criteria have been identified as increasing the likelihood that a PPP project reaches its goals. The third hypothesis will deal with these criteria and particularly with their fulfilment or not in South Africa.

a) PPP undertaken for good reasons

PPPs must be undertaken for their intrinsic qualities. Implementing PPPs to evade, for instance, budget constraints, and therefore spread public expenditure over several years or decades instead of paying the bill immediately, can lead to the risk that governments don't design contracts properly, that they don't make sure the right incentives are in place for a PPP to become a success (Maskin & Tirole, 2007, p.3; Sadka, 2007, p.487-488). Moreover, PPP programs should not focus only on "easy", "glorifying" projects, that don't have any ambition to transfer risk to the private sector and that don't address South Africa's infrastructure real needs (The World Bank, 2007, p.49). In other words, if PPPs aren't chosen for the right reasons, they won't become the long-term tool for the development of South African infrastructure that they could potentially become.

b) Favourable environment

A strong, mature and stable environment is a necessary condition for PPPs to flourish (Dewulf et al., 2011, p.XXX). Such partnerships are often said to fail because of a lack of capacity to manage and maximize their potential (Mitchell, 2007, p.13) on both the public and the private side. The public sector has to increase its capacity to implement and manage PPPs, while private entities must contribute to the development of the PPP market, improving for instance the quality of the advisory services provided to public institutions (PPP Unit – National Treasury, 2007, p.23). Matching the capacities of all the involved entities of a PPP can turn out to be problematic (Mitchell, 2007, p.13).

An active political commitment from the public officials involved in the design and implementation of PPPs is also essential for such projects to be successful (Mitchell, 2007, p.19). This commitment must exist at every level of the state and be totally independent from the electoral cycle. Continuity in public policy and in the support on the public authorities'

side is indispensable for long-term partnerships, such as PPPs, to reach their goals (Koppenjan, 2005, p.140-142).

PPPs are vulnerable to political pressures, but, at the same time, they require strong political support (Mitchell, 2007, p.23). This paradox makes PPPs a particularly sensible tool for the development of South African infrastructure. PPP contracts must be thorough enough to withstand political pressure and corruption (Mitchell, 2007, p.14; Landow & Ebdon, 2012, p.732; Jackson & Hlahla, 1999, p.558). Due to their complexity, the size of the financial flows involved and the close interaction of public/private, PPPs are said to be one of governments' activities that is most vulnerable to corruption, fraud and waste (Saussier, 2013, p.143). This is why these agreements must be subject to strict rules and controls from independent entities.

Another political aspect is that private parties may not always be well equipped to operate in the public tumult that may surround major infrastructure projects in South Africa, as well as in the rest of the world (Van Ham & Koppenjan, 2002, p.608). One of the main political risks of PPPs is the option for the government to modify the investment rules or the regulation measures, either because of a strong political change or because of macroeconomic shocks (Reside, 2009, p.46). One example of macroeconomic risks could be the sudden devaluation of the country's currency. This is particularly problematic for foreign investors since they see their profits in strong currencies (USD for instance) reduced. Depending on the type of PPP contracts, the currency risk would be assumed either by the private entities or, more likely, directly by the customers (Reside, 2009, p.48).

c) Competition among credible bidders

The bidder with the lowest costs is not necessarily the best potential partner to undertake a PPP with. The best value of the potential private partners must be considered in the long-term, and not only in the short term. Factors such as the candidate's experience in a specific field play an important role in the selection of the right partner (Mitchell, 2007, p.19). The concerned public institution must study carefully the bidding documents, in order to avoid, among other things, inappropriate assumptions made in aggressive bidding strategies, such as excessively optimistic population growth forecasts, or unrealistic forecasts of consumption per customer. Not doing so can lead to poorly equipped firms winning the bids; such firms will seek to renegotiate the contract when its assumptions are proven to be false. The public party would be in this case doubly harmed, i.e. it chose the wrong partner and it cannot evade a renegotiation of the contract (Marques & Berg, 2010, p.5). In order to avoid such a

situation, competition is needed in the PPP market. With a greater shared vision of how PPPs can be implemented effectively in the country, public and private sectors can both benefit from it: the more bidders there are for each project, the higher the competition is in the PPP market, the likelier it is that the public sector will find the right partner to undertake a partnership with (PPP Unit – National Treasury, 2007, p.23; Landow & Ebdon, 2012, p.729).

d) Well-designed contracts

A lack of transparency and determination of accountabilities in the contract can raise the overall costs of a PPP project (De Bettignies & W. Ross, 2004, p.136; Reside, 2009, p.47). Moreover, contracts should clearly specify the service quality that has to be assured by the private sector, as well as providing means to measure it (De Bettignies & W. Ross, 2004, p.148). Dispute resolution mechanisms also have to be clearly stipulated in every PPP contract (Dewulf et al., 2011, p.XXX). The contracts, extensive and detailed, must describe without ambiguity the roles and responsibilities of both the public and the private partners (Mitchell, 2007, p.19). Well-designed contracts are indispensable to promote PPPs as a long-term tool for the development of South African infrastructure.

The success of PPPs is mostly based on adequate risk sharing between the public and the private parties (Landow & Ebdon, 2012, p.729). The long-run characteristic of PPPs implies a long-term consideration of the existing risks and therefore an in-depth reflection on how these risks have to be shared (Landow & Ebdon, 2012, p.729). For a PPP to be successful, the public sector must have the capacity to bear part of the risks, especially fiscal ones. PPPs are not a means for the public sector to transfer all the risks to the private sector (Reside, 2009, p.47), and they shouldn't be considered so. The consequence of a public sector wanting to transfer too much risk to its private partners is that the interest of the latter in entering PPPs wanes over time, and that PPPs cease to be an interesting alternative for the provision of public infrastructure (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007, p.ii). Another aspect is that since governments remain the provider of last resort in any case, infrastructure being a public good, private parties could exploit this weakness to transfer more risk back onto the public entity (Araujo & Sutherland, 2010, p.9). The public sector would in this case end up bearing more risk than it should. Governments must therefore be able to both identify *and* transfer a significant part of the risk to its private partner, in order to make PPPs a credible alternative for the provision of infrastructure (Vining & Boardman, 2006, p.1-2; Landow & Ebdon, 2012, p.729).

An adequate income stream must be assured for the whole length of the partnership. Several tools, as well as combinations of tools can be set up to make a PPP profitable: tolls, fees, tax increments, etc. (Mitchell, 2007, p.19). While designing a PPP, the capacity of off-takers and customers to pay the planned tariffs must be carefully analysed and any overestimation must be avoided (Reside, 2009, p.47). The government can provide income guarantees in some cases, but these guarantees should be clearly defined in advance in order to avoid any opportunistic behaviour on the private party's side (Gauteng Provincial Government, 2013, p.21). Achieving better value for money being one of the reasons for undertaking a PPP, if income streams are proven not to be assured in such partnerships in South Africa, that could hardly foster the use of these agreements in future infrastructure projects.

e) Good communication with stakeholders

Active communication with the diverse stakeholders of PPPs, e.g. employees, customers, press, Trade Unions and other interest groups, must be ensured (Mitchell, 2007, p. 19). This is particularly true as PPPs have a public dimension that gives them a greater visibility than usual private projects. They can therefore easily become targets of social protests (Mitchell, 2007, p.23; Van Ham & Koppenjan, p.600). There may be a fear in the public sector of losing state sovereignty over infrastructure considered as public (PriceWaterHouseCoopers, 2010, p.13). Thus, good and active communication with stakeholders has to be set up in the early stage of PPP projects, if such agreements are to be successful in the long run in South Africa.

f) Not too complex PPP's legislation and processes

Being subject to specific legislations (Mitchell, 2007, p.23) and to highly complex processes, PPPs can become very onerous (Gauteng Provincial Government, 2013, p.21). Due to their particular nature, these agreements can take longer to set up than traditional procurements. (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007, p.i-ii). Legislation that is too complex can have a negative impact on the pace at which PPPs are implemented in the country. Finding the right balance between a too poor and a too complicated PPP legislation is a real challenge for the public sector.

g) Active and efficient PPP Unit

The South African PPP Unit should have the required resources available to promote PPPs all over the country (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007, p.i-ii) and to play its role of regulator well. If South Africa wants to promote PPPs as a long-term tool for the development of its infrastructure, its PPP Unit has to be active and efficient. The role played by this Unit appears to be fundamental for the long run success of the PPP program in South Africa.

The table below summarizes the criteria identified as necessary for a PPP to be successfully implemented, and shows the core components of each of these criteria.

Table 9: Summary of criteria necessary for a PPP to be successful.

Criteria	Details
PPPs undertaken for good reasons	<ul style="list-style-type: none">• For their intrinsic qualities.• Not only to evade budget constraints.• Not only an “easy”, “glorifying” project.
Favourable environment	<ul style="list-style-type: none">• Capacity on both public and private sides.• Active political commitment to PPPs.• Understanding of political processes on private sector’s side.• No political pressure, fraud and corruption.• Well-equipped private entities to deal with possible political tumults.• Low macroeconomic risk.
Competition among credible bidders	<ul style="list-style-type: none">• Selection of the right partner.• High competition in the PPP market.
Well-designed contracts	<ul style="list-style-type: none">• Transparency, no ambiguity.• Clear determination of responsibilities, service quality and dispute resolution mechanisms.• Public sector shouldn’t want to transfer too much risk to its private partner.• Private entities shouldn’t abuse the public sector’s role of “provider of last resort”.• Adequate level of income stream assured for the whole life of a project.• Clear definition of public guarantees.
Good communication with stakeholders	<ul style="list-style-type: none">• Active communication with the diverse stakeholders of a PPP, especially Trade Unions.
Not too complex PPP legislation and processes	<ul style="list-style-type: none">• Finding the right balance between a too poor and a too complicated PPP legislation.
Active and efficient PPP Unit	<ul style="list-style-type: none">• Active promotion of PPPs.• Support for public departments.

Source: see elements above.

If South Africa wants PPPs to become a long-term tool for the development of its infrastructure, these criteria must be met. Therefore, the third hypothesis is the following:

“The criteria required for the implementation of PPPs as a long-term tool to fulfil South African needs for infrastructure are met in South Africa.”

3. Methodology

Many research questions can be answered thanks to both quantitative and qualitative methods. Combining two different methodologies with non-exclusive objectives (Mack et al., 2011, p.4) can make the results more relevant, powerful and complete (Patton & Cochran, 2002, p.2). Therefore, both quantitative and qualitative methods are going to be used to answer the research question of this work.

Quantitative methods are more rigid and inflexible (Mack et al., 2011, p.3). They aim at the statistical measurement of a variable through the use of, among others, percentages (Patton & Cochran, 2002, p.2). In this thesis the use of quantitative methods will be limited to the presentation and analysis of percentages. No statistical study of the data will be undertaken, both because the number of cases is too low (24 PPPs) and because such an analysis wouldn't be necessary in the framework of this study. Details of exactly what will be done are given in the paragraphs referring to hypothesis one and two.

Being more flexible, qualitative methods enable researchers to explore a phenomenon in-depth. They refer to individual experiences and are textual. They allow a greater level of adaptation and spontaneity between the participants and the researcher. They use words rather than numbers as data for analysis (Patton & Cochran, 2002, p.2). Participants are free to choose their own words and to enter in greater detail, much more than what is feasible in quantitative studies (Mack et al., 2011, p.3-4). An advantage of qualitative methods is that the collection of a relatively small sample of the population is sufficient. That said, sampling has to be made according to clearly defined criteria and the sample size must be adapted to the resources and the time available (Mack et al., 2011, p.5). A disadvantage of sampling is that it is hard to determine to what extent results may be biased by participants' experiences (Patton & Cochran, 2002, p.2). In this study the sample is made of 14 participants, representing every sector of the society that have expertise in the PPP domain, i.e. the World Bank, public and private organizations, advisory firms and university professors (Annexe 1).

The qualitative tool that is going to be used for this study is the interview. An interview can be defined as a conversation between two or more people with a clear objective in mind, i.e. to gain information that the interviewees may possess (Lessa de Oliveira, 1982, p.12-13). Interviews present several advantages over other methods, i.e. the provision of a great amount

of information or the fact that spontaneous questions can be asked during the interview for clarification or to gain more information about the topic (Rotter & Özbek, 2010, p.12-14; Hanson & Skjutar, 2010, p.14). To be more precise, the method used for this study is called semi-structured interviews. That means that the interviewer remains free to ask additional, non-planned questions according to the responses of the participants. This flexibility provides a better global understanding of the research field (Lessa de Oliveira, 1982, p.12-13). One of the interviewees in this study (Kevin Brian Arendse – Western Cape Province) was not available for a discussion however. A written interview therefore had to be conducted instead. Of course, this is not ideal but remains better than no interview at all.

Interviews must be systematic, credible, and transparent, in order for readers to be able to reproduce the obtained results (Patton & Cochran, 2002, p.11). In order to assure the quality of the interviews and to be able to lead them properly, an attentive study of secondary literature is an absolute necessity. The questionnaire, which can be found in annexe 2, has to be based on a strong theoretical framework. In chapter 2.3.3, after an in depth review of literature, key aspects for the success of PPPs were identified, which would serve as discussion points during the interviews with experts (Sobuza, 2010, p.71). However, interviews also present disadvantages: they are time consuming and require careful preparation to guarantee a certain level of reliability (Robson, 2002, p.273, quoted from Rotter & Özbek, 2010, p.12-14).

Interviewees were selected mostly according to their know-how in the domain of PPPs and their position within a certain organization, but also according to their availability and willingness to take part in this study. Most of the time, companies or departments were contacted first by email and then by phone call. People from very different horizons were contacted: representatives of both public and private sector, of the World Bank, of advisory firms, as well as university professors. The detailed list of the interviewees can be found in annexe 1.

The questionnaire was sent in advance to the participants in order for them to prepare. Interviews were tape-recorded whenever it was possible; in all cases except one. However the author also took notes, with the tape allowing verification of what had been said, and to complete notes afterwards.

Hypothesis one (*“In South Africa PPPs are implemented in the most adequate sectors and where South African needs for infrastructure are.”*) will be answered through both quantitative and qualitative methods. The PPP Unit provides a complete list of closed and on-going PPPs on its website², indicating the sectors in which they have been implemented. Other PPPs are registered on the website of the SANRAL³ (SANRAL, 2013) and were, logically, all implemented in the transportation sector. Firstly the author will, by analysing the data in chart form, find out in which sectors PPPs are mostly implemented in South Africa. The PPP projects will be classified according to the nomenclature presented in chapter 2.1.1 (table 1) and the observed pattern compared with the one identified in chapter 2.3.1 (table 8) as being more likely to lead to successful PPPs. The author will then determine to what extent PPPs are theoretically used in the most suitable sectors in South Africa. Secondly, the author will compare the observed pattern with South Africa’s infrastructure sectors that urgently have to be developed (chapter 2.1.2). Thirdly, he will take into account the experts’ opinions about this question (Question 1a, annexe 2). This qualitative aspect of the research will enable the author to confirm or relativize the results obtained through the analysis of the PPPs data. This approach is particularly important regarding this hypothesis because, as already seen in chapter 2.3.1, there is no absolute unanimity among researchers regarding which sectors are most adequate for PPPs. Combining data analysis based on literature and talks with experts should enable us to answer this hypothesis with a higher reliability than if just one of these methods were used.

Hypothesis two (*“In South Africa PPPs are mostly implemented for large-scale projects, i.e. at national or provincial levels.”*) will be answered in the same way as hypothesis one. Firstly the author will analyse the data provided by the PPP Unit on its website. Concerning closed PPPs the level will have to be determined, since the data doesn’t specify it. Looking for more information on the Internet and asking the PPP Unit directly in case of any doubts will enable determination of the level of the state for each project. After having collected this data and presenting it in chart form, the author will analyse the obtained results according to what has been found in the literature (table 8). The quantitative aspect of this analysis will help determine if South Africa’s PPPs follow the pattern identified as being the most adequate in terms of level of the state at which such agreements should be implemented. Looking solely at the level of the state would not provide us enough information about the “large-scale” aspect

² <http://www.ppp.gov.za/>

³ <http://www.nra.co.za/>

of the hypothesis, however. Indeed, small projects can also be implemented at national level, and not only at municipal level. Therefore, the author will also have a look at the value of the closed PPP projects in financial terms, in order to determine their relevance for South Africa's infrastructure overall. A study (Department of Economic Development, 2005, p. 22) mentioned R1 billion as being a significant value for a project to be qualified as of "large-scale". This amount is equal to around \$100 million. Closed PPPs will therefore be sorted by money value, based on the data from two studies: Jooste (2011) for the PPPs registered by the PPP Unit and Nyagwachi (2008) for the SANRAL's PPP toll roads. The data can be found in annexe 6. From the aforementioned studies, data have been adapted to the current exchange rate Rand-USD (15.04.2014). Using a qualitative approach, the author will then analyse the experts' opinion on this question (Question 1b, annexe 2). The combination of these two methods should give, as in the case of hypothesis one, a stronger significance to the results and thus help the author to answer this question with a higher reliability.

Hypothesis three (*"The criteria required for the implementation of PPPs as a long-term tool to fulfil the South African needs for infrastructure are met in South Africa."*) will have to be answered exclusively through qualitative methods, i.e. interviews. Indeed, a mixed approach cannot be undertaken in this case. No database could be set up for each identified criteria in the success or failure of a PPP, since these considerations depend to a great extent on the perspectives, i.e. public or private sector's, advisory agency's or university professor's viewpoints. As the results will show, regarding certain questions, results can vary strongly between the different participants. In the questionnaire, the relevant questions for this third hypothesis are those under part two, "Keys for successful PPPs". They correspond to each of the criteria identified in chapter 2.3.3, which theoretically have to be met for a PPP to be successfully implemented. Questions are expressed so that they shouldn't influence the interviewees' answers. The idea is to be as neutral as possible for each interview and to give opportunities for the interviewees to focus on the aspects that they consider most important. These aspects can vary strongly from one interviewee to another. After having collected data through interviews, these data will be sorted, analysed and presented in the section "results". Statements that were made by several experts (at least 3 or 4) will be systematically presented in table form. Other statements considered of high importance will be mentioned in the text. Results will then be interpreted and discussed in the following chapter.

For the three hypotheses, data collected from different organisations will be analysed in relation to the theoretical framework. The author will then try to identify patterns, based on the data. The findings will be analysed in-depth in the discussion part. Finally the author will try to dress overall conclusions as well as identifying areas for further research. Recommendations for future PPP programs in South Africa will also be made. It is important to keep in mind that generalizations have to be made carefully in a qualitative study, because of the bias that can emerge from interviews.

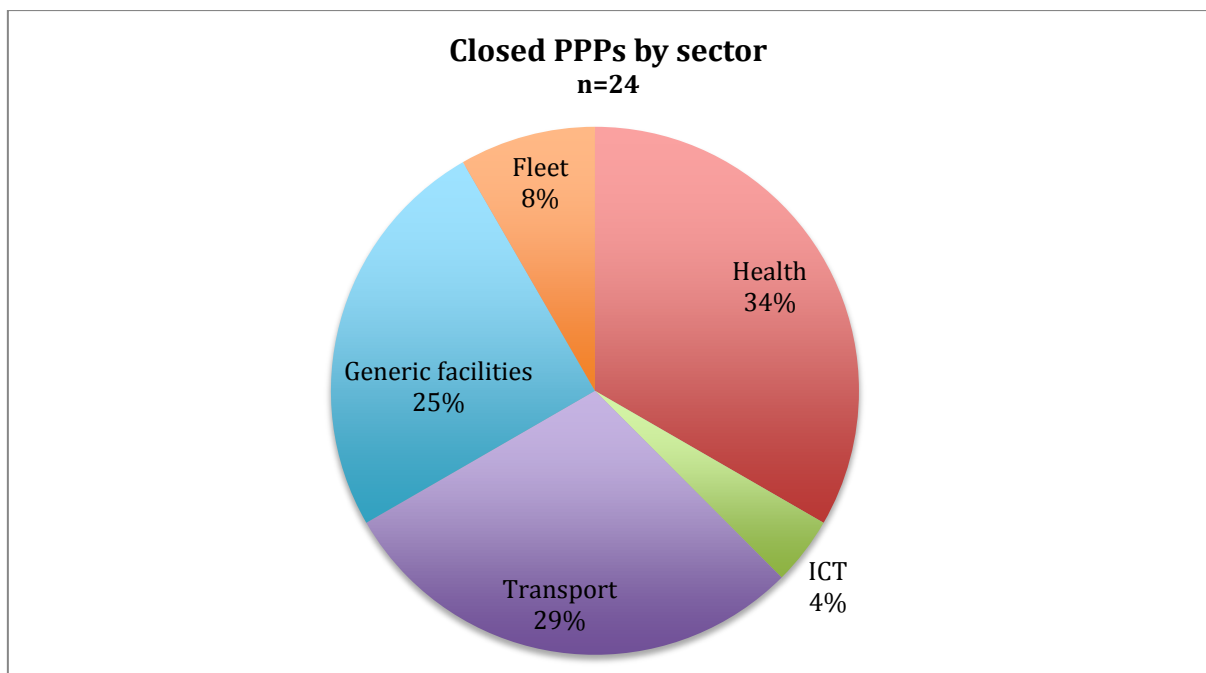
4. Results

4.1 Hypothesis one

“In South Africa PPPs are implemented in the most adequate sectors and where South African needs for infrastructure are.”

Based on the list provided by the PPP unit⁴, the SANRAL (SANRAL, 2013) and on the interview with Mr. Smit, of the SANRAL, PPP projects have been classified by sector. The detailed list can be found in annexe 6.

FIGURE 1: Closed PPPs by sector.



Source: PPP Unit & SANRAL.

The theoretical pattern presented in table 8 suggests that transportation and, to a lesser extent, generic facilities (in this case government accommodation) were ideal sectors to implement PPPs in. A bit more than half of South Africa's PPPs (54%) have been implemented in these sectors: seven in transportation and six in generic facilities. One project was done in the ICT domain (4%), which is considered as having an average potential to implement such partnerships. Eight PPPs (34%) were undertaken in the health sector, which isn't said to always be adequate for PPPs, like other social infrastructure. The two last PPPs (8%) are fleet

⁴ [www.http://www.ppp.gov.za/](http://www.ppp.gov.za/)

management agreements. They cannot be considered as transportation partnerships, since only the management aspect of fleet and not the building and operation of infrastructure assets is concerned. This type of PPPs has not been observed in the literature, but since they represent only 8% of South Africa's PPPs, they don't have a significant impact on the PPP program.

South Africa's pattern in terms of sectors where PPPs are set up therefore shows mixed results. On one hand, more than half of all PPPs were made in highly suitable domains (transportation and generic facilities). On the other hand, however, a third of them were implemented in the health sector, where there are important and understandable doubts about the adequacy of PPPs. At first sight, this pattern is thus not ideal.

In chapter 2.1.2, it was noted that South Africa's needs for infrastructure were the highest in transportation, power, ICT, water and sewerage. Comparing these needs with the sectors where PPPs are set up in this country provides a more than mitigated result. Only eight projects (33% - seven in transportation and one in ICT) have been implemented in those sectors.

The third stage of this first hypothesis is to analyse the experts' opinions acquired through the interviews (question 1a; Annexe 2). The table below shows a summary of the key points of the interviews' findings.

Table 10: Summary of the interview findings for hypothesis one.

Summary of the interview findings for hypothesis one	
Statements	Occurrence
<i>PPPs are implemented in suitable domains to meet South Africa's needs for infrastructure</i>	7
<i>PPPs can potentially work in every domain; there is just a need for "champions"</i>	3
<i>The transportation sector is particularly adequate for the implementation of PPPs</i>	4
<i>There are some doubts about the suitability of the health sector for PPPs</i>	6
<i>There are some doubts about the suitability of the water sector for PPPs</i>	5

Half of the experts (7) consider that PPPs are implemented in suitable domains to meet South Africa's needs for infrastructure. This doesn't mean that the other half thinks the opposite: they may not have been in a position to give a clear answer to this question. Three interviewees are convinced that PPPs can potentially work in every sector, but that what is needed is a "champion" in every domain, an example that can be followed for future PPPs. It is interesting that six interviewees believe that transportation is totally adequate for PPPs.

Five experts have some doubts about the use of PPPs in the health and six have doubts about its use in the water sectors. These statements reflect what has been found in the literature and presented in table 8.

Comparing these statements with the real pattern of PPPs in South Africa is interesting. The majority of experts consider that PPPs are implemented in suitable domains to answer South Africa's needs for infrastructure. It is interesting that the only real exception is Ms. Mtshali, from the PPP Unit. Her worry is that PPPs, so far, haven't been implemented in sectors where South Africa's biggest needs for infrastructure are (transportation, power, ICT, water). In those domains, departments or public enterprises (*Transnet* for freight logistic, *Eskom* for power, etc.) usually provide their services without calling in partnerships with private sector. These institutions can borrow money directly from the capital markets.

In summary, the three steps that should lead to the answer of hypothesis one provide mitigated results. Comparing the situation in South Africa with the ideal pattern deduced from literature, only half of all PPPs are implemented in sectors considered as ideal for PPPs (transportation and generic facilities). However, one third of them were used in social infrastructure (health), which is said not to be ideal for PPPs.

Linking the observed PPPs pattern with the serious needs of South Africa in terms of infrastructure provided even more mitigated results: only one third of the PPPs have been implemented in those sectors (transportation and ICT).

Except for the member of the PPP Unit, whose opinion deserves special attention due to her position, the experts don't really have objections in terms of sectors where PPPs are implemented in South Africa. That said, the contradiction between the doubts about PPPs in the health sector and the fact that one of third of these partnerships was actually implemented in this sector has to be emphasized.

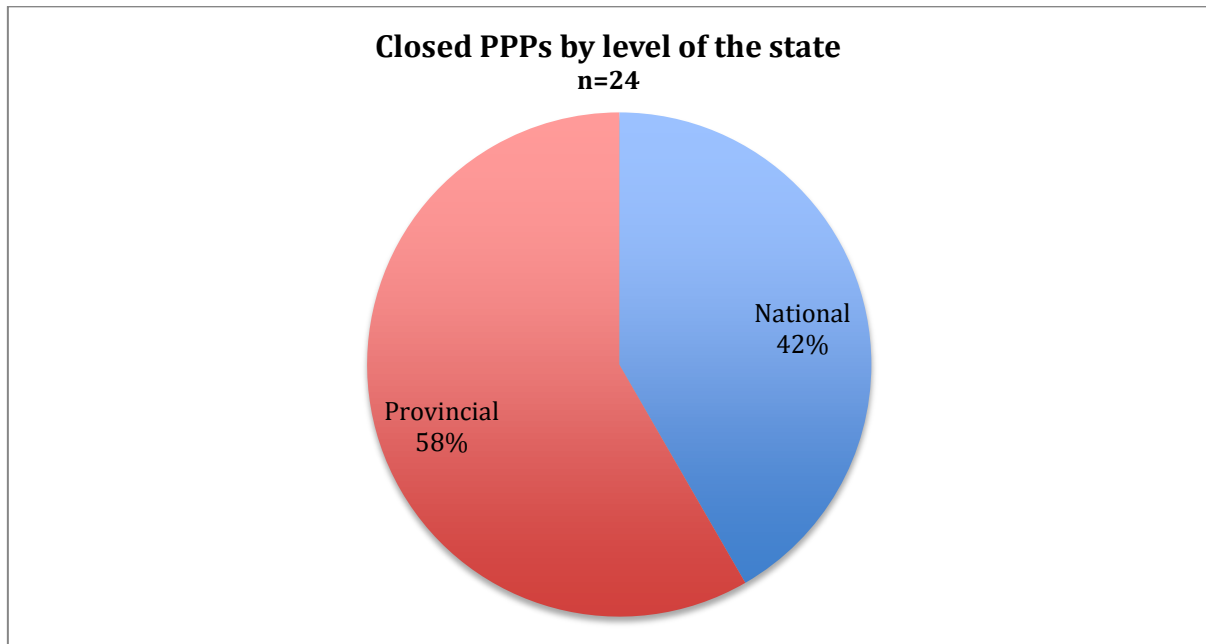
These results will be discussed in the next chapter and an answer will be given to this first hypothesis.

4.2 Hypothesis two

"In South Africa PPPs are mostly implemented for large-scale projects, i.e. at national or provincial levels."

To answer this second hypothesis, the same process as for hypothesis one will be undertaken. At first, the levels at which PPPs are implemented in South Africa will be compared to what is said to be the ideal pattern according to literature, i.e. PPPs should be set up at national and/or provincial levels. The second aspect of this hypothesis is the “large-scale” component. The last part of this analysis will deal with the findings obtained from the expert interviews.

FIGURE 2: Closed PPPs by level of the state.

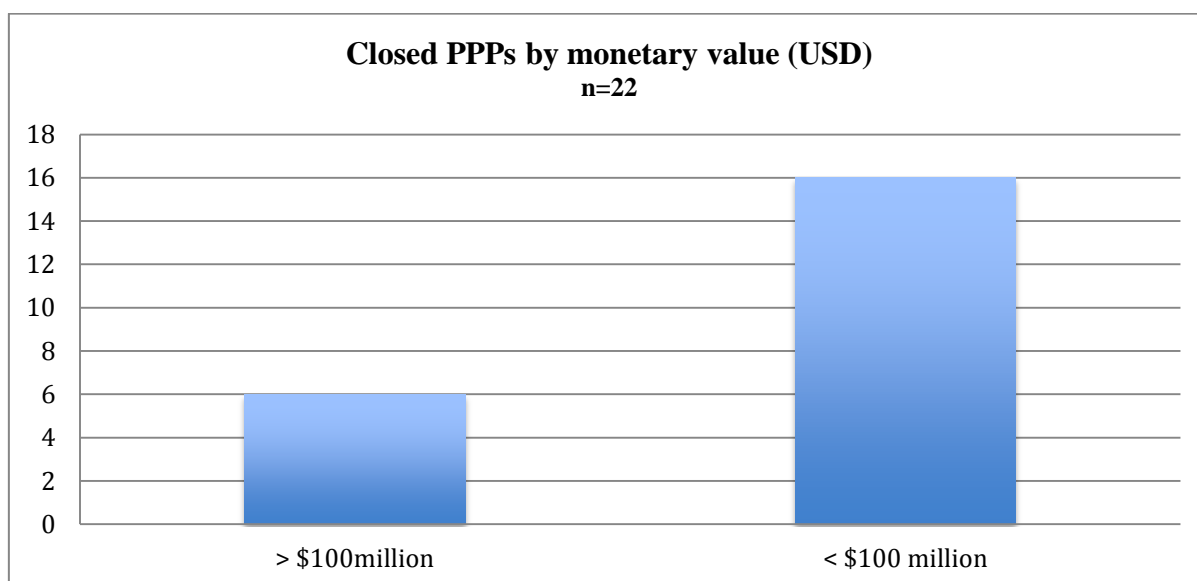


Source: PPP Unit and SANRAL.

No PPPs were implemented at municipal level. These results correspond to what has been described in the literature as ideal, i.e. that PPPs are better implemented at national and/or provincial levels.

The second part of this hypothesis concerns the large-scale aspect of PPP projects in South Africa. The reason why a threshold of \$100 million was chosen has already been mentioned and justified in chapter 2.3.2. For two PPPs, the money value couldn't be found, thus the chart below is made of only 22 PPPs. The detailed list can be found in annexe 6.

FIGURE 3: Closed PPPs by monetary value (USD).



Source: Jooste (2011) & Nyagwachi (2008).

As it can be seen, only six projects exceed the threshold of \$100 million, while 16 don't reach this limit. Moreover, if the threshold had been \$500 million, solely one project would have exceeded it: the Gautrain, with a value of \$2.2 billion. The other five projects over \$100 million are three toll roads, the ICT project and a hospital.

The third part of this hypothesis concerns the interview's findings.

Table 11: Summary of the interview findings for hypothesis two.

Summary of the interview findings for hypothesis two	
Statements	Occurrence
<i>National and, in some cases, provincial levels are the most adequate for PPPs</i>	5
<i>Municipal level is not adequate for the implementation of PPPs</i>	9
<i>More PPPs should be done at municipal level</i>	5

Five experts explicitly mentioned national and, in some cases (Gauteng, Western Cape, Kwazulu-Natal and Free State), provincial levels as being the most adequate for PPPs to be implemented at. The interviewees justified this with the higher capacity, both in terms of skills and financial resources, which is present at these levels. They also mentioned the higher potential for economies of scales, which can lead to overall higher revenues and thus is more attractive for private investors.

Most of the experts (9) clearly said that municipal level is not adequate for PPPs in South Africa. According to them, there is a lack of skills and financial capacity at this level.

Moreover, municipalities have to follow too complex regulations, more than at national or provincial levels, which make PPPs proportionally too expensive for municipalities.

That said, five experts emphasized the strong need for infrastructure at municipal level. According to them, more PPPs should be undertaken locally, because lots of services (solid waste, water, accommodation, power) are delivered at that level in South Africa. Another argument is the constitutional principle of substitution within the three levels of the state. Following this principle, services should be delivered as much as possible at municipal level. This could broaden the scope for PPPs at that level.

In summary, South Africa's PPPs are all implemented either at national or provincial level, which is ideal according to the literature. The discussion in the next chapter will therefore focus on the "large-scale" component of this second hypothesis.

4.3 Hypothesis three

"The criteria required for the implementation of PPPs as a long-term tool to fulfil South African needs for infrastructure are met in South Africa."

Since, in most of the cases, no clear differences of opinion were observed between representatives of the different organisations involved in PPPs, it has been decided not to present the results by sector. When a distinction, e.g. between public and private sectors, has been observed, this will be mentioned in the text. That said, many differences exist, but they are mostly individual specific and not sector specific.

Table 12: Summary of the interview findings for hypothesis three – Element (a)

Summary of the interview findings for hypothesis three – Element (a) "PPPs undertaken for good reasons"	
Statements	Occurrence
<i>To leverage private sector's funding</i>	12
<i>To leverage private sector's expertise</i>	10
<i>Government cannot take on all the risks</i>	3

There are two main reasons, and one secondary reason, why PPPs are undertaken in South Africa. Twelve experts mentioned the possibility of leveraging the private sector's funding as being one of the main causes. The other reason is that the public sector can benefit from the private sector's expertise, in order to reach higher efficiency and for the projects to be

delivered on time, within budget and with higher quality standards. Even if fewer experts cited this reason (10) than the first, several of them emphasized that this is the main driver for PPPs in South Africa. Most of the existing PPPs could have been financed by taxes only. Money was not an issue for the South African government in the 2000's so gaining private sector capacity was the main target of these PPPs. Moreover, in the closed PPPs, government generally covers most of the costs, with private sector participation being relatively low. A third reason for PPPs to be undertaken, mentioned by three experts only, is the fact that government alone cannot take on all the risks in some projects. Transferring part of this risk to the private sector can therefore also be a driver for engaging in PPPs in South Africa.

Table 13: Summary of the interview findings for hypothesis three – Element (b)

Summary of the interview findings for hypothesis three – Element (b) “Favourable environment”	
Statements	Occurrence
<i>There is expertise in both public and private sectors</i>	4
<i>Public sector's capacity is low</i>	4
<i>Private sector's capacity is high</i>	5
<i>Part of the public sector is very reluctant towards PPPs</i>	5
<i>There is political commitment at higher levels only</i>	4
<i>National and provincial levels present the best environment for PPPs</i>	7
<i>Private companies are well equipped to deal with the tumultuous environment that may surround major infrastructure projects</i>	9
<i>Private companies are poorly equipped to deal with the tumultuous environment that may surround major infrastructure projects</i>	4
<i>Macroeconomic shocks are no serious danger for PPPs</i>	10
<i>Fraud and corruption are no serious danger for PPPs</i>	9

Regarding the capacities of both private and public sectors, the experts' opinions diverge. On one hand, four of them consider that capacities, in terms of skills and financial resources, exist on both sides. On the other hand, several experts believe that the public sector's capacity is low (4) and that the private sector's capacity is high (5). The public sector is said to be inefficient and bureaucratic, while private sector entities such as advisory, engineering and construction firms, as well as banks, are very competent. That said, all agree that the issue is rather the discrepancies in terms of capacity within the public sector. Seven interviewees clearly identified national and provincial levels as being the best to implement PPPs, both in terms of capacity and financial resources. It is also at those levels that political commitment is the highest, according to four experts. This commitment is said to be a fundamental issue for PPPs to become a long-term tool for the development of South Africa's infrastructure. Five experts highlighted that part of the public sector is very hesitant towards PPPs, especially the Trade Unions and the communist faction of the governing party.

Most of the interviewees (9) consider that private companies are well equipped to deal with the tumultuous environment that can surround major infrastructure projects. They are said to be even better equipped than foreign firms, who don't always understand how things work in South Africa. Four experts have a totally distinct viewpoint on this topic though. They consider that South African private companies don't understand how the public sector works. The latest protests among the population around the renewable energy PPP program is said to illustrate this weakness.

Most of the experts (10) don't consider macroeconomic shocks as being a serious and likely danger for PPPs. South Africa's banks are very robust and conservative. Both PPPs funding and revenues are mostly in Rand and the overall offshore financing is low, which reduces currency risks. Most of the experts (9) don't see PPPs as being particularly subject to fraud and corruption. They even consider these agreements to be safer than traditional procurements, thanks to the higher transparency of processes and to internal and external controls.

Table 14: Summary of the interview findings for hypothesis three – Element (c)

Summary of the interview findings for hypothesis three – Element (c) “Competition among credible bidders”	
Statements	Occurrence
<i>The number of bidders is high enough</i>	10
<i>South Africa also attracts foreign bidders</i>	4

The majority of experts (10) consider that the number of bidders in the South African PPP market is big enough to ensure competition. There are enough banks, advisors and operators of excellent quality and with a lot of experience. The private sector is generally very competitive. Instead, private companies complain about a lack of work. Moreover, four interviewees mentioned South Africa as being attractive for foreign companies. This brings even more competition to the PPP market. There is apparently no issue here.

Table 15: Summary of the interview findings for hypothesis three – Element (d)

Summary of the interview findings for hypothesis three – Element (d) “Well-designed contracts”	
Statements	Occurrence
<i>Contracts are generally well-designed in South Africa</i>	11
<i>Risk-sharing is fine</i>	6
<i>There is no big issue in terms of income streams</i>	7

Eleven experts consider that PPP contracts are generally well designed in South Africa, mostly thanks to excellent legal companies. They are said to be strict and transparent. They

contain robust dispute resolution mechanisms, detailed quality indications, and designate responsibilities clearly. International investors even consider them as being too strict. The PPP Unit does a good job regulating all PPP contracts. This increases their experience over time and allows a certain standardization of PPP contracts. That said, the interviewees also mentioned a lack of skills and mechanisms to make people accountable at local level, which explains why no PPP contracts have been closed at that level so far.

Regarding risk sharing, six experts consider that this has never been and shouldn't become an issue in South Africa, as long as PPP contracts are well designed.

Seven of them also think that there is no big issue in terms of income streams in the closed PPP projects in South Africa. Since PPPs are part of the 3-year national budget, they cannot face severe financial trouble. As long as the private sector is involved in the determination of the income streams, this aspect should not become a serious issue. The private sector wouldn't engage in a PPP if income streams weren't secured. Moreover, most of South Africa's PPPs being tax-financed, the risk of income stream trouble is considerably reduced.

The opinion of the only representative of the private sector (Bombela Consortium – Gautrain) is interesting. He is the only one to believe that the public sector doesn't take enough risk in PPPs. The other experts, from advisory companies, the World Bank and from Universities, generally consider risks as being adequately shared.

Table 16: Summary of the interview findings for hypothesis three – Element (e)

Summary of the interview findings for hypothesis three – Element (e) “Good communication with stakeholders”	
Statements	Occurrence
<i>Every project is unique in terms of communication</i>	3
<i>Communication around PPPs is poor and this affects the pace at which PPPs are implemented in South Africa</i>	7
<i>Communication around PPPs is good in South Africa</i>	4

Three experts highlighted the logical but also important truth that every PPP is unique in terms of communication.

Seven interviewees believe that communication with stakeholders in South Africa is poor and that there is a strong politicization around big infrastructure projects. They emphasized that Trade Unions and the communist faction of the governing coalition are hostile to PPPs; they see them as privatizations of public assets. Communication can be a serious issue, particularly when the population doesn't see the benefits of a project in the

short-term. Some interviewees think that the mutual understanding between the diverse stakeholders of PPPs is really low and that there is thus a need to involve private sector in the communication process from the early stages of a project. The need for strong leadership on both sides is said to be high. Moreover, PPPs lack visibility in South Africa. There are hardly any public discussions around them.

Four experts consider communication as being good and open, however, especially for more recent projects (Gautrain or the renewable energy program). Regarding Gautrain, Trade Unions were involved in the project from the beginning and are said to be fully on board now. Communication was active and continual. There is apparently no resistance among the population that could explain the low pace at which PPPs are implemented in South Africa.

Table 17: Summary of the interview findings for hypothesis three – Element (f)

Summary of the interview findings for hypothesis three – Element (f) “Not too complex PPP legislation and processes”	
Statements	Occurrence
<i>Legislation and processes are an obstacle to the implementation of PPPs in South Africa</i>	4
<i>Legislation is fine, the implementation of it is problematic</i>	6

Once again experts have distinct opinions on this question. Four of them consider legislation and processes as being a (major) obstacle to the implementation of PPPs in South Africa. According to them, it is too rigorous, too complicated (because based on the sophisticated UK model), and too long. It is overregulated, especially in comparison with traditional procurements, which is why officials often prefer calling in the latter. There is an urgent need for simplification, since even the smallest PPPs take at least three years to be implemented. There should be distinct legislation according to the importance and/or the size of projects. Legislation is even more complicated at local level, which is why not even one PPP has been able to reach financial closure at municipal level. More incentives for PPPs, such as credit enhancements or fiscal deductions, should be put in place. Processes are slowed down because of the lack of continuity, both in terms of policy and staff turnover, on the public side.

However, a significant number of interviewees (6) have a different opinion about legislation. They consider it as world-class, with all the necessary protections for the public sector. According to them, structures, policies and strategies are well in place. Legislation should in no case be made simpler, since tight rules are needed to provide the public sector a level of certainty. Rigidity in the legislation is said to be needed due to the long-term aspect of

PPPs. The issue lies more in the lack of capacity and knowledge within public sector to implement the legislation, than in the legislation itself. Moreover, the fact that other regulations, such as environmental rules, aren't aligned with PPPs is considered problematic.

Table 18: Summary of the interview findings for hypothesis three – Element (g)

Summary of the interview findings for hypothesis three – Element (g) “Active and efficient PPP Unit”	
Statements	Occurrence
<i>The PPP unit does a good job</i>	7
<i>There is high potential for improvement within the PPP Unit</i>	5

Experts don't agree, once again, about the performance of the PPP Unit. Seven interviewees consider it as being efficient and effective, and as having a skilled staff that is attentive and hard working. According to them the PPP Unit plays its role of regulator very well and isn't responsible for the limited number of PPPs that have been implemented so far.

On the contrary, fewer experts (5) believe that the PPP Unit isn't world-class, that it is too small, that it doesn't have enough power and that it should be more active in promoting and selling the concept of PPP to the public and politicians. According to them, more marketing is needed in order to give PPPs more visibility. The PPP Unit is said to lack skilled people with a lot of experience. Its staff should be paid to make deals happen. In that respect, the low salaries of the public sector are an issue, making it hard to attract skilled staff from the private sector. The PPP Unit cannot, and shouldn't, be satisfied with the small amount of PPPs that have reached financial closure so far.

5. Discussion

Results for hypothesis one are mitigated. On one hand, only 54% of South Africa's PPPs are implemented in sectors that can be qualified, according to the literature, as ideal for such partnerships. On the other hand, a third of them were made in social infrastructure, more precisely in the health sector, which is considered as being a complex domain for the realisation of PPPs. This doesn't mean that this kind of agreement can never be successful in the health sector, but rather that the likelihood of failure is higher than in the transportation sector for instance. The perspective of having a third of its PPPs in social infrastructure isn't reassuring for South Africa's PPP program, in purely theoretical terms. Furthermore, it has been seen that only 33% of the projects were implemented in infrastructure sectors that require urgent and consequent investments to be developed, in order to match South Africa's infrastructure with the benchmark of emerging countries. This cannot be considered as satisfying. So far PPPs haven't answered the countries' needs for infrastructure. Many more PPPs should be implemented in the power and the ICT sectors. Water provision is also a sector that requires lot of investment. However, due to political sensitivity around private companies making money of what is defined as a fundamental right in the Constitution, implementing PPPs in this sector at large-scale would face strong resistance. South Africa should continue to set up PPPs in the transportation domain, replicating projects such as the Gautrain or the toll roads as much as possible. Ports could also be built and managed through this tool. At the moment there are discussions around the new port of Durban, which could apparently be done as a PPP.

The experts mentioned doubts about the use of PPPs in the health and water sectors. This confirms what has been seen in the literature. What is more surprising is that most of them don't consider the current pattern as being problematic in terms of sectors where PPPs are implemented, when one third of PPPs were done in the health sector. This may signify that those PPPs have not been a total failure, yet they haven't been fully convincing either. Once again, building and managing hospitals can be done through PPPs, the potential issues are just higher than in the transportation sector for instance. The comment made by Ms Mtshali, from the PPP Unit, is very interesting and fully aligned with what has been seen in the second part of this first hypothesis. According to her, PPPs are not implemented in adequate sectors to meet South Africa's large infrastructure needs. Public enterprises such as *Eskom* (power) or *Transnet* (transport) have the capacity to raise money directly from the finance markets; they don't really need to use tools such as PPPs to have access to private

funding. This may explain why the majority of PPPs have not been implemented in sectors that urgently require high investments.

In summary, both in comparison with the ideal pattern identified in the literature and with South Africa's infrastructure needs, the observed pattern isn't satisfying. Admittedly, experts don't see a major problem here, but combining the results of the three stages, this first hypothesis has to be rejected: In South Africa PPPs are not implemented in the most adequate sectors and where South African needs for infrastructure are.

The second hypothesis was also made of three steps. Firstly, it has been seen that all PPPs have been implemented at national or provincial levels so far. This is perfectly in line with what was observed in the literature, i.e. PPPs are easier to set up at higher level(s) of the state. This criterion is therefore entirely fulfilled in South Africa. Secondly, the author looked at the value of each project. The idea was that PPPs should not only be implemented at high levels of the state, but also that they should be large-scale projects. Only six PPPs could be qualified as being so, which is not really satisfying. Moreover, among these six projects, three were toll roads that were built at the end of the 1990's, one was a hospital constructed at the beginning of the 2000's and the fifth was the ICT project, implemented in 2002. Thus the Gautrain, whose monetary value (\$2.2 billion) is around five times higher than that of the second biggest project (Inkosi Albert Luthuli Hospital, \$430 million), is the single large-scale PPP that has been made in the last ten years. Therefore, this second criterion can absolutely not be considered as being fulfilled in South Africa.

Analysing the experts' opinions on this question was interesting since they confirmed what was seen in the literature and in the pattern of PPP implementation in South Africa, namely that the municipal level is not adequate for the setting up of PPPs, while national and, in some cases, provincial levels are. They also justify the observed pattern by explaining why municipalities are not able to deal with the implementation of PPPs: lack of skills, experience and financial resources, as well as a certain mistrust towards PPPs due to a lack of understanding of what this tool really is.

In summary, having solely had a look at the levels of the state where PPPs are implemented, hypothesis two would have been fully confirmed. However, it turned out to be highly relevant to look at the large-scale aspect of the projects too. As already said, a PPP implemented at national level can remain a small-scale PPP. Only six large-scale PPPs have been set up in South Africa so far, among which Gautrain is the only one to have been done in the last ten years. Thus the large-scale criterion of this second hypothesis is clearly not

realized. South Africa must keep on setting up PPPs at national and provincial levels, but their financial value has to be greater for PPPs to become a significant long-term tool for the development of South Africa's infrastructure. Otherwise these partnerships risk remaining a marginal mechanism in this country. Hypothesis two therefore has to be rejected: In South Africa PPPs are not mostly implemented for large-scale projects, even if they are implemented at national or provincial level.

Nevertheless, the opinions of several experts that more PPPs should be made at municipal level is understandable since lots of public services are, or should be, delivered at that level, and given that municipal infrastructure services play an important role in the social and economic development of the whole country; creating employment opportunities and providing basic services to the urban poor (Gerrit, 2014, p.17). However, the lack of capacity and financial resources seems to be so significant in most of South Africa's municipalities that planning to implement PPPs broadly at that level in the short and middle term isn't realistic. The PPP program should continue to focus on the levels where capacity and financial resources are already present, i.e. national and provincial.

Regarding hypothesis three, the seven elements identified as being important for a PPP program to be successfully implemented have been analysed through interviews with experts. The results showed that some elements are more problematic than others in South Africa.

Three of the seven elements can be considered as not being an issue in this country. PPPs are apparently done for good reasons in South Africa (element a), namely to leverage private sector expertise and financial resources, and, to a lesser extent, for government to share risk with the private sector. The danger of using PPPs only to evade budget constraints, spreading deficits over several years, has not been mentioned by the experts as being an issue, mostly thanks to the tight financial regulations of the National Treasury. South Africa's PPP market is said to be competitive enough (element c). A too low number of bidders for PPP projects is therefore not an issue. Instead, private companies complain that the government doesn't provide enough work, both in terms of out-sourcing contracts and PPPs. The third element that doesn't present serious issues in South Africa is the design of PPP contracts (element d). These are said to be very well designed and robust. Risk-sharing and income streams are clearly fixed and have never prevented a PPP from being set up or even caused serious delays in its implementation.

Four elements have been identified as potential caveats for South Africa's PPP program, however.

The analysis of the results for element (c), "favourable environment", has not showed clear results. Experts agreed in saying that private sector capacity, both in terms of skills and finance resources, is high in South Africa. They recognized that national and provincial levels present the best environment for PPPs to be implemented in, in terms of the public sector's capacity, but also of political commitment. Moreover, no expert considered macroeconomic shocks, political pressure, fraud and corruption as being serious threats for South Africa's whole PPP program. Experts didn't agree on how well private companies are equipped to deal with the tumultuous environment that can surround major infrastructure projects in South Africa. But as this has apparently never been a reason to stop a PPP in this country, it can be considered that this is not a major issue.

Even if not every expert said so, it seems like public sector's capacity is generally bad at local level and not always ideal at higher levels. Political commitment doesn't seem to be broad enough even at national level, although there are some individuals and centres of excellence supporting the PPP program. With the low pace at which PPPs have been implemented in South Africa, the authorities' political commitment is certainly not as high as it should be. There are still some parts of the public sector that oppose PPPs, e.g. Trade Unions, which still see PPPs as a means to privatize public assets, or the communist faction of the ruling coalition that may have played a role in the low number of PPPs that have been set up in the last 15 years. In general, both the political commitment and the public sector's capacity, which are crucial for PPPs to be successful and widely implemented, are not always present at national level, but these two features are even lower at lower levels of the state. This confirms the idea that PPPs must be implemented as a priority at higher levels, where centres of excellence and committed authorities are best represented.

Another controversial element is "good communication with stakeholders" (e). It has been seen that the experts didn't agree on this aspect, but a majority (7) of those who gave their opinion considered communication around PPPs as being an issue in South Africa. The Gautrain project seems to have proven, however, that if communication is open and active from the early stages of a project, even a very complex and large-scale PPP implemented in densely populated areas can be successful. In doing so, potential resistance from the Trade Unions and the population can be significantly reduced. In the case of Gautrain, Trade Unions

were involved from the beginning of the project and the consequence was that no strike and no major resistance emerged during the construction phase of this railway. So, communication can be a serious issue, but as it has been proven, South Africa can manage it well. It has to give the broader public a better understanding of what PPPs really are. Strong leadership has to be provided and a common effort has to be made on both the public and the private sector's sides in order to make more deals happen. If South Africa follows the good example of Gautrain, communication should not be a serious issue for further PPP projects.

The third component subject to diverging opinions among the experts is element f, “not too complex PPPs legislation and processes”. Experts agree that there is an issue here, but they don't agree on where exactly this issue is. Some of them believe that the PPP legislation itself is too complex. Others consider that the problem lies rather in its implementation, more precisely in a lack of capacity within the public sector to make use of the existing legislation. Determining exactly who is right and who is wrong exceeds the ability of the author of this study. That said, it is likely that the issue comes from both the legislation itself and its implementation. If PPPs are to become a broadly used tool for the development of South Africa's infrastructure, there is apparently a need for simplification of its PPP legislation. The overall feeling coming out of this study is that it isn't easier for a PPP to reach financial closure today compared with 15 years ago. The pace at which PPPs have been implemented so far is simply too low. Processes have to be accelerated. If reforms of the PPP legislation are not made, PPPs risk remaining a good, but marginal and insignificant tool for South Africa's infrastructure development. PPP legislation will never be as easy as the legislation regulating traditional procurements, however, especially because in such partnerships government's needs for legal protections are higher. Thus capacity-building programs should be set up in the public sector in order to make authorities more familiar with PPP processes. This could lead to a better, and especially to a faster, implementation of PPPs throughout the country. In summary, legislation and its application are currently a serious impediment to the capacity of PPPs to become a long-term tool for the development of South Africa's infrastructure.

The last aspect on which experts' opinions diverged is element g, an “active and efficient PPP Unit”. Several experts didn't complain about a lack of skills within the Unit, but rather about a lack of active promotion of the PPP concept by its staff. More marketing is apparently needed in order to give more visibility to this tool. PPPs have to be sold better to politicians,

authorities and population to avoid having to explain what a PPP is after each election. More promotion could contribute to creating continuity for the PPP program and therefore accelerate the pace at which PPPs are implemented within the country. The PPP Unit is said to do a good job as a regulator. It has been suggested that the Unit could be split in two, one team being responsible for regulations and the other for the promotion of PPPs. In summary, there is no serious issue here, but rather potential for improvement. Implementing the suggested reforms would not be complicated. Nonetheless it could positively contribute to an increased use of PPPs for infrastructure projects in South Africa.

In summary, hypothesis three cannot be answered positively. Some criteria are not serious issues, but two of them, “favourable environment” and “not too complex legislation and processes” cannot be considered as being fulfilled in South Africa. The situation is therefore not dramatic; out of the seven elements three were no issue at all, two were small issues that could easily be overcome, and two were problematic. That said, due to the high importance of the two problematic elements, hypothesis three must be rejected: The criteria required for the implementation of PPPs as a long-term tool to fulfil South Africa’s needs for infrastructure are not yet met.

In the end, all three hypotheses have been rejected. This means that, in the current situation, PPPs are not yet a long-term tool for the development of South Africa’s infrastructure. If they want to become this tool, much has to be done by the South African authorities.

Implementing small-scale PPPs in sectors that are not as relevant for South Africa’s infrastructure needs can be a good thing. However, to fully exploit the potential of PPPs and turn this mechanism into a serious long-term tool for the development of the country, more large-scale PPPs must be set up in suitable sectors and where South Africa’s highest needs for infrastructure are. Transport, ICT and power are such sectors. What is needed for the PPP program to be positively launched is “champions”. The Gautrain project may have been such a trigger for the transportation sector, with the involvement of the best existing expertise, both national and international, very good communication and high political support. The PPP renewable energy package, apparently made of 65 projects, should reach financial closure very soon. According to some experts, these projects should be highly successful. Here may be the champion(s) that power sector needs to finally engage in PPPs in the long-term. In other words, there are some good signs that the situation could change in the near future; there are reasons to be optimistic.

The current financial situation of South Africa could be favourable for PPPs. A “window of opportunity” could open up in the next few years. In the 1990’s the SANRAL reached the threshold of its budget and therefore had to look for other ways of financing its roads projects. They decided to do it off the balance sheet and required the participation of the private sector, and the four first of South Africa’s PPPs (toll roads) were born. The South African government may be facing the same situation at the moment. Indeed, South Africa had a financial surplus during the 2000’s, one reason why it didn’t have to look for other ways to finance its infrastructure projects. That has since changed. In the last three years, South Africa has had a budget deficit, and the tendency, with an increase in the welfare state, is going to be a shortage of public money rather than the contrary. The government will therefore certainly have to look for new ways of financing its major projects to respond to the country’s rapidly growing needs for up-to-date infrastructure. This may be the chance for PPPs to see their potential fully exploited.

To benefit from this potential window of opportunity, however, more promotion has to be done around the PPP concept. This should aim to increase the visibility and understanding of this tool, in order to increase the commitment of public authorities and politicians. PPPs should be made a political priority. Although promotion and political will are required conditions, they are not enough to make PPPs the long-term tool for the development of South Africa’s infrastructure that they could be. Reforms have to be undertaken in relation to the PPP legislation. Something has to be done in terms of capacity building, in order for PPPs to be more efficiently and more quickly implemented. Simplification of the legislation seems to be unavoidable. If this is not done, PPPs will remain a good, but marginal tool. If processes and rules are not simplified, public authorities will keep on calling in traditional procurements, which are subject to a much lighter legislation than PPPs, to deliver infrastructure services. Moreover, the law could provide fiscal incentives, credit enhancements, or extra funding for the departments that implement PPPs. Legislation could make sure that PPP studies are systematically undertaken in departments and public enterprises from a certain project value. These could increase significantly the propensity of these institutions to engage in PPPs more often.

PPPs could become a long-term tool for the development of South African infrastructure. If the required reforms are implemented now, these partnerships could benefit from the window of opportunity that will probably come up in the next years, as the UK did in the 1990’s.

6. Conclusion

In the first part of this study, it has been seen how big the infrastructure challenges are in South Africa. Then the concept of PPPs and their application in the infrastructure domain were presented in detail. The scope of South African PPPs, the sectors and the levels of the state where they are implemented were analysed using the database provided on the website of the PPP Unit and the SANRAL. Seven elements were identified as being fundamental for a PPP program to be successful. A questionnaire was then constructed on these elements and was used as a basis for interviews with experts in South Africa.

The results obtained were clearly disappointing. First of all, only 24 PPPs have been set up since the first project in 1998 (toll road N4). The pace at which these partnerships are implemented in South Africa, less than two per year, is therefore far too slow. Furthermore, these are mostly small-scale projects realized in sectors that aren't all considered as being ideal for PPPs according to the literature (for example, the health sector). There is a clear need for large-scale PPPs in highly suitable sectors and where South Africa's greater needs for infrastructure are (e.g. transport, power, ICT). Otherwise this mechanism will remain a marginal tool in this country. Moreover, for them to become broadly used, there is an urgent need for simplification of the legislation and processes around PPPs as well as of capacity building on the public sector's side, both in terms of legislation and processes understanding and of efficient implementation. This should contribute to increasing the political commitment to PPPs within public authorities, by politicians and the broader public, making these actors more familiar with the PPP concept. An important challenge at the moment is therefore to give more visibility to this tool. The PPP Unit has to be more active in its role of promoter. The South African government, having presented budget deficits in the last three years, while the 2000's were characterised by fiscal surplus, will have to look for alternative financial ways of up-grading its infrastructure to catch up with, and match, the benchmark of the middle-income countries. This potential opportunity for PPPs to become broadly used in South Africa will be exploited only if there is a high political commitment in favour of these partnerships. South Africa should follow the example of the World Cup 2010, when a high political commitment enabled the building of large-scale infrastructure in a relatively short period of time.

It would have been interesting to include the latest PPP renewable energy program in this study, although unfortunately, this study was done before the implementation of the program. This program was said to be revolutionary by several experts. They mentioned not less than 65 projects that should reach financial closure soon. Further research will certainly include it and, if these PPPs fully reach expectations, may come to slightly different conclusions than this thesis.

One regret is that this study was only able to include one member of a private consortium stakeholder of a PPP. Talking to more members of the private sector, advisory companies not included, would have provided a better equilibrium of the opinions. Although, as previously noted, views didn't strongly diverge between the different sectors, i.e. private and public sector, advisory companies, the World Bank and university professors. Therefore there is reason to believe that more interviews with representatives of the private sector would not have provided significantly distinct results.

PPPs are said to be a very good tool for the building and management of large-scale infrastructure in developing and emerging countries, where local skills are rather weak. By including the capacity of the private sector, these partnerships can overcome such difficulties. PPPs usually have high transactions costs, however, which can dissuade private companies and public institutions to engage in them, and face serious issues when public sector capacities are low. Capacity building programs are therefore a preliminary condition for PPPs to become a successful instrument for the development of infrastructure in developing and emerging countries.

The use of PPPs for infrastructure is said to be burgeoning on the African continent. African countries are looking for capital, expertise and capacities, and PPPs are considered as an adequate tool to answer these needs. The Southern African Development Community (SADC) has set up a PPP platform for its members to exchange information and experience surrounding PPPs. It aims to develop capacity in this field for both the public and private sectors and tries to promote the PPP concept in order to align policies with regulations and therefore create a more favourable environment for the emergence of these partnerships. If PPP activity in South Africa remains as low as it has been in the last 16 years, South Africa, which is still said to be the frontrunner in the region in terms of infrastructure, faces the risk of falling behind its neighbours and losing its leadership. The country must seriously explore the possibilities that PPPs offer in order not to miss its objectives in terms of infrastructure. These targets won't be reachable using only traditional procurements.

Annexes

Annexe 1: Interviews

Name	Institution/ Company	Type of interview	Length	Date	Place
Advisory companies					
Clara Rooseboom	Deloitte	Face-to-face	60 min.	27.03.2014	Johannesburg
Brigitte Baillie	Webber Wentzel	Face-to-face	45 min.	28.03.2014	Johannesburg
Andreas Bertholdi	Shisaka	Face-to-face	45 min.	28.03.2014	Johannesburg
Dominic Mitchell	Real Consulting	Skype conversation	45 min.	14.04.2014	-
Private sector					
Errol Braithwaite	Bombela (Gautrain)	Face-to-face	60 min.	28.03.2014	Johannesburg
Public sector					
Kevin Brian Arendse	Western Cape Provincial Treasury	Written interview	-	02.04.2014	-
Toni Van Niekerk	Transport for Cape Town	Face-to-face	45 min.	04.04.2014	Stellenbosch
Koos Smit	National Road Agency	Face-to-face	60 min.	08.04.2014	Pretoria
Nonhlanhla Mtshali	PPP Unit – National Treasury	Face-to-face	60 min.	09.04.2014	Pretoria
Itumeleng Kgomo	Department of Public Enterprises	Face-to-face	30 min.	09.04.2014	Pretoria
University professors					
Prof. Gerrit Van der Waldt	North-West University	Face-to-face	45 min.	02.04.2014	Stellenbosch
Prof. Patrick Fitzgerald	University of the Witwatersrand	Face-to-face	45 min.	02.04.2014	Stellenbosch
Prof. Estian Calitz	University of Stellenbosch	Face-to-face	60 min.	03.04.2014	Stellenbosch
Others					
Joel Kolker	World Bank	Phone Call	30 min.	25.03.2014	-

Annexe 2: Questionnaire

1. General considerations

a) Are PPPs implemented in suitable domains (E.g. transport, health, energy, water, accommodation, etc.) for the development of South African Infrastructure?

b) Are PPPs implemented at the most adequate level(s) of the state (municipal-provincial-national) to meet South Africa's need for infrastructure?

2. Keys for successful PPPs

a) PPPs undertaken for good reasons

Why are PPPs undertaken in South Africa?

b) Favorable environment

In terms of capacity of both the private and the public sectors, as well as of political commitment, can the South African environment be qualified as favourable for the implementation of PPPs?

Which level(s) of the state (national-provincial-municipal) provides the most favourable environment for PPPs in South Africa?

Do you consider that PPPs in South Africa are subject to political pressure, fraud and corruption? Which domains are more likely to be confronted with such risks? (E.g.)

Are private entities well-equipped to deal with the environment that surrounds major infrastructure projects in South Africa and their potential complexities?

Can macroeconomic external shocks be a serious danger for PPPs in South Africa? (Ex. occurred or likely to occur)

c) Competition among credible bidders

Is the number of bidders for infrastructure projects in South Africa big enough to ensure effective private sector competition in the PPP market? (E.g.)

d) Well-designed contracts

In terms of transparency, accountability, distribution of the roles between the parties, determination of the quality to be delivered and dispute resolution mechanisms, are PPP contracts properly designed in South Africa? (Ex. bad/good contracts)

Is risk in South African PPPs adequately shared between the public and the private sectors? (E.g. yes/no)

Can the income streams of PPP projects (tolls, fees, tax increment, etc.) in South Africa be considered as adequately planned? (E.g.)

e) Good communication with stakeholders

How good is the communication between the diverse stakeholders of PPPs, e.g. Trade Unions, employees, customers, press and other interest groups? Do resistances among the population affect the pace at which PPPs are implemented in South Africa? (E.g.)

f) Not too complex PPPs' legislation and processes

Is the legislation that goes with PPPs in South Africa an obstacle or an incentive for the implementation of such partnerships? (E.g.)

g) Active and efficient PPP Unit

How do you judge the role played by the PPP Unit in South Africa? What could be done better?

Annexe 3: Detailed results from the interviews

Hypothesis one

“Are PPPs implemented in the most suitable domains for the development of South African Infrastructure?”	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - No “best” domain, PPPs can work in every domain; need for “champions”. - Lot of missed opportunities. - Worked well for roads but not for prisons.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - In general and so far yes. - Transport: since the user payer principle can be applied, it’s easy to implement PPPs. - Health sector: limited potential; rather extension of existing hospitals than building of new ones; doubt about the feasibility of PPPs in this sector because of the inapplicability of the user charger principle. - Renewable energy: should become a success. - Water provision: complicated to implement PPPs because it is a municipal function and lot of municipalities already have problems in collecting taxes. - Prison: failure; the reason is that European standards were applied (over-specification), which led to too high costs for South Africa.
Brigette Baillie	<ul style="list-style-type: none"> - Yes they are. - The only potential exception is the water sector: bad perception about people making money around water, which is a constitutional right in South Africa.
Andreas Bertholdi	<ul style="list-style-type: none"> - PPPs not very successful in health and water sectors; successful in transportation and power sector. - PPPs are made for facilities, but they should be done for services as well (medical services, etc.).
Dominic Mitchell	Yes, all sectors mentioned are fine for PPPs.
Private sector	
Errol Braithwaite	<ul style="list-style-type: none"> - Not for schools and toll roads because local expertise exists; there are simpler ways to finance these projects. PPPs are feasible for toll roads, but “do you really the private sector to run them?” - Ports, trains, power stations and hospitals are very sophisticated projects: need for private sector’s skills and funding. - Accommodation or toll roads PPPs give a bad name to these agreements: PPP as way to collect money only. - Prisons: no need for foreign companies to run them.
Public sector	
Kevin Brian Arendse	Yes they are.
Toni Van Niekerk	<ul style="list-style-type: none"> - Huge potential in transportation; successful in health. - Yes, very relevant: crucial services where there will be massive needs in the future.
Koos Smit	Generally yes; if a project is robust it can be implemented in every domain.
Nonhlanhla Mtshali	<ul style="list-style-type: none"> - Health PPPs are mostly accommodation PPPs; they are not about clinical services. - At the moment no they are not implemented in suitable domains to meet South Africa’s needs for infrastructure, because most of the infrastructure projects are made directly by public entities; there has not been a real need for PPP e.g. in water, ICT or transport, since public entities can raise funds from the markets; they finance projects themselves and come to the National Treasury only to get some guarantees.
Itumeleng Kgomo	Not ideal for sectors with time pressure like water, health or accommodation; fine for sectors with a sufficient lead-time like transport.
University Professors	
Prof. Gerrit Van der Waldt	Yes PPPs are implemented in all the suitable domains, except maybe for the health sector.

Prof. Patrick Fitzgerald	Doubts about PPPs in water sector; logical for transport.
Prof. Estian Calitz	<ul style="list-style-type: none"> - There is potentially a scope for PPPs in every domain. The question is then the relevance for South African infrastructure. - Doubts about health and schools; private participation in health sector faces scepticism.

Hypothesis two

“Are PPPs implemented at the most adequate level(s) of the state to meet South Africa’s need for infrastructure?”	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - In theory PPPs could be implemented at every level of the state. - South Africa should not have closed the “Municipal Investment Unit”, which could have useful for the implementation of PPPs at that level.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - PPPs more efficient and in a better time frame at national level. - Often important delays at provincial and municipal levels. - Lack of public sector’s skills at these levels; lot of issues during the implementation process at municipal level (water, power). - Lot of PPPs are in pipeline at municipal level because of a strong need for infrastructure.
Brigitte Baillie	<ul style="list-style-type: none"> - National and, in some cases, provincial (Gauteng, Western and maybe Free-State) levels are the best; where there is financial strength and capacity. - Such capacities are absent at municipal level; moreover, the financial regulation makes PPPs difficult at that level. - No PPP has been closed in South Africa; those on the PPP Unit list are never going to reach financial closure.
Andreas Bertholdi	<ul style="list-style-type: none"> - Yes they are because the national level has the financial strength to undertake PPPs; municipalities have neither the skills nor the capacity for it. - Municipal projects of the PPP Unit list have been there for years and will probably never been implemented; municipalities have their own legislation, with a much bigger consultation process, much more political interference, and Trade Unions that are more active; thus PPPs are too expensive at that level. - At national level, PPPs have to be approved by the National Treasury, which gives them financial guarantees; municipalities aren’t linked to the National Treasury, they simply don’t have money for PPPs.
Dominic Mitchell	<ul style="list-style-type: none"> - Yes, they are. - PPPs should also be done at municipal level (e.g. solid waste, accommodation and energy); but PPPs may be too complex for most of the municipalities.
Private sector	
Errol Braithwaite	The best levels are the national and, in some cases, the provincial (Gauteng, Western Cape and KwaZulu-Natal) ones; where public sector has the required skills. Municipalities and the other provinces don’t have such skills.
Public sector	
Kevin Brian Arendse	Yes they are.
Toni Van Niekerk	<ul style="list-style-type: none"> - A lot more should be done at local level: where services should be delivered; problem of capacity at municipal level, thus it would take years for PPPs to become a significant tool at that level. - There is a need for centres of excellence: TCT aims to become such a centre in terms of skills, management and service delivery)
Koos Smit	The best level is national: there is need for economy of scales, for traffic volume, for lot of revenues; only one PPP road was made at provincial level (scenic road in the Western Cape).
Nonhlanhla Mtshali	No, there should be more PPPs at provincial and municipal levels, where services are delivered; but municipal PPPs struggle in coming to financial closure; some should do so

	very soon.
Itumeleng Kgomo	Yes they are; PPPs should not be implemented where the fiscal space that can be created is too small: PPPs are not worth at municipal level.
University professors	
Prof. Gerrit Van der Waldt	<ul style="list-style-type: none"> - Different kind of PPPs can be implemented at the different levels of the state. - Some municipalities (Johannesburg, Cape Town, etc.) have the capacities to implement PPPs. Otherwise, capacities for PPPs at local level is very limited.
Prof. Patrick Fitzgerald	Logical that most of PPPs are made at provincial level, since services must be provided mostly at that level, according to the Constitution.
Prof. Estian Calitz	<ul style="list-style-type: none"> - Provinces cover their costs mostly through transfers from the national government; they work with current budget, which limits their ability to undertake PPPs. - According to the substitution principle there should be more scope at local level. - Answer: not necessarily given centralist tendency.

Hypothesis three

Element a): “PPP undertaken for good reasons”	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - To buy international expertise. - Good alternative way of financing.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - (1) To gain private sector’s expertise. - (2) To use private sector’s funding, instead of having the government to pay for everything. - So far more for reason (1), since government usually covered most of the costs. - However the latest projects (renewable energy) present a better share of the costs between the sectors. - At national level government has to pay upfront PPP projects; thus the risk of PPPs being exclusively used to spread budget deficit over several years doesn’t exist in South Africa.
Brigitte Baillie	<ul style="list-style-type: none"> - For good reasons. - Access private sector’s funding, so that government doesn’t have to borrow money. - Make sure that quality is ensured, by making private sector responsible of the maintenance of assets.
Andreas Bertholdi	<ul style="list-style-type: none"> - (1) Financial reasons. - (2) Buying operating or management capacities of private sector. - Money has not been a problem in the 2000’s in South Africa, thus PPPs were rather used to obtain private sector’s expertise and capacity. - Spreading budget constraints over several years has not really been an issue, because it is very hard for departments to make any long-term commitments.
Dominic Mitchell	<ul style="list-style-type: none"> - Low capacity of government to deliver services. - In some cases government cannot raise the necessary capital. - Government is not always to take on some business risk, so that it seeks a partnership with private sector.
Private sector	
Errol Braithwaite	<ul style="list-style-type: none"> - To gain private sector’s capacities: good reason. - To use other mechanisms to finance public infrastructure: bad reason. - Both reasons in South Africa.
Public sector	
Kevin Brian Arendse	<ul style="list-style-type: none"> - To ensure affordability for an institution. - To achieve value for money. - To transfer financial, operational and technical risks from the government to the private party.
Toni Van Niekerk	<ul style="list-style-type: none"> - The intent is good; but the “how” can be an issue. - The financial crisis could raise the need for PPPs: otherwise Cape Town would drain the entire budget for a single infrastructure project.
Koos Smit	<ul style="list-style-type: none"> - For off-government balance sheet funding.

	<ul style="list-style-type: none"> - Capacity doesn't play a role for the NRA, since it has the capacities to build and operate roads.
Nonhlanhla Mtshali	<ul style="list-style-type: none"> - (1) Mostly to leverage efficiency from private sector: most of the projects could be financed directly by taxes, but in the case of complex projects, there is a need for private capacities; PPPs provide a higher certainty to deliver a project on time and within budget; traditional procurements take a lot of time and are often poorly managed; since banks lend money, they ask private companies for guarantees that the projects will be done. - (2) When a department doesn't have the capital budget in the short term; through PPPs it can leverage private sector's capital.
Itumeleng Kgomo	<ul style="list-style-type: none"> - To create fiscal space. - To leverage private sector's capacity. - For good reasons.
University Professors	
Prof. Gerrit Van der Waldt	<ul style="list-style-type: none"> - To gain private sector's skills; lack of skills on the public side. - Spreading of budget over several years could happen in South Africa. - Reasons diverge for each PPP.
Prof. Patrick Fitzgerald	<ul style="list-style-type: none"> - State looks for expertise, cannot take all the risk and needs capital. - Private sector seeks profit and semi-monopoly situations.
Prof. Estian Calitz	<ul style="list-style-type: none"> - Main point should be the improvement of efficiency - Lack of money should not be the motor of PPPs.

Element b): "Favourable environment"	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - There is expertise on both side. - There is a will on the public side to buy private sector's services. - Regarding political commitment, it depends on the individuals. Part of the public sector is very reluctant to PPPs. Public debate on role and function of private sector in delivering public services. - Not one level of the state that is more favourable to PPPs. - In the case of renewable energy, no fraud or corruption according to investors. - Private sector is well equipped to deal with the tumultuous environment that can surrounds PPPs. It has been proven in the roads, water and renewable energy sector. Issues in the health and prison domains. - Macroeconomic risk exists, but not more than in any other country.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - Positive aspect: solid PPP framework and legislation; active PPP Unit. - Negative aspect: failure of the prisons' program, due to a lack of available money on the public sector's side, gave a bad reputation to PPPs with the private sector. - Political commitment: The National Development Plan (2011) gives a higher importance to PPPs; it aims the implementation of more PPPs. - Support is high at national level, but still low at provincial and municipal levels: lack of top-down transfer of political commitment. - National clearly presents the better environment for PPPs. - PPPs are less exposed to corruption than traditional procurement, PPP being a fair process. - There is political interference: e.g. in health care budget flows from national to provincial; these levels may have different political visions. - Private sector is equipped to deal with big infrastructure project - Risk: Black Economic Empowerment (BEE) can force private sector to work with firms, which it would usually not work with; this may be a risk for private sector. - Macroeconomic issues: the Rands is quite volatile; if it weakens significantly during the procurement phase and if foreign investors are involved (e.g. renewable energy), public sector may not be able to afford the project anymore or private parties may not want to take part in it anymore.
Brigitte Baillie	<ul style="list-style-type: none"> - There are capacities on both sides; there is political commitment at national level and

	<p>in some provinces (Gauteng, Western Cape and Free-State).</p> <ul style="list-style-type: none"> - At national level there is direct access to state balance sheet; at municipal level, there is no such an access; provinces are in-between; thus it easier to implement a PPP at national level. - No high political risk for PPPs in South Africa, except in the water sector; never heard about corruption or fraud; there is high number of broadly political committed people in South Africa, which balances the total political pressure; risk of pressure and corruption is higher in weaker provinces (Eastern Cape, etc.) and in municipalities: this may explain why the National Treasury is more reluctant to implement PPPs there. - South Africa's private companies are well-equipped to deal with the tumultuous environment that can surrounds PPPs; they are better equipped than foreign companies, which don't understand the complexities of South Africa and think that business would be easier than in Europe or in the USA (this isn't the case since the South African legislation for PPPs is as tight as the EU or US one). - Macroeconomic shocks haven't been a problem for PPPs in the past and are not likely to become one in the future; South Africa's banks are very conservative, they require high guarantees; there is no currency issue since both funding and revenues of PPPs are in Rands (even foreign investment banks lend in Rands).
Andreas Bertholdi	<ul style="list-style-type: none"> - Public sector capacity is very low, especially outside of the National Treasury (PPP Unit); it doesn't understand how PPPs work; Trade Unions believe that PPPs are privatizations; thus it is easier for the public authorities to go with traditional procurements. - Private sector is very well established, with a lot of advisors, engineering firms and financial institutes; there is frustration with the slow pace at which PPPs are implemented in the country. - Political commitment is inexistent; outside of the National Treasury it is a big issue. - Both capacities and political commitment diminish when going down in the state level: they are inexistent at municipal level. - BEE can be problematic in some cases, since black owned firms don't always have the required capacities. - Corruption is not a big issue, it is well managed; it can become a problem at lower level of the state, when working with local entities. - Private entities are apparently well equipped to deal with the tumultuous environment that may surrounds infrastructure projects, since no PPP had to be stopped because that in the past; it may be a problem at lower level of the state, where private entities don't always understand political issues. - Macroeconomic shocks: well managed risks; not much financing is coming from offshore; thus it isn't a big issue.
Dominic Mitchell	<ul style="list-style-type: none"> - Private sector has a lot of financial and managerial capacity; an raising issue is the BEE: black owned firms, that have to be involved in PPPs by law, often have less capacity than the more established private sector. - Public sector's capacity is terrible. - Political commitment to PPPs was until a year ago very high; some officials have started to consider PPPs as failures; but political commitment isn't a major issue overall. - National and provincial levels provide the best environment for PPPs, both in terms of capacity and money; lot of projects with huge value are promoted by private sector at these levels; the money value being much lower at municipal level, private sector is less interested in PPPs. - Municipalities generally have no clue about how implementing PPPs. - Increasing fraud and corruption in the last 3-4 years; accommodation and renewable energy projects are the most risky domains, since they are the least transparent. - Private sector's entities are poorly equipped to deal with the tumultuous environment that may surround major infrastructure projects; this is a big issue for PPPs; very poor social management skill; in the case of renewable energy this led to marches and protests against the projects; toll roads were also problematic in this aspect. - Macroeconomic shocks have a little impact on the bankability and the cash flow of PPPs; there is no issue for closed PPPs, but macroeconomic shocks could slow down the pace of new PPPs.
Private sector	

Errol Braithwaite	<ul style="list-style-type: none"> - Very strong private sector; even if the skills don't exist at local level they can be found in another place; there are also international companies interested; financial sector is very strong. - Public sector has a lower capacity; it has some centres of excellence; but anyway it can get consulting assistance if necessary. - Political commitment is a KEY component for success; in every big project there are phases that require strong political support. - National and in some cases provincial levels provide the best environment for PPPs to be implemented. - Political pressure, corruption and fraud are present like in any other country in the world, not more; This isn't a reason not to undertake PPPs; PPPs aren't more subject to these risks than traditional procurement. - Private entities are well equipped to deal with the potentially tumultuous environment that surrounds PPPs. - Macroeconomic shocks: big projects are backed by the National Treasury, so that only a huge macroeconomic shock would put a PPP in financial difficulties; Gautrain is mostly financed in Rands, thus currency risk is mitigated; not a major problem for South Africa, at least not more than in any emerging country.
Public sector	
Kevin Brian Arendse	<ul style="list-style-type: none"> - There are capacities on both the public and the private sides; there is sufficient political commitment. - National level presents the best environment for PPPs. - Political pressure, fraud and corruption are always a risk; but so far there has been no cases of any of these three issues in the Western Cape Province. - Private entities are well equipped to deal with the tumultuous environment that may surrounds PPPs. - Macroeconomic can occur and would have a spill over effect on PPPs in South Africa.
Toni Van Niekerk	<ul style="list-style-type: none"> - Access to private capital should be speeded up. - In the case of TCT, there is a symbiotic relationship between politic and execution by the technocrats; the political will is present; a greater shared view on the role of PPPs to deliver infrastructure in South Africa is needed. - A lot more should be done at local level: where services should be delivered; problem of capacity at municipal level, thus it would take years for PPPs to become a significant tool at that level. - Considerable amount of mistrust in PPPs; part of the society considers them as privatizations of state assets; T.U. are fundamentally opposed to PPPs, since they fear losses of jobs; especially during the procurement phase. - There are political pressure and certain fraudulent actions; it can happen in every domain. - Private companies aren't necessarily well equipped to deal with the practical difficulties encountered by the public sector; they have experience in terms of procedure, but don't understand how public sector works; this can be problematic for PPPs. - Macroeconomic shocks can always have an impact; but contracts are well designed in this aspect.
Koos Smit	<ul style="list-style-type: none"> - For roads, capacities are present on both sectors. - There is political will at national level, but this will is not always aligned on all the three spheres of the state; provincial government are not supportive for PPPs, they don't have the same understanding for PPPs as the national government. - Capacity and political will are the highest at national level. - There is always political risk, but it can be mitigated by good regulation; there is no particular risk of fraud or corruption, especially because the PPP process is very transparent and because there are internal and external controls. - Private companies are well equipped to deal with the tumultuous environment that may surround major infrastructure projects. - Regarding macroeconomic shocks, PPPs are safe up to a certain point; it isn't a major issue.
Nonhlanhla Mtshali	<ul style="list-style-type: none"> - Private sector (constructions companies, facility management, assessment firms, banks, etc.) has a high capacity; it is well established; volume of projects is even too small for them.

	<ul style="list-style-type: none"> - There is capacity on the public sector's side; the PPP Unit does a good job in terms of regulation and assistance. - Political commitment varies between the departments and the individuals; members of the communist party in government are against PPPs. - Ideally more PPPs should be done at provincial (education, health) and municipal (water, municipal roads) levels. - An issue is the lack of continuity in terms of PPP policy in the government; after each election there is a risk that a new minister stops the current PPP projects. - Corruption and fraud are not a main issue, since they are very difficult to do in PPPs; PPPs are transparent, it is impossible to bribe every stakeholders (a consortium is made of 5-6 companies); press is very in South Africa, thus it is risky to be corrupted in this country. - Private entities don't know how to deal with political issues; but a project has never been stopped because of that. - Macroeconomic shocks: PPPs are in most of the cases financed locally; private companies make sure that they wouldn't be affected by such shocks.
Itumeleng Kgomo	<ul style="list-style-type: none"> - Both sectors have the capacity to deliver a PPP. - Political commitment varies from a project to another. - National and provincial levels provide the best environment. - For a PPP to exist a certain level of political will is required: it is not always easy to distinguish between political pressure and political will. - Public and private sectors don't always find each other. - Macroeconomic shocks can be a serious issue.
University professors	
Prof. Gerrit Van der Waldt	<ul style="list-style-type: none"> - South Africa is very young democracy: PPPs are not yet so mature; the strong diversity of South Africa makes the implementation of PPPs difficult. - Within the government coalition, two visions are opposed: a capitalist one that is in favour of PPPs, and a socialist/communist one that regards PPPs with suspicion ("privatization"). - There is a political commitment, but the different fractions of the ruling party have very different views on PPPs. - At national level public sector has high capacities; at provincial and municipal levels, capacities are very limited, especially for large-scale infrastructure projects. - Private sector's capacity is excellent: South Africa is the economic hub of Southern Africa. - There are problems of fraud and corruption; "tenderpreneurs" who abuse the system. - Private sector is well equipped to deal with the tumultuous environment that may surrounds major infrastructure projects. - Macroeconomic shocks are no serious danger for South Africa: monetary and fiscal policy is well in place; excellent minister of finance; banks have good reserves.
Prof. Patrick Fitzgerald	<ul style="list-style-type: none"> - There is a clear lack of political commitment. - Private sector is looking for business. - Environment apparently favourable at national and in some cases, at provincial and municipal levels. - Risk of corruption is not specific to PPPs; on the contrary, in the case of PPPs corruption would have to be more sophisticated than for traditional procurements. - Political pressures may be part of the problem: the ruling party (ANC) is allied with the communist party; T.U. see PPPs as privatizations, but their power is decreasing. - No visible popular protests against PPPs. - Most of the private companies have been poor to negotiate with the public sector; there is a cultural golf between both sectors; lack of synergies between the leadership of both sectors: "cowboys VS bureaucrats"; capitalism is very crude and brutal in South Africa; government people are inefficient, bureaucratic and want sometimes bribes. Hard to bring these two strongly different worlds to work together. - Macroeconomic shocks are no serious problem for PPPs, at least not more than in the rest of the world.
Prof. Estian Calitz	<ul style="list-style-type: none"> - Some governments are politically committed to PPPs, but not all; it depends on the individuals. - There are political pressures and corruptions. - Some of the private companies have a lot of experience in dealing with public

	<p>infrastructure projects; worry that they may have a rent-seeking behaviour.</p> <ul style="list-style-type: none"> - Macroeconomic shocks are not a big issue.
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Element c): “Competition among credible bidders”	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - Generally yes. In the renewable energy case, definitively yes. - South Africa has enough financial institutions, advisors and operators.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - Yes; South Africa has a big infrastructure industry. - Renewable energy: lot of foreign players coming.
Brigette Baillie	Competition rather sufficient; big projects (toll roads, Gautrain, etc.) attract bidders from all around the world.
Andreas Bertholdi	More than enough bidders; very competitive space; big firms in South Africa and coming from overseas; there is rather a lack of work.
Dominic Mitchell	<ul style="list-style-type: none"> - It depends on the sector: for roads and water yes; for energy and health no; doubts about accommodations. - E.g. health: four hospital groups on private side are big enough to implement PPPs; no competition. - E.g. transport: lot of construction companies with PPP expertise.
Private sector	
Errol Braithwaite	There are enough bidders; the competition is big enough.
Public sector	
Kevin Brian Arendse	Yes, the competition is high enough.
Toni Van Niekerk	Market isn't big enough; PPPs having high transaction costs, there is only a limited number of bidders; need to broaden the pool, to use national linkages better.
Koos Smit	The competition is high enough; there are often too many “takers”; the possibility exists to get overseas partners.
Nonhlanhla Mtshali	Yes, there are sufficient responses; there is enough competition.
Itumeleng Kgomo	Yes, there are a sufficient number of bidders of good quality; the weak currency of South Africa also attracts foreign investors, which increases competition with the PPP market.
University professors	
Prof. Gerrit Van der Walldt	<ul style="list-style-type: none"> - Competition among bidders is high enough, but there are two issues: - The higher the BEE component of a project, the higher the probability to win the bid. - Chances to win the bid are much higher if a company has political connections; capacities may be secondary in some cases.
Prof. Patrick Fitzgerald	BEE criteria should normally not be difficult to met; private sector is used to it.
Prof. Estian Calitz	Yes; there is no shortage of bidders; South African construction industry has a long history.

Element d): “Well-designed contracts”	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - Some are done well; time usually said if they are or not. - Toll roads' contracts are good in terms of transparency; clear revenues that cover the costs. - Depends from deal to deal. - Issues in water and prisons.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - Contracts are generally fine. - South Africa is still early in the PPP industry; government takes on more risk than it should (e.g. Gautrain: compensation from public sector if the number of passengers is too low; thus private sector may not have been as active as it should have).

	<ul style="list-style-type: none"> - More guarantees are needed from the private sector to participate in PPPs than in the UK, where the market is mature. - Recent projects (renewable): better, even if there are still guarantees from the public sector. - Risk sharing has been generally acceptable so far; as the PPP market matures, private sector will take on more risk. - Income stream: in the cases of the N3 toll road and Gautrain, demand didn't realise.
Brigitte Baillie	<ul style="list-style-type: none"> - Very strict contract regime, very well drafted document, very robust dispute resolution mechanisms, very detailed scheduled quality indications. - International players don't like South African PPP legislation because they think that too much risk is put on the private sector; thus PPPs are quite expensive for the private sector, but that's what South Africa wants, it wants strong legal guarantees. - None of the PPPs has met financial difficulties. - No example of bad PPP contracts in South Africa.
Andreas Bertholdi	<ul style="list-style-type: none"> - Most of the time excellent contracts thanks to very good legal capacities on both the private and the public sides; no issue here. - Standardization of contracts over time, which can accelerate the process. - Since contract are mostly well designed, risk is generally adequately shared; if there is a bad risk-sharing it is generally to the disadvantage of public sector, private sector having more experience in this field and public sector being sometimes desperate to implement a project (Gautrain: more money, more concessions, more guarantees to see the project implemented). - Big PPP projects are part of the 3-year national budget, so that there is no income revenue issue; outside that framework difficulties can emerge.
Dominic Mitchell	<ul style="list-style-type: none"> - Contracts have been well designed in transportation; not so well in prisons and water. - Good that all contracts are regulated by the PPP Unit: this Unit has more and more experience about PPP contract every year; it allow a certain standardization of PPP contracts too; contracts are becoming better over time; no serious issue here. - There have been issue regarding risk sharing in prisons and water. - Income streams have been adequately planned for the bigger PPPs, but not for the smaller PPPs (accommodation and water); as long as the private sector is involved, calculations should be fine; generally not an issue.
Private sector	
Errol Braithwaite	<ul style="list-style-type: none"> - Over time, with the maturation of the PPP market, contracts become better; generally not a problem, contracts are robust enough. - An issue could be dispute resolution mechanisms: South African judges don't have any experience about how PPPs work, unlike in the UK. - Risk sharing: the public sector doesn't take enough risk; public sector still thinks that he is the customer, that he pays, and thus the private sector must take on risks. - Income streams are very carefully planned, at least in the case of Gautrain.
Public sector	
Kevin Brian Arendse	<ul style="list-style-type: none"> - Contracts are well designed, but it is generally argued that PPPs are time consuming and that designing a PPP contract is expensive. - Risk is not adequately shared.
Toni Van Niekerk	<ul style="list-style-type: none"> - TCT: very strong contractual relationship; very good and very well administrated contracts, but there is a need for standardization. - Risk sharing isn't an issue, if the contract is well designed.
Koos Smit	<ul style="list-style-type: none"> - Contracts are very well designed; responsibilities are clear; the tender process is very clear; obligations and rules are clear. The PPP regulation is very good. - No major issue around risk-sharing; the overall risk will always remains for government, since it is accountable for the provided services; only the responsibility can be delegated to private companies: this is an issue for PPPs. - Income streams are adequately planned; in the case of roads, the mechanism works very well, thanks to the relationship between revenues and investments in roads, as a result of the private's performance.
Nonhlanhla Mtshali	<ul style="list-style-type: none"> - PPP contracts are very robust; public sector sets everything in contracts; transparent process for every stakeholder; clear accountabilities; clear dispute resolution mechanisms. - Risk sharing has never been an issue.

	<ul style="list-style-type: none"> - Most of PPPs are financed by public taxes (except toll roads): their durability doesn't depend on payments.
Itumeleng Kgomo	<ul style="list-style-type: none"> - The contractual program is very structured; government spends at least one year to put structure for a PPP in place and to approve a PPP to be developed. - The National Treasury oversees all PPPs at provincial level. - If one side takes too much risk, then it becomes a risk for the whole partnership; no big issue regarding risk sharing. - Income streams have an issue in some cases (e.g. toll roads), but it should become better over time.
University professors	
Prof. Gerrit Van der Waldt	<ul style="list-style-type: none"> - At national level contracts are very well managed; at provincial and municipal levels, it is a major challenge: people lack of skills to design a project before submitting it; standards and penalty clauses aren't designed properly; cannot make private sector accountable. - Accountability at lower levels is a serious issue: government lacks the ability to make people accountable at those levels. - Risk is equally shared at national and provincial levels, but not at local level.
Prof. Patrick Fitzgerald	Private sector would engage in a PPP if the income stream isn't safe; if there is an issue with the income stream, then it would be on the public side.
Prof. Estian Calitz	Determining the income stream properly is fundamental; this is not well done in South Africa: there is a need for a proper long-term plan, for a proper disclosure of all the costs and for a justification of the different ways of funding.

Element e) "Good communication with stakeholders"	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - Communication has been terrible in the water sector. - It has been very good for the renewable projects. - A strong politization of PPPs in South Africa, which affects the pace at which PPPs are implemented.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - Depends on the projects. - Renewable energy: good communication. - No bad example to give.
Brigitte Baillie	<ul style="list-style-type: none"> - Trade Unions were resistant in the early years because they saw PPPs as privatizations; now they are fully on board with PPPs because they have seen that PPPs actually increase work. - 90-95% of acceptance of PPPs in South Africa; no political issue, no resistance to PPPs from the public community. - It is rather the reluctance of the private sector to accept the risk allocation that the government is looking for that affect the pace at which PPPs are implemented in the country.
Andreas Bertholdi	<ul style="list-style-type: none"> - PPPs are not well understood in South Africa; Trade Unions are hostile to them; lot of resistances, especially in the water sector; PPPs are seen as more expensive than traditional procurements. - PPP Unit doesn't spend as much time to promote PPPs as it used to do. - Resistances therefore affect the pace at which PPPs are implemented; they can cause huge delays.
Dominic Mitchell	Communication is one of the weakest aspects of PPPs, at every stage of the process (preparation, construction and operation); serious issue.
Private sector	
Errol Braithwaite	Gautrain: very good, from the beginning; two full time teams on both sides (public and private) to deal with communication; first time that it is done so in South Africa, major success; Trade Unions were involved from the beginning, so that no protest emerged on their side.
Public sector	
Kevin Brian Arendse	<ul style="list-style-type: none"> - Generally communication is not good. - Resistances among the population can have an impact on the pace at which PPPs are

	implemented.
Toni Van Niekerk	<ul style="list-style-type: none"> - In some cases communication was terribly wrong; it hasn't taken place; there was no mutual understanding; consultation issues around projects: community didn't understand the benefits of projects. - Need to involve every stakeholder from the beginning and work together; public sector must sell the project concept to the private sector; private sector should be involved in designing the project.
Koos Smit	<ul style="list-style-type: none"> - Communication was easier in the early years of PPPs, because people didn't really what it was: it took three months to close the first toll road; the third one was the most difficult, the NRA almost had to abandon the project. - Resistances among the population therefore affect the pace at which PPPs are implemented.
Nonhlanhla Mtshali	<ul style="list-style-type: none"> - In most of the PPPs there is a good communication; stakeholders are aware of projects. - There is no real resistance among the population because people are not affected directly.
Itumeleng Kgomo	Communication is relatively well done in South Africa, even if every project is unique; it is an issue when the population doesn't see the immediate effects of a project, like for most of the large-scale projects (e.g. building of dam).
University professors	
Prof. Gerrit Van der Waldt	<ul style="list-style-type: none"> - Communication is good and open. - Resistances in some sectors (in favour of centralization and nationalization) can have affected the pace at which PPPs have been implemented so far.
Prof. Patrick Fitzgerald	<ul style="list-style-type: none"> - No strong resistance in the society, except for the Trade Unions, but these are losing power; Trade Unions were maybe an impediment to PPPs in the last years. - General communication is poor: there is very few discussion around PPPs in the media; lack of visibility.
Prof. Estian Calitz	Need for a strong political leaderships.

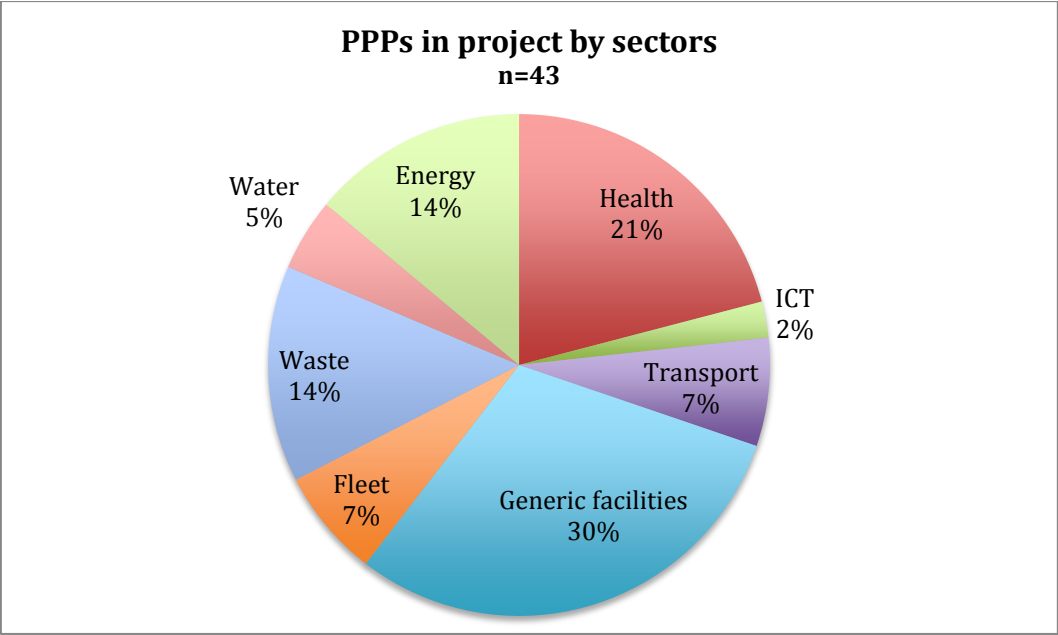
Element f): "Not too complex PPP's legislation and processes"	
World Bank	
Joel Kolker	Legislation and processes are not conducive to closing transactions; it is an obstacle.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - Legislation is fine. - BEE may be the most challenging area.
Brigitte Baillie	<ul style="list-style-type: none"> - World-class legislation with all the required protections in it. - The problem is rather at the capacity level: public staff often struggles to implement what is required by the legislation; in this sense legislation is an obstacle. - Legislation shouldn't be made simpler, because it provides protection to the country, even if it slows down the process.
Andreas Bertholdi	<ul style="list-style-type: none"> - Legislation is good but too rigorous and too complicated, based on the sophisticated UK model; there are too many regulations for the private sector, it takes too long, especially at lower level, where regulations are more extreme than at national level. - Highly regulated PPPs and very poorly regulated traditional procurements make transactions costs for PPPs too expensive compared to those of traditional procurements. - PPP legislation is the same for every kind of projects: it should be lighter for smaller projects than for bigger one. - Because of their complexity officials don't like PPPs and prefer going for traditional procurements.
Dominic Mitchell	<ul style="list-style-type: none"> - Legislation is the biggest obstacle for PPPs: there is an urgent need to simplify it; even the smallest projects take three years; the high staff turnover at the three levels of the state doesn't help either: there is lack of continuity on the public side. - Municipalities complaint about the complexity of legislation, regulations and procedure: there are too prescriptive and complicated.
Private sector	
Errol	Legislation is neither an obstacle nor an incentive; it is based on international standards;

Braithwaite	it's not considered as an issue.
Public sector	
Kevin Brian Arendse	Legislation process is rigorous; there is a need for a thorough knowledge of the legislation process for a better efficiency of PPPs: lack of such knowledge may cause errors and delay the PPP process.
Toni Van Niekerk	Legislation should provide more incentives for PPPs: credit enhancement, funding streams, etc.; there is an overregulation.
Koos Smit	There is no problem with the legislation itself, but it should be better aligned with other regulations: for instance environmental regulation, which are very expensive to follow, should be better aligned with the procurement of PPPs.
Nonhlanhla Mtshali	<ul style="list-style-type: none"> - Legislation is neither an obstacle nor an incentive; it an enabler; without it, it would not be possible to do PPPs, departments would just provide services the normal way; legislation makes departments sure that they are protected. - But since legislation is complex, many departments try to bypass PPPs and do it "their way".
Itumeleng Kgomo	Legislation is good but difficult; there is a need for tight rules, since government's role is to create a certain level of certainty; due to the long-term aspect of PPPs, legislation has to be rigid; the rigidity of the current legislation is a god thing.
University professors	
Prof. Gerrit Van der Waldt	<ul style="list-style-type: none"> - Legislation is rather an incentive: system, structure, policies, strategies are in place. - The issue is the lack of political commitment because of the diversions within the ruling party between socialism and capitalism.
Prof. Patrick Fitzgerald	There is an issue here: either the legislation, or the rules promoted under the legislation or the way rules are managed. That may explain the slow pace at which PPPs are implemented.
Prof. Estian Calitz	There should be a mechanism to avoid that private sector benefits from a monopolistic situation: private companies should have to submit a tender again every five years for instance.

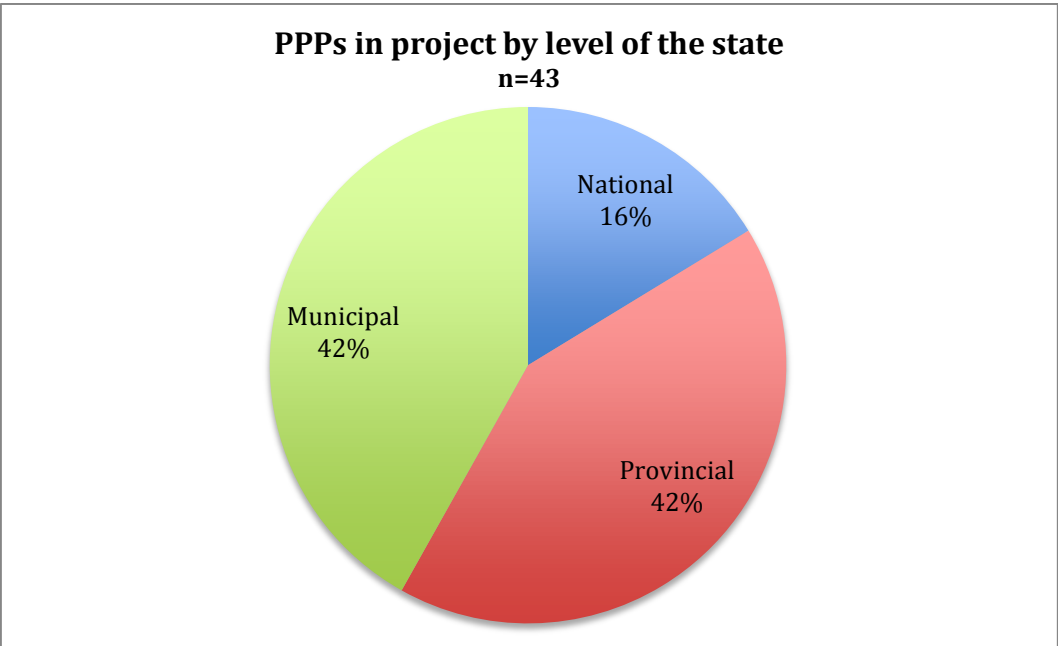
Element G): "Active and efficient PPP Unit"	
World Bank	
Joel Kolker	<ul style="list-style-type: none"> - Good job. - It should not be the only approval unit; other units should have this ability as well. - It is overly restrictive; It was set up in the 1990's, with goals (inclusion of private sector in financing projects) that are different than today; there is thus a need for adaptation. - Investors think that change is needed, that the PPP Unit isn't world-class.
Advisory companies	
Clara Rooseboom	<ul style="list-style-type: none"> - Projects made by the PPP Unit were efficient and effective. - Good facilitation process especially on bigger projects; good, skilled people. - Problems appear more at provincial and municipal levels, where PPP Unit doesn't have a strong influence.
Brigette Baillie	<ul style="list-style-type: none"> - The PPP Unit is doing a very good job; it should remain a simple regulator of PPP processes, it should keep on not taking part in the negotiations. - A central agency that actually does all the PPPs for government should be created; There is a need of people in the public administration that negotiate all the PPPs: at the moment, it is every time a new person that negotiate a PPP contract on the government side; thus there is no learning process.
Andreas Bertholdi	<ul style="list-style-type: none"> - They do what they can; too small, mostly regulator and supposed to be PPPs promoters; they should split "regulation" and "promotion" of PPPs. - Need for skilled people with lot of experience in this field; the problem is that such people would not work under government salaries; they should be paid to make deals, but they are paid whatever they do; need to go out and look for opportunities.
Dominic Mitchell	<ul style="list-style-type: none"> - The PPP Unit does its best; they are attentive and hard worker people. - The issue is rather the too complex and too slow legislation; the Unit is not the real problem.
Private sector	

Errol Braithwaite	“Almost invisible”, at least in the case of Gautrain; small Unit that doesn’t have the power to put the final stamp on a project (government or parliament does it).
Public sector	
Kevin Brian Arendse	<ul style="list-style-type: none"> - Satisfactory role. - Power should be delegated to provinces.
Toni Van Niekerk	Transport for Cape Town (TCT) doesn’t work with the PPP Unit.
Koos Smit	The Unit should sell PPPs to politicians and to the public in general, because these don’t the benefits; after each election, it is necessary to explain the process to new ministers; better marketing and selling of PPPs.
Nonhlanhla Mtshali	<ul style="list-style-type: none"> - The PPP Unit has technical, financial and legal skills that are absent in the departments. - National Treasury should be able to compel departments to conduct a PPP alternative project for every major infrastructure project; it should determine which projects can be made through PPPs; it should be have the ability to force departments to enter a PPP; often departments change their mind in the last minute, abandon a PPP and do a project in the traditional way. - A PPP projects pipeline should be guaranteed for the market; for instance 5% of the infrastructure budget could go towards PPPs.
Itumeleng Kgomo	PPP Unit should better link the relation between value creation (“why do we want a PPP?”) and delivery.
University professors	
Prof. Gerrit Van der Waldt	(Apparently) they do an excellent job; the issue is then the political aspect of PPPs.
Prof. Patrick Fitzgerald	Because of the low number of PPPs implemented they should do something; they cannot be satisfied with this number.
Prof. Estian Calitz	Nothing to say.

Annexe 4: PPPs in project by sectors



Annexe 5: PPPs in project by level of the state



Annexe 6: List of closed PPPs

Project and government institution	Domain	Level	Project Value (USD)
PPP Unit			
Inkosi Albert Luthuli Hospital	HEALTH	Provincial (Kwazulu-Natal)	\$430,000,000
Eco tourism - Manyeleti 3 sites	GENERIC FACILITIES	Provincial (Limpopo)	\$2,370,000
Universitas and Pelonomi Hospitals	HEALTH	Provincial (Freestate)	\$7,680,000
Information systems	ICT	National	\$143,000,000
Chapman's Peak Drive toll road	TRANSPORT	Provincial (Western Cape)	\$42,690,000
State Vaccine Institute	HEALTH	National	\$1,424,000
Humansdorp District Hospital	HEALTH	Provincial (Eastern Cape)	\$4,653,000
Fleet management	FLEET MANAGEMENT	Provincial (Eastern Cape)	\$52,510,000
Head Office Accommodation	GENERIC FACILITIES	National	\$82,620,000
Cradle of Humankind Interpretation Centre Complex	GENERIC FACILITIES	Provincial (Gauteng)	\$3,705,000
Gautrain rapid rail link	TRANSPORT	Provincial (Gauteng)	\$2,193,000,000
National Fleet Management	FLEET MANAGEMENT	National	\$87,315,000
Western Cape rehabilitation centre and Lentegeur Hospital	HEALTH	Provincial (Western Cape)	\$31,740,000
Polokwane Hospital Renal Dialysis	HEALTH	Provincial (Provincial)	\$8,395,000
Dept of Education Serviced Head Office Accommodation	GENERIC FACILITIES	National	\$48,680,000
Eastern Cape Dept of Health. Port Alfred and Settlers Hospital	HEALTH	Provincial (Eastern Cape)	\$16,020,000
Western Cape Nature Conservation Board - De Hoop Eco Tourism	GENERIC FACILITIES	Provincial (Western Cape)	\$3,800,000
Northern Cape Dep of Transport, Roads and Public works	TRANSPORT	Provincial (Northern Cape)	\$32,494,000
Department of International Relations - Head Office Accommodation	GENERIC FACILITIES	National	N/A
Phalaborwa Hospital	HEALTH	Provincial (Limpopo)	\$8,550,000
SANRAL			
N3 Toll Concession (Pty) Ltd (N3TC)	TRANSPORT	National	\$333,290,000
N1/N4 Bakwena Platinum Concession Consortium (BAKWENA)	TRANSPORT	National	\$333,290,000
N4 Trans African Concession (Maputo Corridor)	TRANSPORT	National	\$285,737,000
N1 North road	TRANSPORT	National	N/A

Annexe 7: List of PPPs in projects

Project and government institution	Level of the state	Domain
South African National Parks: Skukuza Airport	National	TRANSPORT
Sedibeng Municipality: waste water treatment	Municipal	WASTE
City of Tchwane: client centered services delivery precinct & munitoria project	Municipal	ACCOMODATION
City of Johannesburg: alternative waste treatment technology	Municipal	WASTE
Greater Tubatse Municipality: solid waste management	Municipal	WASTE
Lephalale Municipality: bulk water & reticulation & sanitation	Municipal	WATER
City of Cape Town: alternative service delivery mechanism fro Counsil's composting plants CT	Municipal	ENERGY
eThekwini Municipality: Kwa mashu waste water treatment	Municipal	WASTE
Eden district municipality: regional waste landfill	Municipal	WASTE
Emakhazeni local municipality: Emgwenya urban renewal	Municipal	ACCOMODATION
Drakenstein municipality: waste to energy	Municipal	ENERGY
City of Tschwane: fleet	Municipal	FLEET MANAGEMENT
Ethekwini municipality: treat sewage effluent for potable water	Municipal	WATER
Ditsobotla local municipality: waste water treatment	Municipal	WASTE
Dipaleseng municipality: dev of an urban zone	Municipal	ACCOMODATION
Thaba Chweu municipality: duma substation	Municipal	ENERGY
Intshika yethu municipality: shopping mall	Municipal	ACCOMODATION
Midvaal local municipality: electricity services	Municipal	ENERGY
Breede Valley municipality: municipal buildings	Municipal	ACCOMODATION
Statistics South Africa: office acomodation	National	ACCOMODATION
National dept transport: Moloto Rail Corridor Development	National	TRANSPORT
Dept of Water affairs: Pongolapport dam development	National	ENERGY

Dept of transport: fleet services	National	FLEET MANAGEMENT
Gauteng dept of health: chris hani baragwanath hospital	Provincial	HEALTH
Gauteng dept of education: new facilities, maintenance, upgrade and sanitation	Provincial	ACCOMODATION
Dep of health, Western Cape: tygerberg hospital redevelopment	Provincial	HEALTH
Limpopo dept of roads and transport: provincial fleet services	Provincial	FLEET MANAGEMENT
Limpopo dept of health and social development: academic hospital	Provincial	HEALTH
Limpopo dept of health and social development: nursing college	Provincial	HEALTH
Gauteng dept of health: george mukhari academic hospital	Provincial	HEALTH
Free state provincial government: harrismith logistics hub	Provincial	TRANSPORT
Free state provincial government: waste to energy processing plant	Provincial	ENERGY
Eastern Cape Dept of health: nelson mandela academic hospital complexe	Provincial	HEALTH
kwazulu natal dept of health: Replacement King Edward 8 Hospital	Provincial	HEALTH
Western Cape provincial dept of transport and public works: Cape Town Head office accomodation project	Provincial	ACCOMODATION
Kwazulu natal dept of education: school facilities	Provincial	ACCOMODATION
Kwazulu natal dept of education: office accomodation	Provincial	ACCOMODATION
Western Cape provincial gov: broadband initiative	Provincial	ICT
Mpumalanga provincial gov: tertiary hospital	Provincial	HEALTH
Mpumalanga provincial gov: district office complex	Provincial	ACCOMODATION
Northern Cape Dept of Health: Renal replacement service	Provincial	HEALTH
National metrology institute of SA: new accomodation	National	ACCOMODATION
South African Weather Service: Accomodation	National	ACCOMODATION

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Internet websites

PPP Unit: <http://www.ppp.gov.za/>

SANRAL: <http://www.nra.co.za/>

Interviews

See annexe 1