InvestSense

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The Infrastructure Drive

In September 2018, the South African government announced the Infrastructure Fund Initiative that is focused on transforming the country's infrastructure. The goal of the Infrastructure Fund is to attract over R1tn in private capital to fund the country's infrastructure shortfall.

South Africa's spending on infrastructure through time has been comparatively lower than many other countries, and considerably lower than countries that have experienced substantial economic growth over the past 30 years like China, the US and Singapore. Furthermore, all of these countries have expanded their economic infrastructure to stimulate and grow their economies.

In a country bleeding from the fallout of the COVID-19 pandemic, many see sustained upgrades to South Africa's infrastructure as the panacea that will kickstart the economy. But, will it work? Right off the bat, it is important for us to clarify what exactly infrastructure is, as the term tends to have different definitions for different stakeholders. From there, we can take a closer look at what a sustained increase in infrastructure spending would mean for South Africa.

<u>What is infrastructure?</u>

Infrastructure is defined as the basic physical and organizational structures and facilities needed for the operation of a society or enterprise. So roads, railways, ports, bridges, and all other physical assets that help a society to function would be considered infrastructure. However, this definition is open to interpretation and has led to the development of two sub-categories of infrastructure – hard infrastructure and soft infrastructure.

- Hard infrastructure – these are fixed assets or permanent facilities, such as roads, water pumps and electricity generation units.
- Soft infrastructure – complimentary processes and activities related to infrastructure development, including technical assistance, training and skills development.

When referring to infrastructure investment, the South African government tends to reference hard infrastructure and for the purposes of this commentary we will adopt the same definition. However, it is important to note that infrastructure investment means different things for different stakeholders.

<u>Infrastructure projects in South Africa: A short history</u>

Infrastructure development in South Africa has a long and complex past, which is closely linked to the development of the mining industry. Many of the country's core infrastructure assets including its rails, electricity generation and roads were primarily built to service the mining industry. Two key events that supplemented growth in the country's infrastructure were the discovery of diamonds in Kimberley in 1867 and gold in Johannesburg in 1886. During the 19th and 20th centuries, infrastructure was developed, operated and maintained by the state, with limited involvement from the private sector, and to this day most of these assets are still largely controlled by the state.

Some of South Africa's first infrastructure assets include its ports, with the port of Cape Town being established in 1657. Several centuries later, the country's first railways were developed. During the 1860s, the Natal Railway Company and the Cape Town Railway and Dock Company developed the first routes around Durban and Cape Town. Shortly following this, the governments of Natal and the Cape purchased these railways and over 10 years later, four main lines emerged around Cape Town, Durban, Gqeberha, and East London. Around the same time that rail started to emerge in the country, so too did roads and over a 90-year period, starting in the early 20th century around 53 000km of paved roads were built across the country.

In addition, South Africa's telecommunications networks started to take shape at the same time. From 1920 to 1990, the number of fixed phone lines in the country increased from around 30 000 to over 3 million. In 1991, the Department of Posts and Telecommunications became Telkom which was wholly owned by the government before listing on the JSE in 2003. Lastly, around the same time that diamonds and gold were found, so too was the country's first electricity plant. For decades, South Africa was able to

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produce low-cost electricity from coal which contributed greatly to the mining industry. Considering how South Africa's infrastructure was moulded over several centuries is important for us to fully understand the current state of the country's infrastructure.

What drives infrastructure demand in South Africa?

Before assessing the current state of infrastructure in South Africa, it is necessary to first establish what factors drive the demand for infrastructure spending in the country. Generally, five factors are considered:

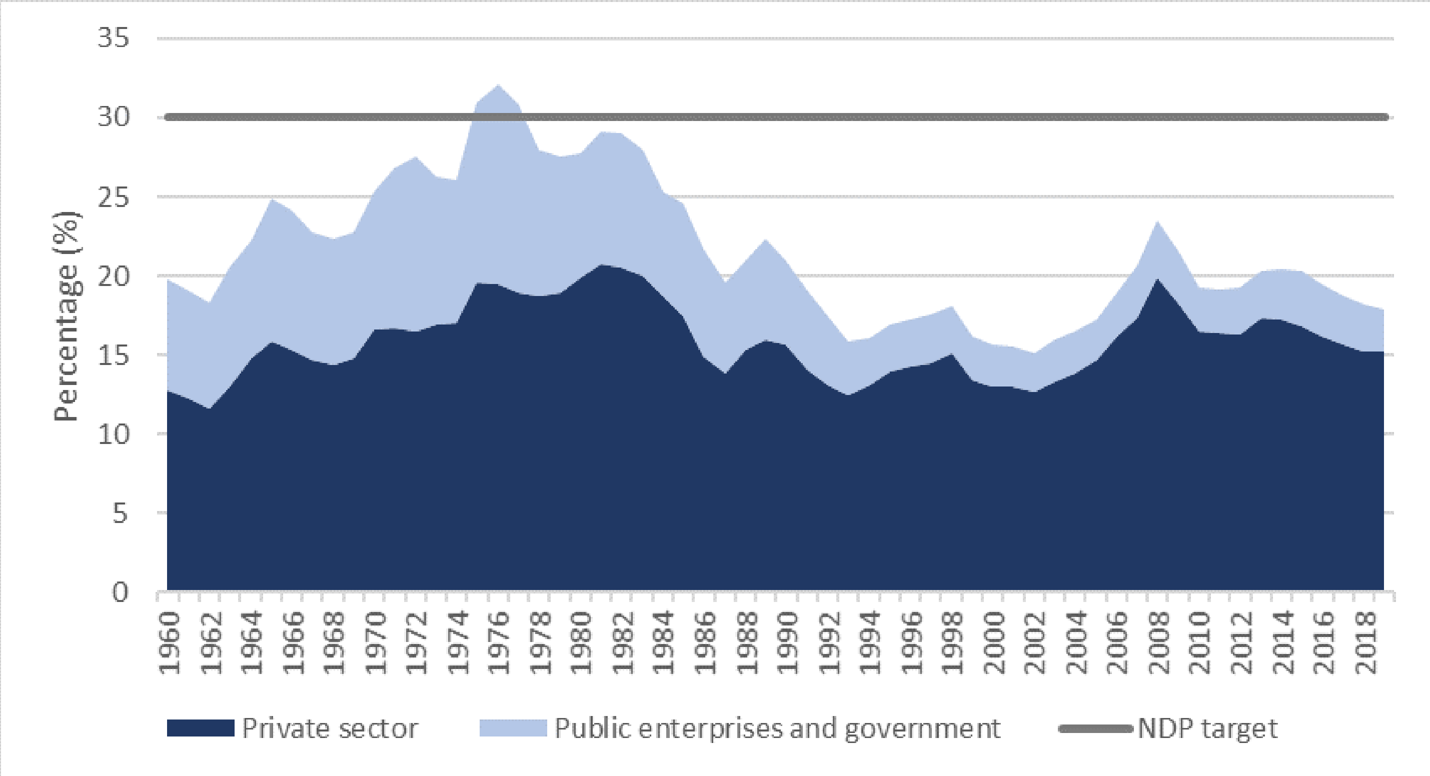
- Maintenance backlog – most of the country's existing infrastructure suffers from a maintenance backlog which causes assets to deteriorate and frequently breakdown.
- Carbon footprint – South Africa's energy infrastructure is heavily reliant on fossil fuels. In an effort to decarbonize the economy, this will need to change going forward.
- Spatial legacy – As a result of Apartheid, South Africa's spatial development must be transformed, and infrastructure used to link peoples' homes to their places of work.
- Social benefits – Improving a country's infrastructure is positively associated with a higher standard of living.
- The multiplier effect – Every rand of government spending is likely to result in a proportionally larger increase in national income, this is known as the multiplier effect, and infrastructure investment is a form of government expenditure.

The current state of infrastructure

Through time, South Africa has developed a core network of infrastructure assets. However, this core infrastructure network has not been maintained and expanded sufficiently to service the country's citizens. This has resulted in an infrastructure shortfall in a few key areas including water, transport, electricity, and communications. In particular, the spending backlogs are the most pronounced for the country's road, water and sanitation, energy, and rail assets.

Perhaps the best way to show how much capital is required to address the country's infrastructure shortfall is to compare current infrastructure spending levels to those envisaged by the country's National Development Plan[1]. The NDP's goal in 2010 was to increase infrastructure spending to 30% of Gross Domestic Product (GDP) by 2030. Below we show actual investment levels in South Africa compared to this target.

Figure 1 – Infrastructure investment in South Africa vs the NDP target as a % of GDP (1960-2019)



Source: Reuters, Intellidex

Figure 1 shows that only for a short period of time in the 1970s, the country was able to meet the NDP's target for infrastructure investment. Subsequently the spending shortfall has been quite considerable. As a more reasonable shorter-term goal, the Department of Public Works and Infrastructure has set a target of increasing investment to 23% of GDP by 2024. However, this is still a massive task. To put it in perspective, spending at 18% of GDP in 2019 amounts to around R910bn. Increasing this to 23% would require around R260bn a year in additional expenditure, which is the equivalent of nine new Gautrain projects a year.

Naturally, after considering the country's spending requirements, we need to assess who will fund infrastructure expenditure going forward. Both government and the private sector have helped to fund infrastructure projects in South Africa in the past. But, how much capital will they need to provide?

The infrastructure funding gap

According to Futuregrowth Asset Management, there are currently around 276 planned infrastructure projects in South Africa valued at R2.3tn which currently require R1.7tn in additional funding. The funding gap faced by energy infrastructure projects is by far the largest, followed by water and digital infrastructure projects. The funding gap will need to be filled by government and the private sector. However, how much each party will contribute is unknown.

One factor that has a significant influence on the ability of the public sector to fund infrastructure projects is the level of government debt, which is also funded out of the country's budget. When the amount of government debt reaches very high levels, this hinders the ability of the state to set aside capital to fund infrastructure. This is known as *debt overhang.* Currently the ratio of government debt to GDP in South Africa is very high and this leaves very little room to fund infrastructure projects.

In addition, the COVID-19 pandemic has placed even more financial strain on the government as it has had to take drastic social and economic measures to combat the virus. As a result, the government does not have the capacity to contribute the lions share of funding towards South Africa's infrastructure projects, and this responsibility is likely to fall on the private sector. This is also likely to present its own set of issues. For example, the state is still the legislated owner of the country's core infrastructure assets, and with the private sector likely to provide the bulk of infrastructure funding going forward this may create legal issues around the control and ownership of these assets.

The infrastructure funding gap and the private sector

As shown in Figure 1, over the past 60 years the private sector has always been the largest contributor to infrastructure investment. Moreover, when the private sector has gotten involved in funding infrastructure projects, they have been relatively successful.

One example of this success is the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) – a government led infrastructure initiative to increase investment in the country's renewable energy production. To date, the private sector has committed around R200bn in capital to the programme which has resulted in the procurement of over 100 independent power producers (IPPs) over the last decade.

One of the first projects to form part of the REIPPPP was the Cookhouse Wind Farm, located 7km east of the town of Cookhouse in the Eastern Cape. Every year, the project generates around 341 000 MWh of clean renewable energy, which is enough to power 94 000 low income homes.

The government's goal is to attract R1tn in investments earmarked for infrastructure development over the next 10 years from the private sector. However, the private sector may also contribute to building out the country's infrastructure in other non-financial ways. For example, over the last decade, the number of engineering staff at municipalities across the country has been decreasing. In addition, according to one report[2] (Kahn 2017), only 30% of registered engineers work in the public sector compared to a peak of 70% historically. With the help of the private sector, this skills shortage could be addressed.

The expected benefits

Assuming that both the government and the private sector can successfully partner and start working away at South Africa's infrastructure shortfall, we naturally need to ask what the expected benefits will be to the South African economy.

On a broad level, the scope of infrastructure projects currently in place is considerable and a broad range of benefits are expected to accrue from them. However, there are several key projects that could benefit South Africans significantly going forward.

Investments in fibre connectivity could provide rural and peri-urban communities with access to web-based services which they have never had access to in the past, and schools, clinics and police stations may also benefit in the process. There are a few examples of where the private sector is already involved in these kinds of projects which has resulted in affordable fibre connectivity reaching areas like Mitchells Plain and Soweto, that have never been able to access affordable fibre.

Upgrading existing toll roads, railways and harbours would help facilitate the transport of goods across the country. For example, one of the busiest economic corridors in the country connects Durban to Gauteng, mainly through the N3 Toll Route. Significant improvements to that road, particularly around the Van Reenen's Pass area will likely benefit South Africa's economy greatly.

The expected benefits from infrastructure projects in South Africa are far reaching. Not only are they expected to supplement trade, increase accessibility to goods and services and improve the standard of living, but in the process of being built, these projects are likely to create a significant number of jobs. Below, we show some key statistics across 51 of the country's largest planned infrastructure projects. Collectively they have the potential to create over 275 000 jobs.

Figure 2 – Sustainable Infrastructure Development Symposium SA – project pipeline (July 2020)

	Transport	Water and Sanitation	Human Settlement	Agriculture	Digital	Energy
No. Projects	15	11	18	2	1	3
Projected Costs (Rbn)	47	106	138	7	4	58
Potential Direct Jobs	50 000	25 000	190 000	4 000	700	6 000

Source: The Department of Public Works and Infrastructure, 2020

Investor exposure

With a significant need for the private sector to get involved in building out South Africa's stock of infrastructure assets, it is necessary to spend some time detailing how investors could gain exposure to infrastructure. Typically, infrastructure investments may provide some level of diversification to a portfolio and they also may act as a hedge against inflation.

The kinds of investors that do invest in infrastructure include pension funds, banks, life insurers, collective investment schemes, private equity funds and development finance institutions. Typically, larger institutional investors (like pension funds) are able to access infrastructure investments directly while retail investors are only able to access infrastructure investments through listed equity, either through listed companies that invest in infrastructure or through listed companies that service the infrastructure sector (like construction companies). In addition, many infrastructure projects are likely to use some form of debt financing and specific funds may be set up to invest in infrastructure related debt.

We are currently seeing fund managers ready themselves for the launch of funds which are targeting infrastructure investment. Fund managers are wanting to ensure they are positioned to channel investor demand into viable projects, and it does appear there may be a land grab of sorts taking place. While project roll out is still needing to commence, it is likely that investors will have more fund options to access this sector directly in future, including both debt and equity alternatives. In instances like this it does pay to ensure that adequate due diligence is performed when considering new fund options given the potential for newcomers to this sector to fall short in having established competencies in place.

Key dependencies

While the expected benefits that can accrue from successfully developing South Africa's economic infrastructure are considerable there are a few things we need to get right before we start to see those benefits filter through to the economy.

Part of the reason for the degradation in the country's current economic infrastructure base has been because of maladministration involving the SOEs that manage these assets (Eskom, Transnet etc.), and this will need to be addressed to ensure that existing assets are properly maintained and new projects are implemented effectively. This is arguably the largest key dependency that the sector faces.

Secondly, given the current funding shortfall of around R1.7bn, the private sector will have to make considerable investments in South Africa's infrastructure before a large majority of these projects can be developed.

Lastly, government and the private sector will have to partner with one another to ensure a successful role out of infrastructure across the country. A breakdown in trust between these two players may result in funding and construction of key infrastructures drying up. By and large, South Africa will really need to work together on this for the benefit of all.

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[1] A South African Government economic plan to eliminate poverty and reduce inequality by 2030.

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[2] Kahn, Tamar. 2017. "How a lack of engineers puts infrastructure and service delivery at risk." Financial Mail, 13 July. https://www.businesslive.co.za/fm/features/2017-07-13-how-a-lack-of-engineersin-municipalities-is-putting-infrastructure-projects-at-risk-andthreatens-service-delivery/.

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data provided by Reuters and Datastream

MARKET REPORT

31/05/2021

		3m	YTD	1yr	3yr pa	5yr pa	10yr pa	5yr Vol1	10yr Vol1
LOCAL MARKET INDICES									
FTSE/JSE All Share Index (ALSI)	ZAR	4.2%	16.0%	38.1%	10.0%	8.0%	11.0%	15.2%	13.3%
FTSE/JSE SA Listed Property	ZAR	9.8%	15.4%	37.3%	**-10.9%**	**-7.3%**	4.9%	25.9%	21.0%
SA All Bond Index (ALBI)	ZAR	3.1%	3.9%	11.2%	8.4%	9.8%	8.4%	8.2%	8.0%
SA Cash Index (SteFI)	ZAR	0.9%	1.5%	4.2%	6.1%	6.7%	6.3%	0.4%	0.3%
Balanced Benchmark	ZAR	2.4%	9.5%	22.6%	9.7%	7.7%	11.1%	10.5%	8.9%
SA Inflation (1 month lag)	ZAR	2.0%	2.4%	4.4%	4.2%	4.3%	5.0%	1.2%	1.3%
GLOBAL MARKET INDICES BASED TO USD									
Global Equity (Datastream World)	USD	9.9%	11.6%	41.3%	15.0%	14.8%	10.9%	14.7%	13.9%
Emerging Markets Equity (Datastream EM)	USD	3.3%	7.4%	51.5%	10.0%	14.3%	4.5%	16.3%	17.7%
Global Property	USD	13.1%	14.7%	30.1%	9.4%	8.0%	7.7%	14.4%	14.8%
Global Bonds (Barclays Global Bond Index)	USD	**-0.1%**	**-3.7%**	2.5%	3.9%	2.6%	1.6%	5.3%	5.0%
Global Cash	USD	0.0%	0.1%	0.2%	1.5%	1.4%	0.9%	0.2%	0.2%
MAJOR INDICES BASED TO RANDS									
FTSE/JSE All Share Index (ALSI)	ZAR	4.2%	16.0%	38.1%	10.0%	8.0%	11.0%	15.2%	13.3%
Global Equity (Datastream World)	ZAR	**-0.5%**	4.3%	9.9%	18.1%	11.8%	18.9%	16.3%	14.6%
Emerging Markets Equity (Datastream EM)	ZAR	**-6.4%**	0.3%	17.9%	13.0%	11.2%	12.0%	14.2%	13.4%
Global Property	ZAR	2.5%	7.2%	1.3%	12.4%	5.1%	15.5%	16.1%	14.4%
SA All Bond Index (ALBI)	ZAR	3.1%	3.9%	11.2%	8.4%	9.8%	8.4%	8.2%	8.0%
Global Bonds (Citigroup)	ZAR	**-9.5%**	**-10.1%**	**-20.2%**	6.7%	**-0.1%**	8.9%	15.9%	14.6%
COMMODITIES									
Gold (US Dollars)	USD	10.4%	0.4%	10.1%	13.5%	9.4%	2.2%	13.2%	16.2%
Gold (Rands)	ZAR	**0.0%**	**-6.2%**	**-14.3%**	16.6%	6.5%	9.6%		
CURRENCIES									
Rand / Dollar	ZAR	9.4%	6.6%	22.2%	**-2.7%**	2.7%	**-7.2%**	16.2%	15.6%
Rand / GBP Pound	ZAR	7.9%	2.9%	10.5%	**-5.0%**	3.2%	**-5.7%**	17.1%	14.8%
Rand / Euro	ZAR	8.8%	6.7%	14.5%	**-4.3%**	0.9%	**-5.5%**	15.1%	13.8%

Spot Rates		3-Jun-21	Latest Quarter	1 Year Ago	5 Years Ago	10 Years Ago	20 Years Ago
CURRENCIES							
Rand/US$	Rand	13.60	14.77	17.38	14.65	6.78	8.06
Rand/GBP	Rand	19.28	20.38	21.47	19.68	10.89	11.33
Rand/EUR	Rand	16.51	17.35	19.51	16.27	9.83	6.82
RATES							
Libor 6m $	US$	0.16	0.21	0.37	0.92	0.40	3.91
Repo Rate	Rand	3.50	3.50	3.75	7.00	5.50	11.00
Prime	Rand	7.00	7.00	7.25	10.50	9.00	14.50
All Bond Index Yield	Rand	9.63	10.24	11.64	9.25	8.46	9.74
COMMODITIES							
Gold ($/oz)	US$	1 871.58	1 704.74	1 783.66	1 321.07	1 510.78	271.20
Platinum	US$	1 170.00	1 182.00	814.00	999.00	1 722.00	558.00
Oil (Brent Crude) $	US$	71.41	63.52	41.25	49.62	113.11	26.32
INFLATION							
SA Inflation	%	N/a	3.2	2.2	6.3	5.0	9.6

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