



**CAASA CONFERENCE 2020**

Events



# ***Infrastructure delivery - findings and recommendations of a recent National Planning Commission report***

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**Public infrastructure delivery and construction sector dynamism in the South African economy**

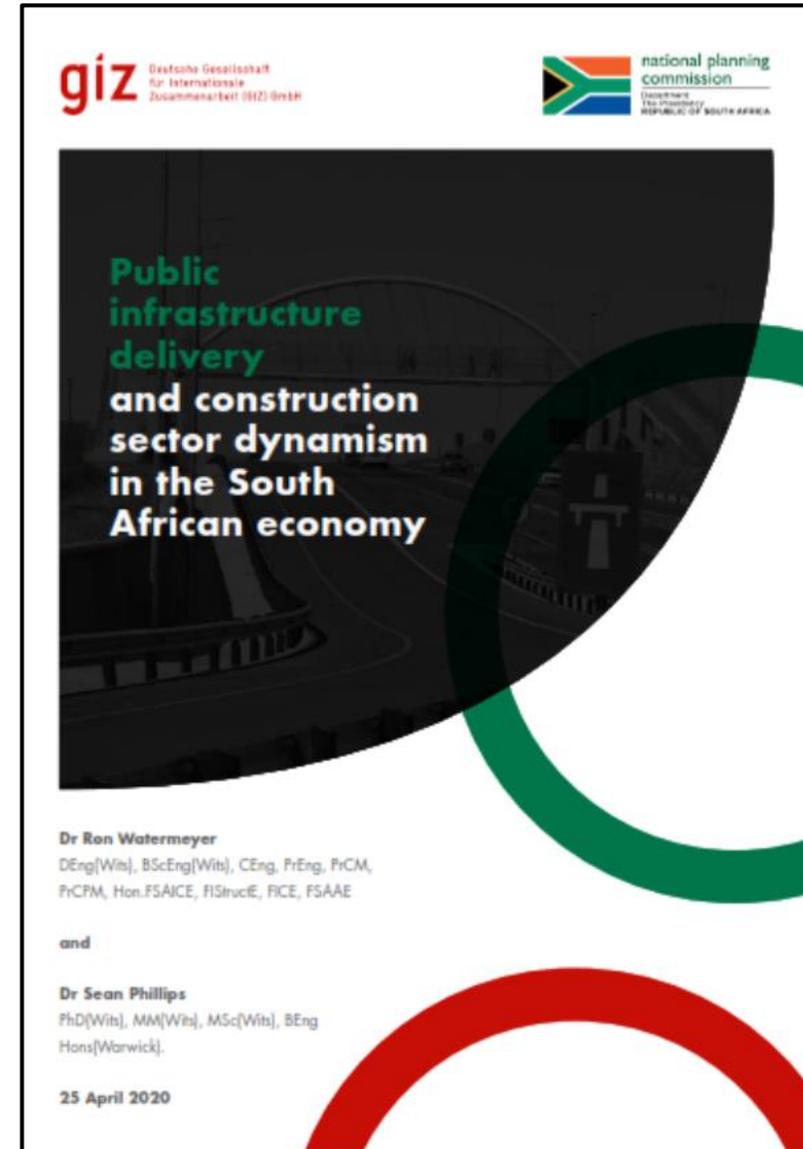
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# Objective of the policy paper

To inform the NPC's review of progress towards the NDP's Vision 2030 with regard to infrastructure delivery and construction sector dynamism

The paper provides a succinct analysis of the NDP Vision 2030, what it proposed, its achievements, what it tried, possible gaps and recommendations for enhancing its impact

While the paper covers all the infrastructure elements of the NDP, it **focusses on that which is in the control of government**

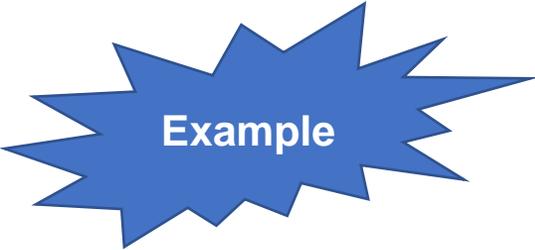


# NDP's view of infrastructure

Public infrastructure enables the **economy to grow faster** and **become more competitive and productive**, **lowers cost** of doing business, **creates jobs** for low-skilled people, **promotes spatial inclusivity**, contributes to **elimination of poverty and reduction of unemployment and inequality**, provides **opportunities for B-BEEE**

## BUT:

- Poorly planned, procured, delivered, operated and managed infrastructure can:
  - **Be an impediment to**, rather than an enabler of, economic growth
  - **Undermine** B-BBEE
  - Result in **an increase in poverty and inequality**, e.g. water shortages and/or increase in water-borne diseases in communities



## Example

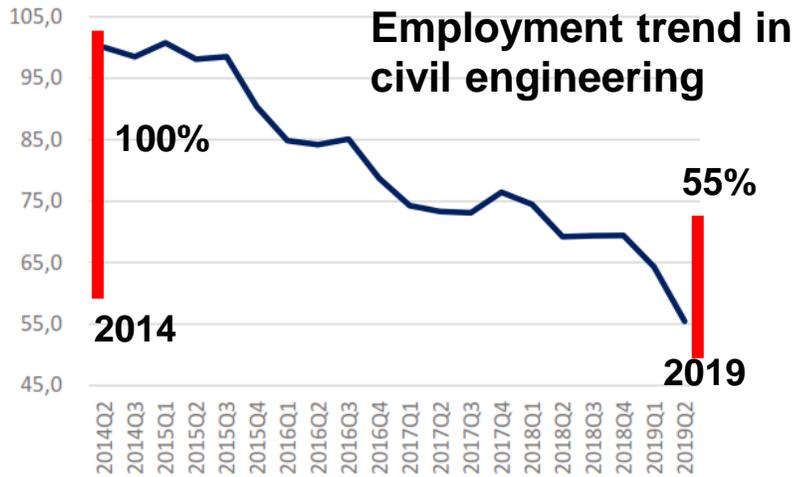
Time and cost-over-runs on Kusile and Medupi coal power plants have:

- Failed to resolve energy shortfall planned to address
- Put a cap on economic growth and hence employment creation
- Brought ESKOM to the brink of bankruptcy
- Put the sovereign balance sheet at risk.

# What the NDP envisaged

- Gross fixed capital formation to 30% of GDP by 2030
- Public infrastructure investment to 10% of GDP
- Private funding to be sourced for some of these investments
- Grow the construction sector:

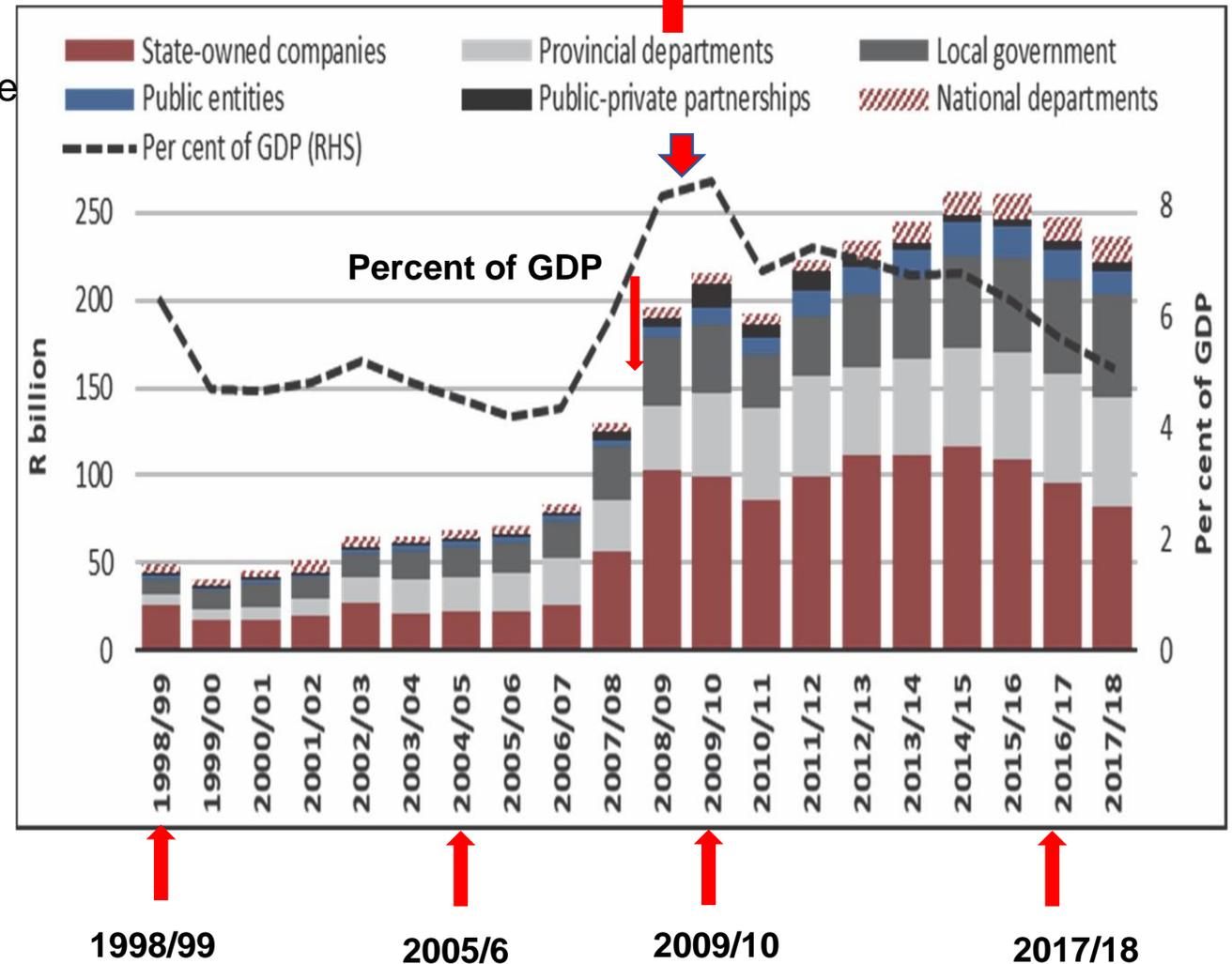
PPPs have not resulted in sufficient scale of private sector investment in public infrastructure in South Africa - less than 2% of investment in public infrastructure has been through PPPs)



Construction expenditure in 2018 was R 430 b. Private exceeded public sector expenditure for the first time ever

# What happened (pre COVID)

Spike due to 2010 World Cup, Gautrain, NMPP, BRT etc

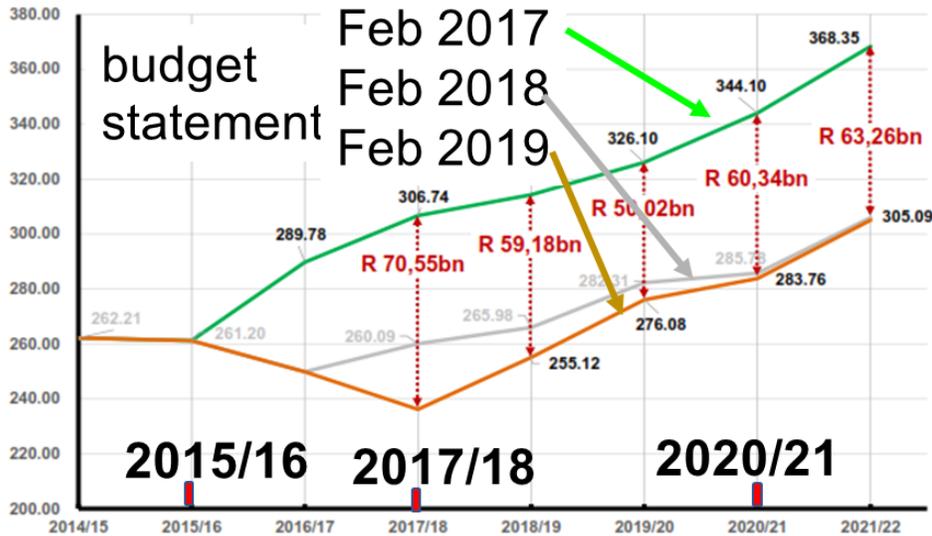


Average 5.9 per cent of GDP from 1998/99 to 2017/18

# What the NDP envisaged

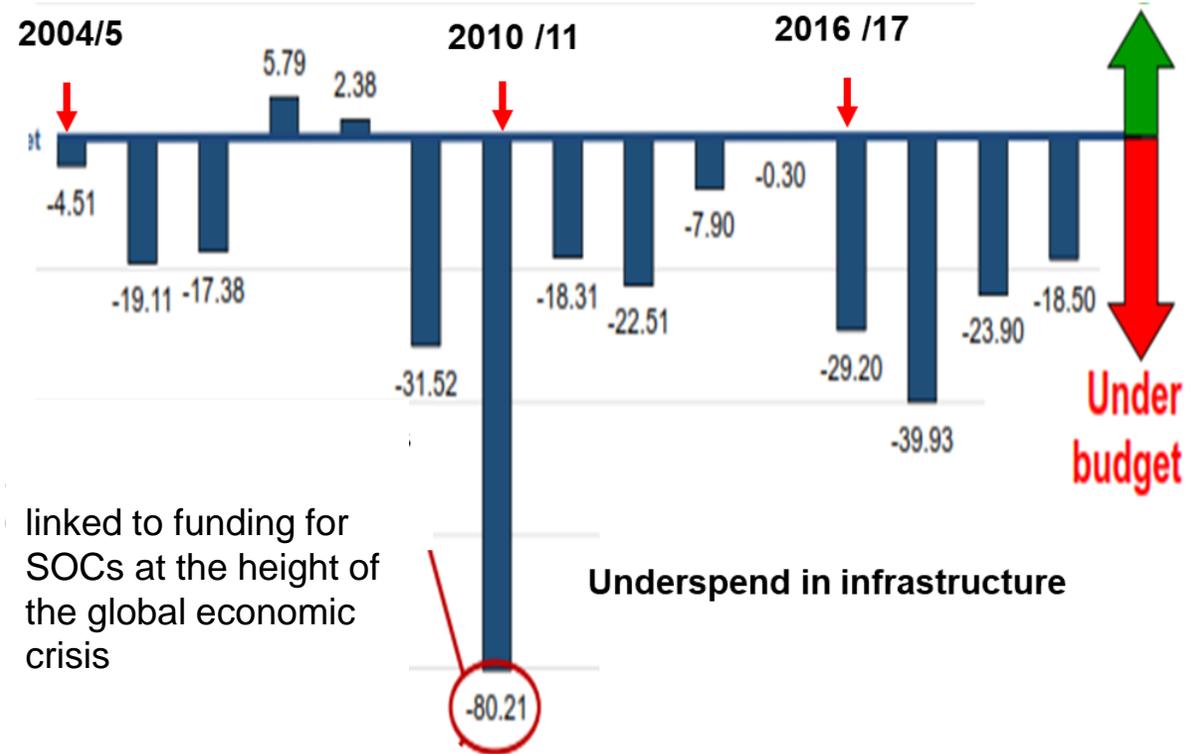
Address government's **inability to spend** its infrastructure budget and **improve** infrastructure procurement

## Falling infrastructure spending allocations to “compensate for underspending” and fiscal constraints



**SOEs and state-owned enterprises and public entities** over the 2015/16 to 2017/18 spent less than 75% and 65% of their budgets, respectively, while the state as a whole has spent less than 85% of the available budget

# What happened (pre COVID)



linked to funding for SOCs at the height of the global economic crisis

Underspend in infrastructure

In 2017/18 financial year **metropolitan councils spent between 55 to 78% of their budget** while 12% of municipalities spent less than 40%. 20% spent between 40 and 60%

# What the NDP envisaged

Address government's **inability to spend** its infrastructure budget and **improve** infrastructure procurement

# What happened (pre COVID)

**SAICE's infrastructure score card - no improvement in condition of infrastructure**

Year	Overall score
2006	D+
2011	C-
2017	D+

Grade				
A	B	C	D	E
<b>World-class</b>	<b>Fit for the future</b>	<b>Satisfactory for now</b> - infrastructure condition is acceptable, although stressed at peak periods	<b>At risk of failure</b> - infrastructure is not coping with demand and is poorly maintained	<b>Unfit for purpose</b> - infrastructure has failed or is on the verge of failure, exposing the public to health and safety hazards

## D- (2017)

### Bulk water services

**Water supply** outside of major urban areas

**Waste disposal** in areas outside of metros

Paved **municipal roads** outside of metros

**Rail** branch lines

## E (2017)

**Sanitation** including waste water outside of major urban areas

Provincial, metropolitan and municipal

**gravel roads**

## What the NDP envisaged

Address government's **inability to spend** its infrastructure budget and **improve** infrastructure procurement:

The procurement system need to:

- move away from an overly bureaucratized procurement system with the emphasis on compliance by box-ticking, which makes the system, costly, burdensome, ineffective and prone to fraud
- **focus** on delivering **value for money**
  - **differentiate** between procurement of infrastructure versus other goods and services
  - adopt **strategic approach to procurement**
  - build trust and understanding with suppliers
  - develop **professional procurement capacity**
  - incorporate **professional judgment** in infrastructure procurement processes
  - change role of procurement divisions to **play supporting and enabling role to operational line management**

## What happened pre COVID

A 2019 study conducted by the Human Science Research Council (HSRC) found that:

- there are **differences in understanding and interpretation** of infrastructure regulation, policy and practice which undermine the effective and efficient procurement of public infrastructure
- there is a **dearth of the skills** needed to understand the systems, regulations and processes and **to identify and prioritise infrastructure projects, develop specifications, and accurately estimate quantities;**
- the dearth of skills results in projects being frequently **under- or over-designed, and under or over-costed;**
- officials do not always **have the necessary ability to properly assess** the progress reports, quality assurance reports and site condition assessment reports submitted by the consultant / supervising engineer;
- there is a **lack of experience among those making key project decisions** resulting in inappropriate solutions to technical problems

# Mega projects

**Mega projects have been characterised in the main by cost overruns and late delivery**

Value for money is realised when the value proposition that was set for the project at the time that a decision was taken to invest in a project is as far as possible realized

The gap between what was intended and what was achieved puts value for money at risk

Gauteng Freeway Improvement Project:

R11.4b → R 17.4b

Guatrain Rapid Rail Link System:

R6.8b → R25.2b

Eskom's Ingula Pumped Storage Scheme:

R8.9 → R25,9b

Transnet's New Multi-Product Pipeline:

R12.7bn → R30.4bn

Eskom's Medupi: R70bn → R208bn+

Eskom's Kusile: R80bn → R239bn

Exceptions:

- SIPS 14 new universities project (Sol Plaatjes University and University of Mpumalanga)
  - 28 months from time that political decision made to when the facilities were put in use
  - built within budget, slightly below cost norms, less than 2% difference between cost at start of construction and final cost
- REIPP
  - 6 422MW of electricity procured from 112 RE Independent Power Producers (IPPs) in seven bid rounds
  - marked reduction in cost of renewable energy through successive bid rounds
  - R210 billion non-government investment

**Key differentiator is quality of procurement and client delivery management**

- client delivery management **capacity with decision-making authority**
- client governance and **organisational ownership**
- **CEO-level client leadership** at both a programme and project level
- **strategic and tactical approach** to procurement

# Construction industry skills, productivity and behaviours

The labour environment is characterised by **an expensive and unproductive workforce** coupled with **social unrest, intransigent unions, inflexibility of employers to manage labour wage inflation and a severe shortage of skills**

Increases in wages and salaries **do not translate into similar increases in productivity**. There is a need in moving forward to **vastly improve productivity**

The need to maximise local involvement in infrastructure projects of labour, subcontractors, suppliers and service providers **is self-defeating in terms of growth and continuity**. Local resources cannot move to the next project as the same requirement and expectation exists. This **undermines industry's ability to create a skilled workforce and undermines productivity increases**

**Overloading of the infrastructure agenda** for a project with too many development outcomes in addition to national B-BBEE and local production and content imperatives

Government agencies need to **root out the “mafia” approach** which enables projects to be held to ransom

Government needs to **ensure that payment** is made in terms of the contract within 30 days – CIDB reported 60% of payments to contractors are delayed for longer than 30 days after invoicing

**Poor and ill informed procurement practices and controls** have led to **the inappropriate transfer of risks** onto contractors

# Poor developmental outcomes and missed opportunities

There is a **lack of differentiation of the regulatory approach** to the procurement of infrastructure from the procurement of other goods and services. This has resulted in **poor or sub-optimal developmental outcomes as well as the slowing down of infrastructure delivery**

General goods and services commonly involves the acquisition of **standard, well-defined and readily scoped and specified** products and services. Infrastructure delivery involves the procurement, programming and coordination of a **network of suppliers** of goods and services to **collectively deliver** or alter an asset on a site in accordance with specific client requirements and objectives.

The 2017 Preferential Procurement Regulations:

- permit prequalification on the basis of B-BBEE status
- confine the granting of preference points to main contractors for their B-BBEE level status,
- require 30% of the contract value above a threshold to be subcontracted to enterprises having an annual turnover of more than 50 million, with and without black ownership.

Regulations provides no incentives and removes the ability of an organ of state to strategically and purposefully develop **large black contractors within the construction industry**.

Preferences have a limited impact on empowerment when level 1 and 2 level contributors are prequalified – small difference in points

The specific goals and points **are prescribed** rather than determined by an organ of state as envisaged in the Act. This removes the ability of an organ of state to require tenderers to compete for work on the basis of price and what they could offer to accelerate empowerment e.g. offering preference points for **subcontracting** and **joint ventures** targets.

The wording **presents a number of challenges**. Where feasible is not defined. Subcontract, a term which has a specific meaning in the construction contracts, is not defined. The bid forms require a name of a single subcontractor  
Several small contractors need to be engaged to reach the 30% threshold which can be challenging and leads to inefficiencies.

**Most contractors who qualify for preferential treatment are currently black owned. There is a need to develop the next generation of black owned large contractors – very important in the light of the recent decline of large contractors**

# Assessment of the reasons for disappointing outcomes

There are several reasons for disappointing public sector infrastructure outcomes including

- the deterioration of government finances and state owned enterprise balance sheets
- decreasing public sector investment in infrastructure, compounded by a lack of private sector investment in infrastructure
- Corruption and state capture

An analysis of these reasons is outside of the scope of this NDP paper

## Outcome of analysis of data gathered

- **ineffective interventions** aimed at basic portfolio, programme and project management practices and technical assistance
- **public sector SCM practices** which have misplaced infrastructure procurement within financial processes (**back office rather than a strategic function disconnected from operational line management**)
- **differences in understanding / interpretation** of regulation, policy and practice within an excessively rigid, fragmented and complex legislative regime
- an **administrative paradigm** in the way in which SCM units focus on “ticking of boxes” where compliance with rules are **more important than project outcomes**
- **failure to accommodate the manner in which risks inherent** to the procurement and delivery of infrastructure are commonly **mitigated** in the procurement process
- **poor procurement practices and poor management** of outsourced functions – contract management is an afterthought
- **lack of appropriate capacity, appropriate skills and experience** in the planning, specifying, procuring and overseeing the delivery of infrastructure **and the regulation thereof**
- **exclusion or marginalisation of built environment professionals** in procurement processes

# Course correction

The nature of the problem as described in a CIDB strategy document in 2003 is **fundamentally unchanged**. *Previous delivery systems and institutions were administrative in nature and rule driven . . . these systems effectively disabled the potential to exercise management prerogative and innovation. . . . Current regulation tends to shift responsibility for decision making from managers with specialist knowledge to central Tender Boards with limited expertise to evaluate complex construction delivery projects. Those responsible for delivery have limited control over the procurement cycle, over the methodology and decision making process. Thus, their ability to perform, and Government's ability to deliver, is severely hamstrung. . . . (Change since 2003 - SCM units have replaced central tender boards)*

The **overly bureaucratized procurement process** with the emphasis on compliance by box-ticking, which makes the system costly, burdensome, ineffective and prone to fraud, **has become entrenched as opposed to being dismantled – the procurement and delivery management system needs to be overhauled**

- **Differentiate infrastructure procurement** from procurement of goods and services
- **Professionalise infrastructure procurement** and enable professional input into procurement processes
- **Build public sector planning and client delivery management capacity** (skills and institutional processes such as delegations of authority)

The main mechanisms for attracting and securing private sector investments have **proven ineffective in mobilising** the required levels of private investment – **PPP regulations need to be revised**

**What has changed are the fiscal constraints.** What has **not changed** is the demand for an increase in the **quality and quantity** of public infrastructure.

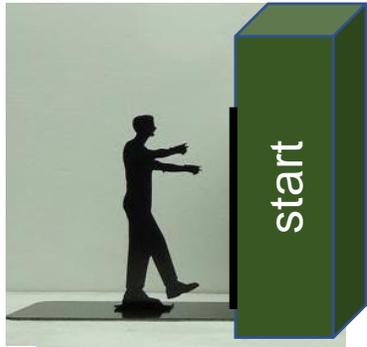
**The focus in moving forward needs to be on improving capabilities and efficiencies** to increase the quality and quantum of infrastructure for the money that is available



Magnifies fiscal constraints

# Infrastructure delivery

The **client value proposition** - promise of measurable benefits resulting from the project



## Client value proposition

**Client values** (ethos, vision and core values for a project)

**Client brief to satisfy the business case**

Budget

Time for completion

Scope

## Project management (controlling practices)

**Resources** required to deliver projects

### Activities

Plan  
Design  
Manufacture / fabricate  
Construct / install  
Commission

## Project outcomes

**Infrastructure** (works with functionality, functional performance and quality in all its forms, delivered for a cost)

**Sustainability impacts** (any change that may be beneficial or adverse):

- economic aspects
- social aspects
- environmental aspects

## Client delivery management (influencing) practices

(client leadership, governance and procurement practices, strategy and tactics)

- **plan** – decide in detail what needs to be done, how it is to be resourced and achieved, and in what time frames, and set a budget;
- **specify** – define the client's functional and other requirements for the project clearly and precisely;
- **procure** – obtain project resources (internal and external) to execute project activities with care and effort; and
- **oversee delivery** – watch over and direct the execution of the project to realise the client's value proposition.

## Project value -

outcome of client decision making to achieve an optimal balance of the project benefits, risks and costs



# Approach to the regulation of infrastructure

Current provisions in the Procurement Bill (Chapter 7) are opened ended as everything is reliant on an instruction relating to an unknown infrastructure procurement and delivery management standard

Approach to regulation: Rigid rule based prescriptive approach?

*Principle based* or process orientated law ?

**Principles-based, flexible and enabling approach?**

Differing procurement and delivery management paradigms – which one should the principles be crafted around for infrastructure delivery management?



## Administration

Procurement and delivery management is administrative in nature and rule driven

## Management

Framework for procurement and delivery management **provides a wide range of project delivery routes and methods** enabling a strategic approach to procurement to be adopted to improve project outcomes

Many different standards available post 2004 which provide a wide range of options

## Governance

Governance enables alignment of projects and procurement choices with organizational strategic objectives and values and stakeholder aspirations and collaborative relationships between buyer and seller

**Modern approach** - strategic and differentiated approach requiring leadership and accountability and strong governance

Traditional approach up until the early 2000s

**Basic buyer approach**

Status quo – poor project outcomes?

**Infrastructure approach**

Improved project outcomes?



# Procurement bill – provisions for effective and efficient infrastructure delivery



Chapter 7 is currently a **blank canvas** and is opened ended as everything is reliant on an instruction relating to an unknown infrastructure procurement and delivery management standard

Chapter 7 needs to **embed** the principles for infrastructure procurement and delivery management

Accounting officers and accounting authorities **in all organs of state** to which the Bill applies must put in place and implement an effective system for infrastructure procurement and delivery management which, **apart from leveraging empowerment opportunities**, at least:

Tick box approach to empowerment has yielded poor outcomes. A strategic and purposeful approach is required

- 1) provides **effective governance processes** which ensure that:
  - there is **proper management and control of infrastructure** delivery including **demand management**;
  - all the various parts of the organisation which play a role in infrastructure delivery work together in a coordinated, efficient and effective manner; and
  - infrastructure delivery is, wherever possible, managed as a long term and strategic system of individual yet interlinked projects aimed at meeting the organisation's objectives;
- 2) establishes clear delegations of authority to enable timeous decision-making **and individual and organizational accountability** for infrastructure delivery;

Ensure that the institution takes **ownership of infrastructure delivery** and such delivery is managed as an **enterprise**

Culture needs to be changed from pay as you go to deliver a project within a budget

# Procurement bill – provisions for effective and efficient infrastructure delivery

Accounting officers and accounting authorities **in all organs of state** must put in place and implement an effective system for infrastructure procurement and delivery management which. . . . .

- 3) provides for the assignment of **single point accountability to a suitably qualified and experienced built environment practitioner** to provide **executive level leadership** in the planning, specifying, procuring and overseeing of infrastructure delivery;
- 4) provides **control frameworks** which include **decision gates** to enable risks to be appropriately and proactively managed and render the **system capable of being audited**;
- 5) provides for a range of approaches to packaging, contracting, pricing and procurement to enable the formulation and implementation of efficient and effective infrastructure procurement strategies for different categories of infrastructure expenditure (i.e. the most appropriate set of approaches to achieve value for money in each category);
- 6) makes appropriate use of the **skill and expertise of registered built environment professionals in the management and mitigation of risks** associated with infrastructure delivery; and
- 7) recognises that infrastructure procurement is a **central competency of those responsible for delivering infrastructure**.

“ceo level” leadership by a knowledgeable and experienced individual

Quality management system

Enabling a range of procurement strategies and tactics to be effectively implemented

Professionalise those responsible for overseeing implementation

Procurement has planning, acquisition and contract administration phases which must not be alienated from delivery management

Capacity building needs to commence with accounting officers

These practices are urgently need to be implemented to enable SA's Infrastructure Investment Plan post COVID19 to be realised