



## DECLARATION

**I Tembakazi Zoleka Mnyaka declare that:**

(i) the research reported in this dissertation except where otherwise indicated, is my original work

(ii) this dissertation has not been submitted for any degree or examination at any other University

(iii) this dissertation does not contain other person's data, pictures, graphs or other information unless specifically acknowledged as being sourced from other persons

(iv) this dissertation does not contain other person's writing, unless specifically acknowledged as being sourced from other researchers.

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## **ACRONYMS**

APP : Annual Performance Plan

BRT : Bus Rapid Transit System

CBD : Central Business District

CBRC : China Banking Regulatory Commission

CIRC : China Insurance Regulatory Commission

CNOOC: China National Offshore Oil Corporation

CNPC : China National Petroleum Corporation

CoJ : City of Johannesburg

CPCC : China Petroleum and Chemical Corporation

DS : Developmental state

GDP : Gross Domestic Product

IDP : Integrated Development Plan

NDP : National Development Plan

NGP : New Growth Path OECD: Organisation for Economic Co-operation and Development

PICC : Presidential Infrastructure Coordinating Committee

PRASA: Passenger Rail Service of South Africa

SIP 7 : Strategic Infrastructure Project 7

SDF : Spatial Development Framework

SITP : Strategic Integrated Transport Plan

SOE/s : State-owned enterprise/s

## **ABSTRACT**

This research study aimed to determine whether infrastructure development implemented by state-owned companies can effectively contribute towards the achievement of a developmental state by stimulating economic growth and reducing inequality while simultaneously addressing the social needs of the majority of the population and integrating apartheid spatial patterns. Drastic action is required to stimulate economic growth, address social needs and create jobs. Strategic Infrastructure Project 7 responds to this need in the City of Johannesburg where rapid railway infrastructure development is changing the transport landscape. A qualitative research method was employed to address the research topic using primary and secondary data and semi-structured interviews with key informants. The results reveal in general that state-owned companies are common throughout the world and that they play an important role in the structural formation of the economy, especially in developing countries. In Africa, state-owned enterprises encompass a large number of economic sectors and impact significantly on national development. The theories and approaches on the developmental state emphasise the state's capability to promote its development efforts, its capacity to organise around appropriate institutions and organisations, and policies to enhance development.

The results of this study reveal that infrastructure development has contributed and continues to contribute to progressive change in the City of Johannesburg's transport landscape. On the social front, the railway system has created a number of jobs, thereby reducing inequality, and is addressing the social needs of the majority of citizens in the urban centre of Johannesburg. Economically, the infrastructure development linked to the railway system has strengthened key value chains across the city by boosting demand for local capital goods industries, services and merchandise. Spatially, transport infrastructure is managing to alter the movement patterns that spatially segregate the city, bringing together previously marginalised areas and integrating the city in all aspects and progressively creating a spatially and socio-economically integrated city. The socio-economic impacts of this infrastructure development contribute to the establishment of a developmental state. However, much remains to be done in terms of strong institutional arrangements and skills development. Furthermore, the state has a vital role to play in guiding, maintaining and sustaining development that promotes the efficient and effective delivery of public goods and services.

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## CHAPTER ONE:

### INTRODUCTION TO THE RESEARCH

#### 1.1 Background and core research problem

South Africa has one of the highest rates of inequality in the world, with a Gini co-efficient of 0.63 in 2011. In its report, “The cost of inequality: How wealth and Income Extremes Hurt Us All”, Oxfam identified inequality as one of the top global risks for 2013 and argued that not only is inequality reaching unprecedented levels globally and is damaging and inefficient; “... extreme wealth is economically inefficient,...politically corrosive... socially divisive and unethical” (2013:1-4).

In an article for the International Monetary Fund, Kumhof (2010) in “Inequality, leverage and crises” warns that inequality is dangerous, divisive and a possible route to civil unrest. South Africa has witnessed rising inequality and unprecedented levels of civil unrest since the latter part of 2010. While this has taken the form of service delivery protests, it could be argued that these communities suffer more than a lack of basic services (albeit inefficient) and that the protests reflect inequalities in access to basic infrastructure. This calls for urgent development of and access to such infrastructure.

Furthermore, inequality in South Africa has a racial dimension due to the apartheid legacy. This renders it even more destructive as the majority of the population is marginalised. It is impossible to achieve the economic growth required by a developmental state (DS) the majority do not participate meaningfully in the economy.

Given these dichotomies, is a DS even possible? According to Statistics South Africa, the current unemployment rate is approximately 25%. It is estimated that 50% of the youth are unemployed and most have never worked. The country’s large pool of unskilled labour reflects labour intensive, low income employment in the mining and agriculture sectors that are the bedrock of the economy. Infrastructure development is therefore seen as the solution to unemployment. By driving infrastructure development projects through state-owned companies (SOCs), the state hopes to achieve the targets it has set itself. All SOCs present Annual Performance Plans (APPs)

and the number of jobs created is one of the standard indicators in these plans that are submitted through quarterly reports to government Ministries.

Launching the New Growth Path (NGP), Minister Patel confirmed President Zuma's assertion in his 2009 State of the Nation address, "...the creation of decent work will be at the centre of our economic policies and will influence our investment attraction and job creation initiatives". The NGP aims to operationalise this vision by creating five million jobs by 2020 (which translates into 250 000 jobs per annum); this would reduce current unemployment by 15%. It is important to note that addressing inequality requires a multi-faceted strategy; the state's plan is to create jobs while improving economic performance. In the South African context, infrastructure development, set out in the bold Presidential Infrastructure Plans, is regarded as the most appropriate response.

As will become clear in the literature review, various scholars agree that a successful DS that addresses inequality; stimulates economic growth, and enables access to public goods, especially for those with limited means, requires a professional and skilled bureaucracy, especially in the areas targeted for growth. South Africa is currently focusing on trade, services and retail and requires new skills that have not been addressed in training initiatives over the past two decades. Although this issue does not form part of this study, it should be borne in mind in order to determine whether, having set itself ambitious targets, South Africa has the requisite resources to deliver such targets within the set time frames and whether or not these objectives can be regarded as developmental in terms of the theory of the DS. Is a DS an ideal or achievable in South Africa in the short to medium term? The current social, economic, spatial; institutional and policy arrangements in Gauteng exist to enhance changes of standard of living, while the fruit of its implementation in integrated way still not have been realized. Socio-economics inequalities and spatial disparities need more attention if one has to think in line with DS principles.

The central tenet of a DS state is the ability to achieve economic growth levels within a generation, while providing equitable access to public goods. South Africa's racially segregated economic ownership patterns clearly illustrate that economic growth does not trickle down to the poor. While the country is relatively well-off in terms of economic performance, only a minority





The National Infrastructure Plan driven by the Presidential Infrastructure coordinating Committee (PICC) aims, *inter alia* to transform South Africa's economic landscape. It identifies infrastructure development as a catalyst to bridge economic, social and spatial inequality while achieving unprecedented levels of economic growth. To this end the PICC identified 17 Strategic Infrastructure projects that would drive South Africa's infrastructure development over the next 20 years from 2012. The identified SIPS comprise 5 geographically –focussed SIPS, 3 spatial SIPS, 3 social infrastructure SIPS, 3 energy SPS and 2 knowledge SIPS. Transport infrastructure investment alone accounts for over 30% of the R840 billion earmarked for this development.

South Africa's infrastructure development drive is supported by global government intervention models adopted to correct market failures and or negative externalities. The provision of transport infrastructure is seen as a core government competency globally, especially in less developed countries. The government takes on different roles, as regulator, financier (through the fiscus), implementer (construction and maintenance through State Owned Companies), and oversight responsibility (transport departments that monitor the achievement of outcomes). The National Infrastructure Plan driven by the Presidential Infrastructure Co-ordinating Committee (PICC) aims, *inter alia* to transform South Africa's economic landscape It identifies infrastructure development as a catalyst to bridge economic, social and spatial inequality while achieving unprecedented levels of economic growth. To this end the PICC identified 17 Strategic Infrastructure projects that would drive South Africa's infrastructure development over the next 20 years from 2012.

It is envisaged that SOCs will drive this process. Most if not all of the SIPS are co-ordinated by SOCs. This research study focuses on rail infrastructure. Two SOCs are responsible for rail infrastructure, the Passenger Rail Service of South Africa (PRASA) for rolling stock and passenger services and Transnet for rail track development and maintenance. However, other modes of transport such as Bus Rapid Transit (BRT) systems in the metros, feed into the rail transport system, as transport is inter-modal. In the City of the bulk of the BRT budget is administered by the city, and its services complement the Strategic Infrastructure project 7 co-

ordinated by PRASA.

Drastic action is required to stimulate economic growth, address social needs and create jobs. Infrastructure development has the potential to make an effective and efficient contribution to a DS; such development must therefore be led by SOCs. This argument is based on the premise that the private sector will undertake projects that offer clear profit margins, whether or not they benefit the majority. However the state is obliged to promote development for the public good that is accessible to the majority in order to stimulate economic growth. Such projects call for a clear vision on the part of government and dedicated capacity on the part of entities such as SOCs. While the role of other participants such as the private sector cannot be ignored, this is beyond the scope of this study.

This research study examines current projects in the City of Johannesburg, focusing on Strategic Infrastructure Project 7 (SIP 7) that aims to develop infrastructure to reduce inequality, promote economic growth and integrate apartheid spatial patterns. As highlighted in the Infrastructure Plan document, as part of Spatial SIP, the aim of SIP 7 inter alia is an integrated urban space and public transport system in 12 urban centres. SIP 7 is “to coordinate planning and implementation of public transport, human settlements, economic and social infrastructure and location decisions into sustainable urban settlements connected by densified transport corridors”.

### **1.1.1 Problem statement**

*a. Infrastructure development implemented by SOCs can effectively contribute to the achievement of a Developmental State by stimulating economic growth, and reducing inequality while simultaneously addressing the social needs of the majority of the population and integrating apartheid spatial patterns.*

*OR*

*b. Can infrastructure development help to address inequality and resultant underdevelopment in order to achieve a Developmental State in South Africa? If so, how can SOCs play a leading role in reversing underdevelopment and inequality through infrastructure development?*

### 1.1.2 Research Questions

The main research question is to investigate what instruments, apparatus, support systems and processes can be used to achieve a DS in South Africa and for what purpose.

#### *Sub questions:*

\*Evaluate whether the proposed infrastructure plan will achieve the objective of a DS, and economic growth, while attending to the social needs of the population.

- What are the objectives of a DS, what implementation models have been utilised globally, and what are their impacts?
- What current economic and social model is being used to address inequality and underdevelopment? What challenges confront this model that call for the implementation of a DS model?
- What current social, economic, spatial; institutional and policy arrangements exist and what is their impact?
- What other policy proposals/arrangements are in place that could be utilised and why is the infrastructure development plan seen as an optimal choice to achieve a DS?

\*Are SOCs the most effective institutions to drive infrastructure development and, if so, why?

- The historical role of state-owned enterprises (SOEs) in DSs.
- What institutional arrangements make SOCs the most effective drivers of infrastructure development in the South African context?
- What role can other partners/institutions play in infrastructure development?

- How do we evaluate the effectiveness of SOCs as the drivers of infrastructure development?

\*How will the implementation of infrastructure development manifest itself economically, socially and spatially?

- What forces have driven current spatial patterns (economic, social, institutional, policy etc) and their spatial and geographic manifestations?
- What is the desired or expected spatial and socio-economic outcome of Strategic Infrastructure Project 7 (SIP 7)?
- Will these outcomes (equitable access through transport infrastructure) manifest themselves in a DS?

### **1.1.3 Aims and Objectives**

The broad aims and objectives of this research study are to:

- Develop a support plan/implementation system/mechanism to enable SOCs to work in support of a DS.
- Determine the various models of a DS globally and their objectives.
- Investigate the need to apply a DS model in the South African context and whether or not favourable conditions exist for its implementation.
- Evaluate how the proposed government infrastructure development plan will achieve this objective, using the SIP 7 as a case study.
- Outline how transport infrastructure development would promote the integration of spaces and sustainable development.



- Review the City of Johannesburg project (SIP7) that aims to use spatial integration to achieve a DS.

As reflected in the research questions above, these objectives can be grouped into four themes:

**Table 1: Research Objectives and questions**

THEME	OBJECTIVE	RESEARCH QUESTION
<b>State-owned Companies</b>	Determine: - the historical and current role of SOCs - the nature of changes in current institutional arrangements and their suitability to deliver developmental state	What institutional arrangements make SOCs the most effective driver of this infrastructure development in the SA context?  What is the role of SOCs in a transport infrastructure development within the City of Johannesburg project?
<b>Developmental state</b>	Unpack the developmental state and why it is seen as an answer to SA's spatial integration and economic development	Why is SA advocating a developmental state?
<b>Inequality</b>	Determine: - the effects of inequality on society and development -how the gap has increase and its effects on SA's development path -how can infrastructure development be utilised to integrate the City of Johannesburg	How can infrastructure development narrow the inequality gap and lead to integrated urban spaces that promote a developmental state?  How many jobs and what quality of jobs are expected to be created by SIP 7 and how will this contribute to overall economic growth?
<b>Infrastructure development</b>	Determine: -which aspects of infrastructure development will achieve more beneficial results and the way in which it will alter Johannesburg's spatial structure	Will infrastructure development redistribute development to less developed areas? -what physical infrastructure will have the most spatial and redistributive impact?

**Source: Author, own adaptation**

#### **1.1.4 Structure of the dissertation**

This dissertation comprises five chapters. Each focuses on particular point of interest in order to comprehend the role of infrastructure development led by SOCs. Chapter one presents the background to the research study, while chapter two provides the conceptual and theoretical framework underpinning this study. Chapter three outlines the research methodology, and chapter four presents the analysis and discussion of the findings. Finally, chapter five provides the conclusion and recommendations and areas for further investigation.

## **CHAPTER TWO:**

### **CONCEPTUAL AND THEORETICAL FRAMEWORK**

This chapter discusses the conceptual and theoretical frameworks that underpin this research study. It provides a systematic definition of various concepts and theories and their relevance to the study.

#### **2.1.1 The concept of state-owned enterprises**

According to the Business Dictionary (2013), state owned enterprises (SOEs) are businesses that are either wholly or partially owned or operated by the government. The Organisation for Economic Co-operation and Development (OECD) (2009:5) defines SOEs as business entities established by central and local governments, whose supervisory officials are from the government. Spencer (2008) states, that, an SOE is an enterprise in which the state has significant control, through full, majority, or significant minority ownership. The OECD (2009:5) further distinguishes between state-owned and state-holding enterprises; as noted earlier, SOEs are wholly state-funded firms, whereas state-holding enterprises are firms in which the government holds majority shares. These types of enterprises often operate in key sectors, such as utilities, infrastructure and finance, on which large portions of the private sector depend for their operations and downstream competitiveness. In Africa, SOEs operate in many economic sectors and significantly impact national development. These enterprises provide citizens with access to vital services such as water, electricity, health and transport. The sections that follow analyse the theories underpinning SOEs.

#### **2.1.2 Theories underpinning state-owned enterprises**

##### ***2.1.2.1 Development theory***

Development is in itself a contentious issue with seemingly elusive definitions and is by no means limited to development theory (Peet and Hartwick, 2009; Rapley, 2007; Pattnaik, 2008; Amartyasen, 2004; Munck and Ohearn, 1999; Edighiji, 2010). Peet and Hartwick (2009) argue

that “development means making a better life for all” (2009:1). Development has often been associated with “meeting basic needs; sufficient food to maintain good health; a safe and healthy place to live; affordable services available to everyone; and being treated with dignity and respect” (ibid). Its ultimate goal is clear: to raise incomes and in the process give poor people access to the range of goods and services that are widespread in developed societies.

However, Rapley (2007) regards development as largely synonymous with industrialisation. Munck and Ohearn (1999) observe that development is conceived of as economic growth, industrial development, and the establishment of complementary social and political institutions modelled on the US. According to Rapley (2007:5), in the modern era, development is less programmatic, and more concerned with flexibility and adaptability. Discussions on the state, particularly the large body of literature produced by the World Bank and the aid community, revolve less around the question of whether more or less state involvement is good for development. Scholars such as Pattnaik (2008) have referred to development as Foucauldian, as it represents a specific way of thinking about the world, a particular form of knowledge. In this sense, development theory is a particular discourse which does not reflect, but actually constructs reality.

Western scholars’ views on development are premised on a dichotomy between their own societies and those in the non-western world. They tend to categorise their societies as developed and others as non-developed. Amartya Sen (2004) describes development in simple terms; “development as freedom.” Sen interprets development “as a process of expanding the real freedoms that people enjoy”. In similar vein, Edighiji, (2010:10) compares “development to a process that engenders social freedom, economic freedom, political freedom and environmental sustainability”.

In contrast, Munck and Ohearn, (1999) define development as a process where some people are dominated and their destinies are shaped according to an essentially western way of conceiving and perceiving the world. They base their argument on the fact that development is partly an imperial agenda which turns some people into objects by imposing one-size-fits-all solutions (Gunnar Myrdal, 1974:729). Some scholars have viewed development in terms of the upward movement of the entire social system where there is circular causation between conditions and

changes with cumulative effects. Reform must be directed toward moving the system upward as much and as rapidly as possible by including changes planned with this result in mind. The World Bank (2013) notes that access to education and health care, employment opportunities, the availability of clean air and safe drinking water, reducing crime, and so on bring about development.

Bryant and White (1982) focused on development in the Third World. Their findings led to their definition of development as increasing people's capacity to influence their future. As such, development involves being as well as doing. They emphasised that projects and programmes not only need to result in physical change, but should do so in a way that people have greater capacity to choose and respond to these changes. However, development is not without its critics. Scholars have noted that development theorists and practitioners often fail to take gender, culture and environmental sustainability into account.

#### ***2.1.2.2 Developmental State Theory***

The literature notes that the term “developmental state” (DS) has its origins in the second half of the 20<sup>th</sup> century (1960s and 1970s). State-led macro-economic planning has been the driving force of infrastructure development in East Asia, in response to market failures. It has its basis in neo-classical thinking, which idealised the state in the industrialisation of the East Asian economy. Conceptualised by Chalmers Johnson (1982) in his book “MITI and the Japanese miracle”, many scholars, including Meredith Woo-Cummings (1999) took up this concept. While there are different contexts and understanding of what constitutes a DS, scholars agree that DSs have three distinct characteristics: (i) they prioritise high economic growth; (ii) they argue for and justify effective state intervention; and (iii) state agencies with professional bureaucrats are the vehicles for carrying out that intervention. Developmental state theory therefore advocates for a knowledgeable and committed bureaucracy to mitigate state inefficiencies, thereby justifying state intervention.

“Developmental state (DS) is a state-led development model that was practiced by countries like Japan, South Korea under General Park, and Taiwan under the Kuomintang Party” (MyoTun, 2011:71). A DS is distinguished from a socialist style with its state-led development model. Too

strong a state lacks opposition and undermines the role of the private sector and market forces. The DS is popular in Asia not for its economic policy, but its reorientation of economic development within a capitalist system (Johnson, 1982:302). Edigheji, Shisana, and Masilela (2008:36) cogently argue that “any discussion about the developmental state is a discussion of how the state can enhance its planning capacity to enable it to intervene in the economy to achieve its social and economic objectives.”

According to Murakani (1992), a DS seeks to achieve industrialisation through active industrial policy, while simultaneously implementing policies to redistribute income, promote education, and achieve other social and political goals. Early theorists such as Chalmers Johnson (1982) shed light on the DS model. He highlighted that although the private sector participating extensively in Japan’s industrialisation, it was led by the state through strict regulation and agencies that aimed to protect the public against market failures, such as monopolistic pricing and profit-targeted development.

The state therefore provided public goods such as education that were not necessarily profitable for companies but would benefit the country in the long term and provide resources for the “short sighted” private sector. Writing three decades later, MyoTun (2011:71) maintained that, the “developmental state model is one that demonstrates a determination and ability to stimulate, direct, shape and cooperate with the domestic private sector and arrange or supervise mutually acceptable deals with foreign interests”.

MyoTun added that the state has a developmental vision that creates institutionalised channels for other stakeholders’ involvement in the development process. The Keynesian economics approach justifies state intervention to militate against market imperfections; it broadened the scope of what constitutes these imperfections. “By and large, developmentalism entails promotion of human centred development, and not just growth” (Edigheji, 2010:10). From the economic perspective, a DS is characterised by economic technocrats and bureaucrats who set the stage for the achievement of development goals. They play an important role in fulfilling development goals and functions (MyoTun, 2011). MyoTun (2011) argues that technocrats and bureaucrats are perceived as apolitical, while political leaders create “political stability over the

long term, sufficient equality in distribution to prevent class or sectoral exploitation”.

The literature on the DS reveals an epistemological challenge in defining the necessary conditions for such a state. In the earlier literature, the central theme in the DS model is classification according to economic performance, while the more recent literature introduces the Human Development Index (HDI) and measures both economic and developmental aspects. The model is therefore more skewed towards equitable access to delivery of public goods than assessment of economic performance. From this perspective, the DS delivers economic growth that benefits all citizens, coupled with targeted social policy interventions; the benefits of the market economy or growth rate cannot trickle down without these interventions. Netshitenze (2011) concurs that for a state to be defined as developmental there must be social interventions that aim to reduce inequalities. The core of DS theory is that the state intervenes to correct externalities and enhance the standard of living. Freund (2007: 662) notes that, “one aspect of the developmental state is direct state involvement in economic and social policy”. This may include state ownership of major industrial, infrastructural and financial structures as well as institutional formation and interventionism. Vuuren (2013) posits that the creation of new business elites or at least an effort to create a new business class sits well with the characteristics of a DS.

The identification of the aspects of a DS requires a focus on the country’s institutional architecture and policy orientation (Edigheji, 2010). Institutions determine a state’s capacity. However, “institutional arrangements ought to explain the state’s capacity to define its developmental agenda and to formulate and implement policies in a legitimate and credible fashion towards the attainment of its goals” (Edigheji, 2010:5).

Economists and political scientists have also examined the theoretical doctrine underpinning DSs (Netshitenze, 2011) in order to explain development trends. Edigheji (2010:1) notes, that, “the economic crisis has given credence to those who argue for state interventions and has made the case for developmental states more compelling”. In his view, the economic crisis is testimony to the fact that unregulated markets are unworkable and unsustainable in the long run, not only for the improvement of human well-being but also for the markets, as the latter are not always self-regulating.

According to PCAS (2008:119), the DS should have the capacity to provide leadership in the

definition of a common national agenda and in mobilising all sectors of society to participate in implementing that agenda. This includes the capacity to prioritise in a strategic way, and to identify which goals and initiatives have the potential to unite the nation in an effort that drives the rest of the national agenda. National leadership should be informed by its popular mandate and the state should therefore establish effective systems to interact with all its social partners. Sen (2004) notes, that the state should design a regulatory system to control market forces and thus promote the percolation of the benefits of development to the lowest strata of society for inclusive development. Edigheji, (2010) identifies the countries that have implemented such a system. Countries such as China, Japan and other Asian DSs, as well as the Nordic countries, have tended to adopt developmental policy orientations, with the state playing a central role in national development (Edigheji, 2010:5).

In conclusion, a DS is characterised by what Peter Evans (1995) calls stakeholders’ embedded autonomy in implementing the state’s development policies. Lim and Jang (2006: 5) suggest that the state bureaucracy should be embedded in the private sector, but remain autonomous of its particular interests “in order to achieve domestically based industrial transformation and further economic development”. However, DSs are not without challenges, and these challenges are not limited to designing the requisite institutions to be a truly DS and formulating and implementing policies that will enable it to achieve its developmental goals.

South Africa is better positioned than most late developers to construct a democratic DS because, even prior to the current global economic crisis that led to a resurgence of the state across the globe, the South African ruling party, the African National Congress (ANC), and the government recognised that addressing the developmental challenges facing the country, including growing the economy, alleviating poverty, inequality and unemployment, and improving livelihoods, requires a DS (Edigheji, 2010).

### ***2.1.2.3 Growth Theory***

Growth theory is an economic theory that posits that growth is an engine of development (Akcigit and Howitt, 2013; Otaki and Tamura, 2013; Acemoglu, 2012; Ghiglino, 2012; Lewis, 2006; and Romer, 1998). According to Lewis (2006) and Acemoglu (2012), growth theory is related to economic growth and thus to growth of output rather than growth of consumption. Lewis is of the view that the lack of institutions constrains growth: “economic growth depends



on attitudes to work, to wealth, to thrift, to having children, to invention, to strangers, to adventure, and so on and all these attitudes flow from deep springs in the human mind” (Lewis, 2006:14).

Two issues lie at the heart of growth theory. The first stresses that growth occurs against the background of the supply of productive ideas; the industrial revolution and the growth of science produced such ideas. The second issue focuses on incentives: growth can only occur, when hard work and business enterprise are free of heavy taxation, social stigma and other interference by the government and religious institutions (Jovanovic, 2000). However, growth is related to goods and services - economic output, in line with the old fashioned meaning of economic - and not to concepts such as welfare, satisfaction or happiness. A new area of research within the theory of economic growth focuses on the role of organisations in economic growth. Acemoglu (2012:547) suggests the need to “construct a tractable framework in which productivity growth results from interplay between accumulations of knowledge and information in communication technology”. Organisations are important in this model as they coordinate economic activity and facilitate the use of existing technology.

In the line with this argument, Akcigit and Howitt,(2013:20) argue that “growth meets development”; they posit that Schumpeterian growth theory helps bridge the gap between growth and development economics, by creating a simple framework to capture the idea that growth-enhancing policies or institutions may vary with a country’s level of technological development. Many economists have adopted Schumpeterian growth theory that has developed into an integrated framework, to understand not only the macroeconomic structure of growth but many microeconomic issues including incentives, policies and organisations that interact with growth (Akcigit and Howitt, 2013).

The spirit of interaction in the growth process is embedded in the “entrepreneurial spirit”, which is often viewed as a key input in economic growth (Acemoglu, 2012). Ghiglino (2012) notes, that, interaction on issues relating to the growth process enables countries to conceive of better ways to use existing resources. However, growth is not only about “growth of aggregate output, but also about the fundamental transformation of an economy, ranging from its sectoral structure, to its demographic and geographic makeup, and perhaps more importantly, to its entire social and institutional fabric” (Acemoglu, 2012:546). Some scholars have critiqued growth theory on

the grounds that it does not explain the main factor in economic growth (Solow, 1994). They note that in countries at the middle stage of development, entrepreneurial spirit and appropriate institutions and policies are important to enhance economic growth.

### **2.2.1 The concept of infrastructure development**

Before examining the concept of infrastructure development, it is important to define the term “infrastructure”. Torrisi (2009:8) defines infrastructure from an economic standpoint:

- ❖ *Infrastructure is a capital good in the sense that its origins lie in investment expenditure and is characterised by its long duration, technical indivisibility and a high capital-output ratio;*
- ❖ *Infrastructure is also a public (sometimes a merit) good, not necessarily in the sense that it is owned by the public sector, but rather in the proper economic sense that it fulfills the criterion of inclusion in consumption.*

There is no single definition of infrastructure. According to UN-Habitat (2011:5), infrastructure refers to “all basic inputs into and requirements for the proper functioning of the economy”. This definition recognises that, several aspects of infrastructure go beyond the economic. Economic infrastructure is part of the capital stock used to facilitate economic production, or as production inputs (e.g. electricity, roads, and ports). Economic infrastructure can be further subdivided into three categories: utilities (power, piped gas, telecommunications, water and sanitation, sewerage and solid waste disposal), public works (roads and water catchments in dams, irrigation and drainage) and other transport sub-sectors (railways, waterways and seaports, airports and urban transport systems). This research study focuses on railways and urban transport systems.

Kim (2006) depicts the various possible broad trajectories of infrastructure. In common with several other development economists, he focuses on the social fundamentals of infrastructure. Kim argues that infrastructure is indispensable to achieve the developing countries’ main development targets, including urbanization, industrialization, export promotion, equitable income distribution, and sustainable economic development. Numerous scholars have observed that positive social outcomes emanate from investment in infrastructure (Esfahani and Ramirez, 2003; Demurger, 2001; Holtz-Eakin and Schwartz, 1995; Tsukada, 2013; Lynde and Richmond, 1992; and Torrisi, 2009). Demurger’s (2001:95) empirical study provides evidence on the links

between infrastructure investment and economic growth in China. His findings demonstrate that “transport facilities are a key differentiating factor in explaining the growth gap and point to the role of telecommunication in reducing the burden of isolation”. Esfahani and Ramirez (2003) indicate that infrastructure development has a positive influence on services that positively impact a country’s GDP and that in general, the benefits exceed the cost of providing these services. They argue that economic growth is the consequence of an accumulation of factors that enable an economy to take advantage of opportunities to increase its income. One such factor is infrastructure development. However, Holtz-Eakin and Schwartz (1995) found that infrastructure has little impact in a structural model of economic growth. Tsukada’s (2013) study of India’s national highway development programmes revealed that inter-agency relationships and policy options were the root causes of the delays that slowed the entire development process.

International organisations such as the World Bank and the Organisation for Economic Co-operation and Development (OECD) are actively promoting infrastructure improvement by offering various support programmes in developing countries. Infrastructure development plays an important role and is arguably one of the most integral parts of public policies in developing countries (Kim, 2006). Lynde and Richmond (1992) posit that infrastructure development can complement productivity as infrastructure is a public good that also benefits the poor (through subsidies) and the private sector (through its ability to reduce transaction costs as inputs, thereby maximising their profits).

McCann and Shefer (2004) argue that effective infrastructural development requires that, the state exercise control over society, has agencies that are able to reach society as a whole and that the state is able to shape society at local level. McCann and Shefer refer to this as a capable state, one that has territorial reach and positive effects on society. While the current study by its very nature assumes that the state has all the above attributes, it tests this concept in its analysis of infrastructure development. The three time-paths of economic development, namely, “quasi-stagnation, economic dualism, and self-sustained development within the theory of infrastructure”, denote that “infrastructure” as a prerequisite for growth and economic development, is provided or controlled by the state (Torrise, 2009:7). This enables SOCs to run railway transport.



The concept of planning has been the subject of much intellectual debate, including its impact on land usage, land efficiency, and land accessibility, among other factors. Recent debates in the academic literature relating to “transport and land-use have among other things been heavily concerned with issues surrounding spatial interaction, land-use arrangements and the efficiency of the transport network” (Murphy, 2012:92). Litman argues that “transportation planning decisions have tremendous economic, social and environmental impacts and poor planning can cause significant harm by reducing transport system efficiency and equity” (Litman, 2012:4). Transportation planning decisions influence land use directly, by affecting the amount of land used for transport facilities, and indirectly, by affecting land use accessibility (Litman, 2010).

It is in this light that the researcher is interested in transport planning, particularly railway in Johannesburg, as it affects land uses and land accessibility. Prior to the recent discourse on transport planning, Rodríguez (2004:3) interrogated the extent to which transportation improvements affect land use and development patterns and attempts to direct land policy decisions. He argued that “if development is influenced by policy decisions in the land use plan and its application, therefore, the connection between land use and transportation would be influenced by the plan as well”. Litman (2013:7) states that the main transport planning goal is “to maximize mobility and accessibility.

Rodríguez *et al.* (2004:3) note that such perspectives should be viewed with caution. They argue that “transport only provides an opportunity and not a guarantee”. In their view, even though transportation spurs economic growth, trade-offs come with different types or configurations of transportation systems. They focus on the trade-offs relating to convenience for system users and the larger social and environmental impacts. The literature on transportation planning in developed countries presents various demographic and economic trends including aging populations, rising fuel prices, increasing urbanisation, growing health and environmental concerns, and changing consumer preferences, stimulating demand for alternative modes of transportation (Litman, 2013).

According to Litman (2013:2) “transportation systems are partnerships between governments and users”. Government planning decisions determine the transport options available, from

which users choose the combination that best suits their needs. There are an old and a new transportation planning paradigm. The old paradigm evaluated transport system performance primary in terms of the speed, convenience, and affordability of motor vehicle travel, and so favoured automobile-oriented improvements. On the other hand, the new paradigm is more comprehensive and multimodal as it considers a broader range of modes, objectives, impacts and improvement options (Litman, 2013:21). In other words, “conventional transportation modelling overlooks and undervalues many factors that affect accessibility while new planning tools allow comprehensive accessibility evaluation” (Litman, 2013:22). By so doing, it considers a wider range of planning objectives (what a community wants to achieve) as well as benefits and costs, and can thus identify multiple benefits.

In his case study of Dublin, Murphy (2012) points out that in terms of the morning commute period; spatial distribution is continuous and relatively mono-centric. His findings show that the central area is the most advantageously located both as an origin and a destination. However, in relation to the off-peak period, the spatial organisation of land-uses is more similar; interestingly, the peripheral area is the most advantageous location for trip-making both as an origin and a destination. These results suggest that, private transport users are able to react more quickly to changes in the distribution of land-use activities than their public transport counterparts due to the relatively fixed nature of the latter mode. This implies that the public transport network needs to be reorganised to better reflect the revised pattern of trip-making, specifically during the off-peak period (Murphy, 2012).

In line with land-use and transport planning considerations, much greater cognisance needs to be given to the off-peak period. Murphy’s (2012) findings suggest that travel patterns for the two periods are radically different: for the peak period, the focus of trip-making is towards the city centre whereas the opposite is the case for the off-peak period (Murphy, 2012: 101).

Development in Australian cities in the past half century, has created a high dependence on, and use of cars. According to Falconer and Richardson, (2010:4), this, has resulted in too many people driving, whether by choice or necessity. The reasons for this situation include segregation of uses, the distances created by low-density, long distances and the divisive effect that urban highway and freeway systems have on the urban landscape. Density impacts commuting trips.

Where greater densities are apparent, there is a better business case for rapid public transport (particularly rail), as there is higher potential patronage. “The relationship is almost „chicken and egg“, (does density need to precede investment in public transport to make it viable or vice versa?)” (Falconer & Richardson, 2010:4). From an economic perspective, sound transport planning promotes local economic development, reflected in increased productivity, employment, business activity, income, property values and tax revenues. Furthermore, from a social perspective, well-planned transportation increases the quantity and quality of interactions among community members; and the ability of households to afford basic transport.

### ***2.2.2.2 Neoliberal approach***

The neoliberal approach focuses on the free market and free trade (Harvey 2005; Blomgren 1997; Pattnaik, 2008; Kotz, 2000; and Tasankok, 2012). According to Harvey (2005:2) “neoliberalism is in the first instance a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework”. It is characterised by strong private property rights, free markets and free trade. Harvey points out, within this framework, the role of the state is to create and preserve an institutional framework appropriate to such practices. Blomgren (1997:224) states that, “neoliberalism was commonly thought of as a political philosophy giving priority to individual freedom and the right to private property”. Neo-liberal development based on the foundations of a free market, free trade, and integrated policies envisages a world order that exudes growth and prosperity (Pattnaik, 2008).

According to Kotz, neoliberalism is both a body of economic theory and a policy stance. Kotz (2000:1) notes that neoliberal theory posits that a largely unregulated capitalist system not only embodies the ideal of free individual choice but also achieves optimum economic performance with respect to efficiency, economic growth, technical progress, and distributional justice.

Tasankok (2012:20) states that, “the neoliberalisation of social, economic and political processes pervades under development, planning and governance discourses and practices, and pushes them in a market oriented direction”. State interventions in markets (once created) must be kept to a bare minimum because, according to the theory, the state cannot possibly possess enough

information to second-guess market signals (prices) and because powerful interest groups will inevitably distort and bias state interventions (particularly in democracies) for their own benefit (Harvey 2005:2). “State intervention to correct market failures is viewed with suspicion, on the ground that such intervention is likely to create more problems than it solves” (Kotz, 2000:1). The World Bank and other supporters of neoliberalism advocate for a "free market" approach to promote the privatisation of public services and "adjusted" state institutions in favour of market interests.

Turning to urban development, Tasankok (2012:20) observes that the neoliberal urban development system is based on market-oriented dynamics and can only function if land use decisions are regulated by planning institutions. In other words, planning institutions are preconditions for neoliberal urban development. A neoliberal approach does not necessarily mean catering to the needs and demands of private market actors, but rather underlines the planning challenges in neoliberalising cities, which need to respond to contradictory processes (Tasankok, 2012). This contradiction manifests in neoliberal and entrepreneurial ways of governing the city. The consumer culture of neo-liberal development is often dominated by the US, Europe and Japan (Pattnaik, 2008). Critics rightly denounce Western countries as being hypocritical in their approach to poor countries.

### ***2.2.2.3 Institutional approach***

It is often assumed that public infrastructure development boosts Gross Domestic Product (GDP). For example, for every dollar spent on infrastructure development, a country's GDP tends to rise from approximately US\$ 0.05 to US\$ 0.25 (World Economic Forum, 2012). Bearing this in mind, and considering the underinvestment in infrastructure development, this research study examines the feasibility of the institutional approach. The researcher is of the view that the principal cause of the lack of sustained infrastructure development is a lack of well-defined institutional arrangements that ensure sufficient maintenance. Ostrom (1986: 48) points out that „little agreement exists on what the term “institution” means, whether the study of institutions is an appropriate endeavor, and how to undertake a cumulative study of institutions”.



This framework advocates for an institutional structure to deliver services that depends on administrative capabilities. “For unless rational decision makers and a combination of technical knowledge are enforced, infrastructure development is more likely to fail even under conditions where finances are available” (Uphoff, 1986:63-70). Ostrom, Schroeder and Wynne (1993:19) argue that, “in analyzing an institutional arrangement, one must investigate who is involved, what their stakes and resources are, and how they are linked to one another and to outcomes.”

Many scholars argue that the discourse of political economic development still takes place within the broader ambit of the „good governance“ agenda. Hickey (2012:1233) advocates for a politics of development that promotes a particular set of institutional forms as the basis for the emergence of pro-poor development policies and outcomes. Evens (2010), opposes this point of view, and notes the rise of mono-cropping institutions that transcend national circumstances and cultures. Consequently, “these institutions provide an inadequate agenda for Africa, as they contain an excess of theoretically universal notions about what is good which actually reflect less than expected” (Hickey, 2012:1233).

Hickey criticises the “current state of thinking in international development discourse where the politics of pro-poor policy making remains wedded to largely modernist and rational-actor understandings of how politics in poor countries does and should work” (2012:1235). In practical terms this suggests that policies and programmes should aim for political as well as technical optimality.

#### ***2.2.2.4 Capability approach***

Most studies on the DS have focused on social and economic objectives, neglecting other paradigms, most notably, the role of decentralisation and SOEs in infrastructure development for economic growth and poverty reduction. A DS characterised by good governance, democracy, and efficient and effective service delivery requires infrastructure development to develop capabilities (Mkandawire, 2005: 47).

Moreover, the focus on economic and social development has led to the lack of a clear definition of infrastructure development and its interface with the DS. Some scholars have associated

infrastructure development with transport, and the provision of water, sanitation, roads, and social infrastructure, among other things (Stewart, 2010; Taylor-Lewis, 1993; Lall, Rajiv and Anand, 2008). This study adopts the position that the capability approach (CA) is very relevant, especially in light of the fact that “state owned enterprises suffer from operational inefficiencies, which negatively impacts on the economy” (Department of Public Enterprises, 2011-2014:3).

An emphasis on development based on enhancing the socio-economic system falls short of the delivery of infrastructure development. For the purposes of this study, infrastructure development refers to the “creation of public capital goods. Such capital goods carry the distinction of producing external economies (technological and pecuniary) and social benefits different from private benefits” (Ahmed & Donovan, 1992:4). Recent studies have analysed the interface between infrastructure development and growth and productivity (Calderón and Servén, 2008a). They have drawn attention to the need to examine the role of SOEs in infrastructure development as these entities have played an important role in countries such as China and Angola (Kahla, 2007; Chen, 2009). Yet, SOEs play a minimal role in infrastructure development in South Africa.

The CA has potential in analysing infrastructure development as it redefines the role of the state in delivering infrastructure. This approach was previously used as an economic concept in response to poverty or multiple deprivations and not as a useful concept for the analysis of infrastructure development (Goerne, 2010; Pantazis *et al.*, 2006). The researcher is of the opinion that this approach can be adopted to promote infrastructure development for poverty alleviation and to redress high levels of inequality. Alkire (2002) notes, that the CA is a flexible tool that exhibits a degree of internal pluralism and that researchers can use in different ways.

While decentralisation has been promoted in order to redistribute power, it has not always been adopted with the explicit aim of intervening in infrastructure development. The theory of obligations and duties complements the framework of CA (Gasper, 2004:178). South Africa has struggled to achieve constructive relations between local, provincial and national government. A lack of clarity on the division of responsibilities together with reluctance to manage the system has created tension and instability across the three spheres of government. The researcher has

adopted the CA due to two salient features. The first is that it assigns the state the task of directing infrastructure development. This suggests the need for a strong state that has the capacity to build internal consensus on the imperatives. Secondly, the theory is relevant as it is a more pragmatic fit for advocating for the creation of a new civic culture of developing capabilities. A DS does not bring about rapid and sustainable transformation through regulations and legislation alone, but should effectively intervene to provide infrastructure. This can be achieved by SOEs.

#### ***2.2.2.5 Summary of the section***

This section examined the theories and concepts related to SOCs as drivers of infrastructure development in a DS. It revealed that, SOCs are common throughout the world. These companies play an important role in economic development, especially in developing countries. In Africa, SOEs span a number of economic sectors and significantly impact national development. The theories and approaches outlined emphasise the capability of a DS to promote development, its capacity to organise around appropriate institutions and organisations, and the adoption of policies to enhance development. The ultimate objective is to reduce poverty, inequality and high unemployment rates.

### **2.3.1 Literature review on SOEs and the DS**

#### ***2.3.1.1 SOEs and the DS in the international context***

The section examines international experiences of the DS from the standpoint of SOEs or vice versa. Different countries have experienced the DS differently and there are no uniform reasons for the creation of SOEs. Efirid (2010) argues that “The impact of SOEs on the global economy is significant. In the early 1980s, SOEs produced 10-25 percent of the manufacturing output of the developed world and more than 25 percent in the developing countries” (2010:2). It is clear that SOEs have laid the foundation for a strong, sustainable economy through job creation.

However, harnessing an SOE model is neither simplistic nor automatic. In some countries, notably Finland and Sweden, it rests on legal stipulations ratified by parliament. In others such as Russia, it is reinforced by presidential decree, while another method is to grant shares to the state through veto rights; so-called “golden shares” (Mattlin, 2013). This method has been applied in Singapore and some EU countries.

SOEs can be counted among the largest and most rapidly expanding multinational companies (Christiansen, 2011; Capobianco & Christiansen, 2011; Kowalski *et al.*, 2013; Buge, 2013). The literature notes that they play a pivotal role in modernisation that matches that of their private sector competitors, as is the case in China and South Korea. The discourse on the DS notes that, the “state can invaluablely have a developmental vision as it allows or makes institutionalized channels for other stakeholders” involvement in the development process” (Tun, 2011:71).

Some scholars argue that SOEs were brought into being in order to boost the economy of the less developed regions of a country and to pursue equality and social stability through investment in new infrastructure or the creation of new plants and employment (Perotti 2003). Another school of thought acknowledges the profound changes to the economy brought about by SOEs. However, many scholars have also acknowledged that SOEs can be a breeding ground for authoritarianism and are closely associated with dictatorship (Arrighi & Silver 1999; Frank 1998).

The OECD (2006:38) notes that, “SOEs produce approximately 15% of GDP in Africa, 8% in Asia and 6% in Latin America. In many countries in Central and Eastern Europe, the state sector

still accounts for 20%-40% of output. It has been estimated that globally, SOEs still account for 20% of investment and 5% of employment. Overall, SOEs play an important role in a number of major economies, including China, Russia, India, and, to a lesser extent, in Brazil and South Africa” (OECD, 2006).

In Ireland, the state has acquired major shares in monopoly and non-traded sectors spanning electricity, gas, airports, seaports, rail, bus, etc., in order to provide the essential infrastructure and related services that are vital to economic competitiveness (Carthaigh, 2009). However, Forfás (2011) points out that, partly due to lack of competition and innovation on the part of SOEs, “Ireland’s distribution infrastructure, including road, rail, air and sea transport, ranks poorly: Ireland’s score in air transport and water infrastructure has improved in recent years but remains below the OECD average. The quality of energy infrastructure is also perceived to be poor”.

The DS has been pivotal in analyses of the success of East Asia’s „miracle“ economies since the early 1980s. Chalmers Johnson in his 1982 book “MITI and the Japanese Miracle”, described the essential features of the DS as firstly, “the existence of a small, inexpensive, but elite state bureaucracy staffed by the best managerial talent available”; secondly, “a political system in which the bureaucracy is given sufficient scope to take initiative and operate effectively”; thirdly, “the perfection of market-conforming methods of state intervention in the economy”; and finally, “a pilot organization like MITI” that controls industrial policy through its influence on planning, the energy sector, domestic production, international trade, finance and government funds (Johnson, 1982:314). Put differently, the state guides development processes, but not all economic activities are its sole responsibility.

The DS model has been the subject of considerable debate, particularly with regard to SOEs. SOEs in a DS are government-linked companies (GLCs) that exemplify factor-driven growth (Low, 2001). There are examples of SOEs all over the world, with China being a successful example (Mattlin, 2013). Almost all the biggest Chinese companies are currently state-owned. Some countries have used SOEs to invest abroad through joint ventures. For example, Bharat Heavy Electricals Limited (BEHL) expanded its international operations through entering new

markets and expanding existing ones. Another example is the Oil and Natural Gas Corporation Limited (ONGC), which is currently engaged in overseas exploration and production in countries like China, Columbia, Brazil, Nigeria, Cuba and Vietnam (OECD, 2009). The aim of SOEs is “to play catch-up in industrialisation and to generate the combination of steady high rates of economic growth and structural change in the productive system” (Castells 1992:56–7). The development processes pursued by Myanmar and Indonesia under Suharto are state-led development, epitomising a DS (Tun, 2011).

Critics of SOEs have argued that in a globalised market economy, the state cannot continue to be an effective intermediary (Cheng and Lin, 1999). Kulasekera (2000) argues that “In many countries state enterprises are in very poor state”. He notes that political interference, corruption, a lack of vision, dearth of skills, and inadequate investment, have resulted in huge losses. State subsidies and protection are harnessed to keep them going. Governments spend millions subsidising poor management and consumers pay a high price for inefficiency.

SOEs have been identified as opening the door to corruption. Nigeria is one example of a country where SOEs have not been successful. While proponents of SOEs note that they promote development, some advocate privatisation to accelerate economic recovery. In 1986, Nigeria’s Babangida administration decided to privatise or commercialise SOEs; at this point in time, it owned “about 500 companies and parastatals in which the government has invested over N36 billion as equity loans and subventions from which she has been realizing less than N500 million annually” (Federal Government Budget Speech, January 1986, cited in Anyawu, 1997:458). Ill-definition of SOEs’ mandates has led to inefficiency. An example of state intervention to rescue ailing SOEs is the Brazilian government’s instruction to the BNDES (the development finance intermediary owned by Government) to fund the ailing Embraer, a strategic SOC.

However, tightly controlled SOEs are fighting a road-side giant – capitalism. Privatisation, which simply means the export of capital to foreign countries, has produced contradictory results in emerging capitalist economies in Europe. Monopoly capitalism in Europe has not receded; it has merely assumed new faces. Its latest face is the controversial call for structural adjustment and privatisation. Kozlov notes:

*One of the most important forms of capitalist export that have developed since the Second World War is the activities of international state monopoly credit organizations of which the most prominent are the international bank for reconstruction and development (IBRD), the International Finance Corporation (IFC) and the International Development Association (IDA). Since the United States makes the biggest contributions to these organizations in practice, it controls their activities and directs them primarily towards the external economic expansion of American monopolies (Kozlov, 1977:224).*

The capitalist nature of the global economic system captured in this observation suggests that liberal economic theories must take precedence if the system is to be sustained. Other studies have shown contrasting results. For example, despite being integrated into the global capitalist economy, France is referred to as “socialist” (Cohen, 2010:16). By 1946, the government of France directly controlled 98% of coal production, 95% of electricity, 58% of the banking sector, 38% of automobile production, and 15% of total GDP (Cohen, 2010:16). Cohen argues that in the recent past, the government’s position has been consolidated though the nationalisation law of 1982, that enabled the government to claim a stake in major companies, including CGE, P  chiney, Rh  ne-Poulenc, Saint Gobain, and Thomson; defense manufacturers, Dassault-Br  guet and Matra; steel giants Usinor and Sacilor; computer companies, Bull and ITT-France; and the pharmaceutical laboratory, Roussel-UCLAF; along with the country’s 36 biggest banks, at a cost of 58 billion francs to the taxpayer (Cohe, 2010:17).

The French Government Shareholder Agency (GSA) manages a portfolio of strategic SOEs in various industries, including Defence, Transport infrastructure, Energy, Transport, Real Estate, and Financial Services (Abe, 2006). However, the country’s formerly state-run Renault did not perform competitively in the global market (Thurbon, 2001). It was only after the state became a minority shareholder and the company was privatised that Renault showed tremendous growth. Thurbon (2001) compared South Korea’s approach to neo-liberalism with that adopted by

Taiwan. She found that the dismantling of the DS in South Korea had consequences that led to financial crisis. The inverse was also true; in comparing South Korea and Taiwan, she found that, in the latter country, financial liberalisation was combined with re-regulation to enhance the capacity to strategically intervene in the economy to developmental ends. As such, “liberalization does not necessarily dissolve the nexus between finance and developmentalism” (Thurbon, 2001:261). The primary role of these SOEs is to drive the government’s long-range industrial economic growth strategy. The portfolio of SOEs is reviewed periodically to ensure that they are aligned with long term industrial economic growth (Abe, 2006).

### ***2.3.1.2 SOEs and the DS in Asia***

Some commentators partly attribute city branding and the promotion of creative cities to SOEs’ desire to transform cities into leading hubs in the global economy (Terry, 2013:6). Tokyo’s growth is closely related to the state and industry’s role in the national economy (White, 1998; Hill and Fujita, 2000; Hill and Kim, 2000; Kamo, 2000). Kamo (2000: 2161) states that, the city’s unprecedented growth was the result of the massive injection of capital into Japanese-owned transnationals that made Tokyo “an advanced core for the world-wide product cycle of major manufacturing industries.”

While it has been noted that the state has played a strategic role in allocating resources to industries in East Asia, some refer to this as “cherry picking” (Gardu, 2011:160). Japan, South Korea and Taiwan’s economic performance is due to interaction between SOEs and the private sector, which focuses on negotiating industrial policy (Gardu, 2011). The financial crisis of 1997-98 hit the Asian economies hard, and commentators regarded this as proof of the failure of state-led development in the region (Terry, 2013).

Although Asian DSs are not homogeneous, some scholars consider that they are in transition and are adept at breaking into world markets (Weiss, 2000; Woo-Cummings, 1999; Huff, 1999). The first-generation of SOEs to penetrate foreign markets included Japan’s capitalist alliance and the more assertive technocratic authorities in Korea and Taiwan (Boyd 1999:162). Since the advent of communism, China has always been a DS with strong SOEs (OECD, 2009; Shuanglin & Wei,



2006; Holz, 2003). Stiglitz (1997) is of the view that SOEs' extraordinary performance in certain Chinese provinces demonstrates that economic success is possible even under conditions in which property rights are ill-defined. The China National Petroleum Corporation (CNPC), China National Offshore Oil Corporation (CNOOC), China Security Regulatory Commission (CSRC), and China Insurance Regulatory Commission (CIRC) represent a developmental network state (DNS).

It is worth noting that China supports SOEs' integration in the global economy. A global strategy was proposed at the 5<sup>th</sup> plenary session of the 15<sup>th</sup> Central Committee of the Communist Party in 2000. The country has made enormous investments through the CNPC, acquiring an Angolan Oil well for \$692m in 2006 and the Petro Kazakhstan. The CNOOC acquired a 45% share in the Nigerian ACPO oil well for \$299m. It can be argued that SOEs function as a stabiliser that helps to alleviate potential adverse impacts on the economy and social reforms. The state also runs the economy through the following state-owned financial institutions:

1. China Banking Regulatory Commission (CBRC);
2. China Insurance Regulatory Commission (CIRC);
3. China Security Regulatory Commission (CSRC).

The supervisory authorities of central SOEs are individual central government ministries, e.g., commerce, education, and science and technology, and others for purposes of profitability (Shuanglin & Wei, 2006). Increased global competition has prompted these state-run organisations to rethink how they produce and deliver products and services. China's case is a typical example of a country without good governance institutions, even though economic development has expanded drastically, making it a global economic giant.

SOEs fulfill three board roles, namely, a social role, an economic role and an internalisation role. A study to benchmark the production of steel and cars in Japan and the USA, and manufacturing in Korea, India and Mexico (Marawa, 2006) found that SOEs aim to address the socio-economic needs of a country, including, but not limited to, bridging the gap between rich and poor, and planning and implementing macro and micro economic policies in order to grow the economy. However, SOEs as epitomised by East Asian countries have had varying experiences. Korea has

no effective tax system for its large commercial enterprises. The government reserves the right to plan the economy, commanding and dictating terms to every economic sector. The government sets production levels for most products, and state-owned industries account for nearly all GDP. The state therefore directs all significant economic activity. While Malaysia is also a DS, the role of the state is coming under attack as new global rules are created. Malaysia's DS exhibits the following characteristics (Khor 2013):

- A strong state, including government ownership of key sectors, including industry and banking.
- The state owns or controls utilities, infrastructure, public services, etc.
- The public sector collaborates with the private sector.

Efird (2010:ix) notes that, "SOEs tend to be providers of essential public services such as electric power companies, water utilities, ports, and transportation networks but SOEs also engage in an array of commercial activities involving airlines, banks, basic commodity plantations, textile manufacturing, and vehicle assembly plants". Some scholars have argued that the state can "challenge, usurp, collude with, and create markets" (White, 1998:470; see also Savitch, 1988 for similar commentary) and is thus not necessarily subordinated by global economic forces.

### ***2.3.1.3 SOEs and the DS in America***

SOEs in America have different characteristics. This section examines the common and unusual characteristics from a theoretical and practical perspective of the DS in America. Many scholars have noted the quality of services provided by SOEs in the US. Block (2008) states, that, the US federal government has dramatically expanded its capacity to finance and support private sector efforts to commercialise new technologies. It is noted that a "significant share of world largest firms are from the United States and Japan, which together account for more than half of OECD firms on the Forbes Global 2000 list" (Kowalski *et al.*, 2013:20). A particular feature of the US economy is that private companies contribute as much as SOEs; government's role is to regulate and promote businesses.

Schneider (2013:2) maintains that, "business-government collaboration is imperative; few investigate deeply into the specific institutions best suited to promote it". He argues that politics

has worked to make these efforts invisible to mainstream public debate. At macro level, many institutions and practices matter for business politics; a minimum list would include parties, legislatures, networks, and lobbying.

The hidden quality of the US DS is largely a result of the dominance of market fundamentalist ideas in the past 30 years (Block, 2008:2). This view is supported by Terry, (2013:12) who states that a “knowledge economy needs to enable the ready flow of information in order to promote innovation”. This is evident in various government research policy statements that emphasise open data, and open access to scholarly works. To understand the institutional challenges of public-private collaboration, it is crucial to distinguish between passive and active industrial policy (Schrank, 2013:4). Passive policies seek to change the public sector (such as red tape, infrastructural bottlenecks, and other items on the World Bank’s Doing Business survey) to reduce the cost of doing business on the assumption that these changes will improve business performance. In contrast, active policies target deeper changes in the private sector in terms of firm behavior and rely on state intervention.

The main focus of the DNS is to help firms develop product and process innovations, such as new software applications, new biotech medications, or new medical instruments (Block, 2008:4). Block (2008) argues that developmental policies have lived in the shadows in the US because acknowledging the state’s central role in promoting technological change is inconsistent with the market fundamentalist claim. This is based on the argument that private sector firms should be left alone to respond autonomously and spontaneously to marketplace signals. According to Schrank (2013) cited in Schneider (2013:3), from a comparative, historical perspective, contemporary developmental states in Latin America are weaker vis-à-vis business than earlier incarnations in authoritarian regimes with less developed private sectors.

A precondition for a DNS is a community of people with high levels of technological expertise. This requires higher education approaches to enhance citizens’ ability to innovate (Block, 2008:4). The DNS seeks to make this technological community more effective in translating research into actual products. Government officials provide funding and other resources to groups with promising ideas. These officials have a broad overview of the research activities

within a particular technological subfield (Block, 2008:4-5).

Furthermore, governments, or different parts of governments, can also pursue active and passive industrial policy (Schrank, 2013:14). At the heart of the DNS in the US is the Pentagon office of the “Advanced Projects Research Agency” Block (2008:7). However, the military and national security apparatus in the US continues to exert disproportionate influence on the direction of technological advance without private sector participation (Block, 2008:26).

In DS discourse, the institutional design of councils usually sets out different responsibilities (deliberative, consultative, implementation, or oversight). Awareness of these responsibilities is crucial in order to establish expectations and benchmarks for success (Schrank, 2013:12). In Mexico, software development seems to thrive on the ongoing, face-to-face interaction that business and government (and university) councils are well suited to promoting (Schrank, 2013:26). Mexico and Chile have few such cases, while Colombia and Brazil have more, despite the weakness and exclusion of many Brazilian associations from closer dialogue with the government (Schrank, 2013:30). Schrank (2013) argues that successful business-government collaboration in Brazil, Chile, Colombia, and Mexico depends on a mix of government pragmatism, business organisation, and networks both within business and between business and government. Bureaucracies in Latin America are porous and staffed at the top by political appointees. Appointees to top economic positions are sometimes suggested or vetted by business groups and most consult regularly with these groups (Schrank, 2004, 2013:46). Copyright laws in different countries “promote the development of the digital economy by providing incentives for innovation in technologies and access to content” (ALRC, 2012, cited in Terry, 2013:12).

In sum, the US state promotes market fundamentalist ideas as it promotes and supports enterprises in the background, which reveals a DS in practice. Political systems and practices in Latin America are remarkably accommodating of business interests, especially the narrow or individual interests of big business. Large business groups have an advantage over others in politics, due to their financial clout (Schrank, 2013:45).

### **2.3.1.4 SOEs and the DS in Europe**

The term „Washington Consensus“ refers to a “set of policies advocating economic liberalization, privatization and fiscal austerity”, which was initially designed in the 1980s and 1990s by the IMF, the World Bank and the US Treasury to respond to the economic crisis in Latin America (Bugaric, 2013:2). Under the influence of the neoliberal "rule of law" model, Central East Europe (CEE) developed a distinct, neoliberal DS. One of the key features of the new developmental state (NDS) is its ability to foster learning and discovery as the central ingredient for a successful DS (Bugaric, 2013:2). Consequently, proponents of the NDS are critical of the "one-size-fits-all" approach. Formalised regulatory structures promoted pro-market oriented economic policies in European countries. However, this occurs at the cost of autonomous developmental policies.

The recent global economic crisis has given rise to new forms of state intervention in countries like China, Brazil, India and South Africa. Slobodan *et al.* ( 2013:198) note that, the IMF does not provide resources to countries facing economic problems; its field of activity is very broadly defined and it reflects the power of multinational companies and highly developed countries, suffers from managerial problems, and lacks responsibility and transparency.

Various scholars have emphasised that the NDS relies on capable and autonomous bureaucrats, such as those found at the upper levels in China, that are capable of managing and coordinating sophisticated policies (Bugaric, 2013:4). Bugaric (2013) argues that one of the key features of the NDS is its ability to foster learning and discovery as the central ingredient for a successful DS. As noted earlier, the state enterprise sector in today’s OECD economies is significantly smaller than in the emerging economies. However, this sector remains quite important in a few OECD economies and in a number of selected economic sectors, most notably in network industries (energy, telecommunications, and transport) and the banking sector (Kowalski *et al.*, 2013:18).

Collectively (and often individually), SOEs employ large numbers of people. In periods of economic uncertainty, employment within a state enterprise traditionally offered workers protection from redundancy, as political influence could be used to maintain employment levels (MacCarthaigh, 2009:29). In contrast, contemporary state enterprises are more exposed to market

forces than previously. Furthermore, “foreign owned firms perform better than state-owned and privatized firms in terms of employment creation” (Faggio, and Konings, 2003:148).

According to the good governance approach, it is mainly institutions that “maximize market freedom and most strongly protect private property rights, which are the best for economic development” (Bugarcic, 2013:7). Causality runs from institutions to economic development and is negative in the other direction, where economic development creates better institutions (Bugarcic, 2013:7).

In their analysis of the dynamics of job flows in five transition countries, Poland, Estonia, Slovenia, Bulgaria, and Romania, Faggio, and Konings (2003:152) found that, “in the early stages of transition job destruction dominates job creation”. However, as the transition progresses, job destruction equals job creation in more advanced countries, such as Poland, Estonia, and Slovenia, while job destruction remains high in less advanced countries, such as Bulgaria and Romania.

Profitability is not always a sufficient indicator of the efficiency of SOEs and not all enterprises operate without subsidies and other forms of income (MacCarthaigh, 2009). Foreign firms in Poland, Bulgaria, and Romania create more jobs and have higher excess job reallocation rates than state firms; while job destruction rates are lower (Faggio, and Konings, 2003:139). The reason for this in Poland is that that an alternative development strategy to the Washington Consensus has been adopted, with the selection of sound economic policies as important as the creation of adequate legal and political institutions (Bugarcic, 2013). Bugarcic (2013) argues that Poland’s remarkable economic results are based on an institutional approach at odds with the EU, the World Bank and the IMF.

The protection of private property rights assumes a different connotation in economic development. Terry (2013:4) defines “creative industries as combining individual creativity and the ability to generate new forms of intellectual property”.

According to Faggio and Konings (2003), firms that engage in restructuring destroy low productivity jobs and create high productivity ones. This process of creative destruction leads to high job turnover and an increase in labour productivity. Therefore, a positive correlation can be expected between productivity growth and job turnover. While a high degree of job reallocation

may also have negative effects, at least in the short run, in terms of worker displacement and earnings losses, the aggregate and long-run benefits are likely to compensate individual costs (Faggio, and Konings, 2003:130).

In retrospect, one lesson emerging from Central East Europe (CEE) seems to be that these countries should abandon their overly formalistic approach to institution building and replace it with a new approach that understands the rule of law in a more informal, pragmatic and revisable fashion (Bugaric, 2013). Unlike the NDS, CEE lacks both the institutions and policies required for a more sophisticated approach to development. On the one hand, the new policies represent an important break with neo-liberal development thinking, while on the other, they continue to be influenced by a strong residuum of neo-liberal doctrines and policies (Bugaric, 2013:23). European governments own or control a range of companies involved in market-based activities.

#### ***2.3.1.5 SOEs and the DS in Africa***

This section reviews SOEs and the DS in Africa based on different prospects and discrepancies. With the emergence of the „post-Washington Consensus“, it has become clear that development is not possible unless developing countries adopt an indigenous developmental strategy (Bugaric, 2013:24). The discourse of DS in Africa hinges on whether or not the establishment of a DS is feasible and viable on the continent (UN Economic and Social Council, 2013:2). It also examines the form and shape Africa’s envisaged DSs should take; the Asian type autocratic developmental model or the democratic developmental model? “Political elites in states across the globe became increasingly attracted to the philosophy of the developmental state as it proffers distinct rewards” (De Wet and Van der Waldt, 2013:50).

Edigheji (2007), Abdullah and Van Dyk-Robertson (2008), and De Wet and Van der Waldt (2013) offer three perspectives of DS, namely, political elites controlling the developmental philosophy; organisational arrangements; and a public service that aims to facilitate agreement on a DS plan.

The Republic of Korea offers interesting insight into a transformation process that promoted industrialisation, democratisation, and rapid urbanisation and the implications for the politics of urban growth in other developing countries (Bae and Sellers, 2006). Following the disappointing outcomes of privatisation and structural reform programmes in the 1990s, many Southern

African economies have placed SOEs at the centre of their national development strategies (OECD, 2013).

Most SOEs in China and Russia have their origins in the era of the state-controlled, planned economy, while Brazil, Russia, India, Indonesia, China and South Africa (BRIICS) established SOEs to promote industrialisation in light of the lack of private investment (Kowalski *et al.*, 2013:54). The absence of appropriate institutions in many middle income countries (MICs) should not be an excuse for not trying to create different development strategies (Bugarcic, 2013:26). Bugarcic (2013) argues that MICs should be encouraged to experiment with various forms of institutional configurations that are most likely to advance and promote development. Put differently, “developmental state theorists have argued, highly-educated and experienced state bureaucrats mobilized and allocated resources to firms selected for their competitive advantage against industries in advanced countries” (Bae and Sellers, 2006:7).

The emerging literature on the DS in Africa reveals that what has worked for other late industrialisers is simply a nonstarter in Africa (Mkandawire, 2001:294): “rapidly industrializing economies and democratic transitions in newly developing countries provide the most favorable circumstances in which urban growth politics are likely to occur as the U.S. cities experienced” (Bae and Sellers, 2006:29).

Based particularly on Third World democracies Leftwich (2000:174, cited in UN Economic and Social Council, 2013:3) identifies “six major factors that condition the emergence and consolidation of a Developmental State, namely: (a) the presence of a development-oriented political elite, imbued with high levels of commitment and will to attain economic growth; (b) the entrenchment of a powerful, professional, highly competent, insulated and career-based bureaucracy; (c) the existence of a social context characterized by a weakened, negligible and subordinate role for civil society and other civic forces; (d) the existence of high capacity for the effective economic management of both domestic and private economic interests; (e) the exhibition of an uneasy mix of repression and non-adherence to human rights; and (f) the performance-based legitimacy of the governing political elite, and which takes precedence over mere procedural legitimacy”.



The literature on the DS in Africa (including the UN Social and Economic Council and other scholars) identifies various distinct economic development challenges. Doubt about the DS in Africa emerged partly as a result of the generally poor record of state-led development efforts embarked upon by a number of immediate post-independence African governing elites.

The UN Economic and Social Council (2013:4) notes the “absence of genuine development oriented leadership with sustainable visions of development; lack of autonomous and efficient bureaucracy; near non-existence of a production-oriented private sector, partly because of the weakness of indigenous business at the time of independence, but also because of the anti-private sector orientation of the post-independent African State; and the generally predatory character of the post-colonial State that was at outright variance with the developmental ethos”. In contrast, “the poor performance of parastatals has been caused by their role in supplementing the private sector, poor remuneration, and the policies of international lending agencies” (Mwaura, 2007:74). Mwaura (2007) argues that the vast majority of parastatals experience liquidity problems as a result of presidential and ministerial control of their operations. This hampers SOEs from leading development that aims to alleviate poverty and improve living conditions. However, by virtue of their remarkable state-led economic development, some African countries, such as Botswana and Mauritius, are increasingly described in the literature as DSs; they are the exception rather than the rule in Africa (UN Economic and Social Council, 2013:5). For example, Appiah-Kubi (2001:201) found that, “Ghana SOEs are characterized by poor financial performance, due to lack of managerial and technical competence; over-stretched bureaucracies; conflicting and poorly defined social and commercial objectives; and poor incentives”.

In contrast, proponents of the emergence of DSs in Africa have argued that the rather blanket generalisation about poor performance and the lack of potential for African countries to achieve rapid state-led development is just as biased as the usually unqualified veneration of the achievements of the East Asian models (UN Economic and Social Council, 2013:5). Ghana’s SOEs’ context and circumstances led them to embark on privatisation. The newly privatised enterprises’ “increased investments in new production machinery have resulted in expanded installed capacity” as well as “capacity utilisation, improved management practices and improved personnel training at the microeconomic level”, boosting productivity (Appiah-Kubi,

2001:214). In Kenya, it can be argued that weaknesses in the governance of parastatals arise as a result of a lack of sufficient market incentives and discipline (Mwaura, 2007:74). In 2001, Mkandawire (2001:294) noted that political elites in a number of African countries were able to achieve institutional arrangements that provided peace and stability. Twelve years later, this statement no longer holds true in many parts of Africa, as the wars in the DRC, Central Africa, Mali, etc., demonstrate. Botswana and Mauritius provide the best examples of a DS in Africa.

According to Foster and Briceno-Garmendia (2010:21), many of Africa's infrastructure assets and natural resources are regional public goods that cut across national frontiers and can be effectively developed and maintained only through international collaboration. They argue that China, India, Argentina, and Mexico have used infrastructure-based fiscal incentives in times of economic crisis to resuscitate economic growth. In contrast, Africa lacks an integrated land distribution system, particularly for transit traffic and service delivery.

In conclusion, while Africa is projected as the future pole of global economic growth, the realisation of this projection requires states that are capable of overcoming numerous developmental challenges. A DS is one that intervenes in the development process, influences the direction of and pace of economic development, and improves SOEs' efficiency in order to avoid poor returns on government investments.

#### **2.3.1.6 SOEs and the DS in South Africa**

In South Africa the list of SOCs supervised by the Department of Public Enterprises includes only nine SOEs (Kowalski *et al.*, 2013). Kowalski *et al.* (2013) point out that the South African government classifies a limited number of other listed companies, where national or regional authorities hold a controlling share, as public enterprises. The South African Presidential Committee Review (PCR) (2013) received a list of recognised SOEs from National Treasury comprising approximately 300 entities. The report reveals that there are no-commonly agreed strategic sectors and priorities. The main problem under investigation was whether or not SOEs were responding to the state's developmental agenda. The report reveals that there are no-

commonly agreed strategic sectors and priorities. The PCR (2013) notes that, Chapter 10 of section 195 of the country's Constitution requires all organs of state, including SOEs, to deliver services to the people in a particular manner. Sartorius & Botha (2008) observe that South African companies have transferred less than 25% of their equity to black economic empowerment (BEE) partners even though the majority of firms appear to support the social objectives of BEE and the notion that external partners are best placed to promote shareholder wealth.

The PCR report (2013) highlights the absence of a consolidated national repository for information on SOEs, resulting in confusion regarding SOE categorisation. Furthermore, governance, ownership policy, and oversight systems were found to be inadequate and remuneration frameworks and practices are inconsistent. The PCR (2013) also found that, many SOEs currently require a massive injection of capital and that finance policies require close re-examination.

In an earlier study, Luther and Longden (2001:301) noted that, the "South Africa government has sought to redress some of the inequalities of the past by promoting „black empowerment groups“ in situations such as privatizations of State assets and allocations of government contracts and licenses". They added that funding models for the social and economic development mandates of SOEs were blurred and confusing, leading in some instances to undercapitalisation, which impeded SOEs' ability to respond to national challenges. According to the PCR report (2013), SOEs tend to lack robust leadership and initiative on crucial transformation imperatives such as broad-based BEE, the creation of meaningful employment opportunities and comprehensive skills development. Ashton (2011) views the state as a major driver of inflation. He argues that the state port, railway, road, power and airport authorities have all increased prices at rates that far exceed the targeted or actual inflation rate. As a result, SOEs collectively suffer downstream inflation.

The Weberian notion of rational bureaucracy advocates, that, "taxation resources ensure that they are produced and distributed in line with the needs of industrial development" (Radice, 2008:1154). In term of rational planning, Chalmers Johnson (1982, cited in Maserumule,

2012:309) defines a “developmental state” as that type of state rationally planned in a manner that makes it possible and necessary for the government to influence the direction and pace of economic and social development rather than leaving it to the dictates of the markets”. Economic growth and social transformation are tied to economic development.

DS scholars, “assert the importance of exploring the ways in which pressures for redistribution are mediated with greater or less success through economic institutions” (Dubash and Morgan, 2012:274). The relationship between the state and the business sector lies at the heart of a DS, especially with regard to the direction and funding of industrial investment as the core principle (Radice, 2008).

The fact that South Africa has adopted both democratic and developmental forms of the state in less than 20 years has a significant impact on both the organisational arrangement of the public service as well as the requirements of a competent public service (Holtzhausen, 2013:2, cited in De Wet and Van der Waldt, 2013). South Africa’s apartheid legacy includes a skills deficit and the complex landscape within which public servants are required to deliver services. It is therefore important to consider the requisite competences of senior managers (De Wet and Van der Waldt 2013:56). Research on accounting changes and specific management accounting techniques in South Africa reveals contingent influencing factors such as the intensity of competition and the volatility of the environment. Luther and Longden (2001:315) argue that new factors, such as changing stakeholder pressures and a shortage of qualified accountants will exacerbate these challenges.

According to Viljoen (2013), SOE policy in South Africa supports a DS through the effective utilisation of the strengths of SOEs and development finance institutions (DFI), support and direct private sector investments in the productive sectors of the economy to stimulate manufacturing and entrepreneurship development programmes to enhance deracialisation. However, 440 000 small businesses in South Africa closed shop between 2005 and 2010. This marks a major step backward in small business development in the country. SOEs represent huge resources and a considerable slice of the South African economy, but they fail to provide significant assistance to Small and Medium-sized Enterprises (SMEs). Payments later than 30

days resulted in cash-flow constraints in 60% of the businesses surveyed by Viljoen (2013). He argues that the SOEs' contribution to SME development goes beyond procurement and skills development programmes. Therefore, the key DS instruments are designed around the principle that existing price relativities and other market signals should be deliberately distorted, through selective tariffs, subsidies and access to finance, in order to induce change in the pace and direction of capital accumulation (Radice, 2008:1154). According to Foster and Briceno-Garmendia (2010), various sectors in South Africa demonstrate a long term relationship between infrastructure and growth based on robust economic techniques. Renewed efforts are required to enable SOEs to operate as if they were private firms operating in a competitive market but with the invisible hand of the state directing investment, resulting in a better life for all citizens. In a DS, the public service should act as a significant stakeholder, authority and negotiator within the developmental landscape.

### ***2.3.1.7 Summary of the chapter***

This chapter commenced by analysing the conceptual and theoretical framework for this research study. It outlined the theories and approaches on the state's capability to promote its development efforts, and its capacity to organise around appropriate institutions and organisations and craft and adopt policies to enhance development based on the notion of a DS. The chapter went on to analyse SOEs in DSs. It highlighted the differences and similarities in the processes of state-led development in Asia, Europe, the US, Africa and finally, in South Africa. It was noted that the nature of governance and institutions varies from country to country depending on the geopolitics surrounding each country. The researcher argued that the state still has a vital role to play in guiding, maintaining and sustaining development for the delivery of public goods and services. The Asian model is an authoritarian one that has promoted industrialisation. There have also been attempts to promote global integration and SOEs have criss-crossed borders. On the basis of the literature review and performance in delivering industrialisation and growth, it appears that state-led development is commanding heights of economic infrastructure power defense.

## **CHAPTER THREE:**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Research methodology refers to “the methods, techniques, and procedures that are employed in the process of implementing the research design or research plan” (Babbie and Mouton, 2009:103). Nancy *et al.* (2002) note that research methodology covers several procedures which include the choice of data, the collection and analysis of this data and the interpretation of the results. According to Bhattacharjee, (2013:5) from a scientific perspective, a method refers to a “standardized set of techniques for building scientific knowledge, such as how to make valid observations, how to interpret results, and how to generalize those results”. Therefore, “research methodology is a systematic way to solve a problem” (Rajaseka *et al.*, 2006:5). It focuses on the procedures used by researchers to describe, explain and predict phenomena.

Research methodology explains the logic behind the research methods and techniques adopted for a study (Nancy *et al.*, 2002). This study examines the role of state-owned enterprise (SOE)-led infrastructure development in the creation of a developmental state (DS) in South Africa using the City of Johannesburg as a case study. The study employed qualitative data collection and analysis. According to Johnson (2004), qualitative research refers to a set of research procedures; techniques; methods; approaches; language and concepts that are used to facilitate a study. “Qualitative research methodology is diverse, pluralistic and in some cases even ridden with internal contradictions; this is due to the fact that it integrates elements of different schools of thought” (Sarantakos, 2005:36). This case study used both primary and secondary data sources, including the literature on SOEs and the DS. The data collection tools included questionnaires, semi-structured interviews and observation. A number of key informants were consulted.

### **3.2 Case study**

This section provides an overview of the City of Johannesburg's demographics, economy, and modes of transport. Transportation systems are partnerships between governments and users: government planning decisions determine the transport options available, from which users choose the combination that best meets their needs (Litman, 2013). The City of Johannesburg was selected as a case study to investigate the role of SOE-led infrastructure development in the creation of a DS in South Africa.

A case study is a research approach that is used to generate in-depth, multi-faceted understanding of a complex issue in its real-life context (Crowe *et al.*, 2011). It is an intensive study of a single unit with the aim of generalising across a larger set of units (Gerring, 2004:341). Boehrer and Linsky (1990) note that, in general terms, case study reports are extensively descriptive, with the most problematic issue often referred to as being the determination of the right combination of description and analysis.

The study focuses on the transport system with particular interest in the national railway division within the Passenger Rail Service of South Africa (PRASA), City of Johannesburg, and the Bus Rapid Transit (BRT) component. Key informants and their roles/functions are discussed in the following section.

Infrastructure development in this case therefore refers to the transport system, particularly railways within the City of Johannesburg. A survey conducted by the Gauteng City Region Observatory in 2011 provides useful information. The survey highlights the challenges resulting from the high level of motorisation in the City of Johannesburg. On average, residents spend more than 40 minutes travelling to work, school or the shops etc. (City of Johannesburg IDP, 2013/2014). This highlights the need to integrate transport in the Gauteng City Region.

The City of Johannesburg is located within the Gauteng Province. It comprises 3 metropolitan areas; City of Tshwane, City of Johannesburg, Ekurhuleni and 2 district





\*increasing urban population density while improving the liveability of cities by inter alia ensuring safety

\*providing more reliable and affordable public transport with better co-ordination between different modes of transport and spheres of government

\*moving jobs and investments towards dense townships that are on the margins of cities.

The NDP also advocates densification along public transport corridors, spatial transformation that will reduce travel time and costs between work and home and increase mobility for poor households to access job and education opportunities

#### ECONOMIC ACTIVITY

Maps 4 and 5 depict concentration of economic activity in the Ekurhuleni-JHB metro complex. The maps illustrate significant property investment in the central, northern and north-west parts of the CoJ, while office development is concentrated in the north-western suburbs such as Sandton.

Map 5 further illustrates that high density residential is concentrated on the north-western and southern sections of the CoJ.





The Presidential Infrastructure Co-ordinating Committee (PICC) (2012) notes that South Africa has developed 18 strategic integrated projects (SIPS) that integrate more than 150 individual infrastructure plans into a coherent package. This study focuses on strategic infrastructure project 7 (SIP7). In its current form in the City of Johannesburg, this project aims to use infrastructure development to reduce inequality, promote economic growth and integrate apartheid spatial patterns. Furthermore, in line with the PICC (2012), it aims to coordinate planning and the implementation of public transport, human settlements, economic and social infrastructure and location decisions into sustainable urban settlements connected by densified transport corridors.

Johannesburg is the most advanced commercial city in Africa and the engine room of the South African and regional economy. It is “a city with a unique, African character with world-class infrastructure in the fields of telecommunications, transportation, water and power and with globally-competitive health care and educational facilities” (City of Johannesburg, IDP2012/2013:12).

The total population in Johannesburg in 2011 was approximately 4.4 million. The city’s population grew by 20.5% between 2001 and 2007 and 14% between 2007 and 2011 (City of Johannesburg, 2013/2014). Johannesburg’s economy is the largest in the country, contributing about 17% of national GDP and approximately 47% of provincial GDP. The city’s economy is the main driver of national growth – historically producing 50% higher growth rates than national growth (City of Johannesburg, IDP 2013/2014:24).

Johannesburg’s transport system is characterised by two important features: on the one hand, the majority of residents do not own cars, while on the other, middle income residents are very car-oriented (City of Johannesburg, 2013/2014). The literature on transport in the City of Johannesburg indicates that commuters spend far more time waiting at bus stops than in most cities in the rest of the world.

The City of Johannesburg’s 2013/2014 Integrated Development Plan (IDP) notes that, in recent years, Johannesburg has introduced the Rea Vaya BRT system and the Gautrain high-speed rail link. However, the IDP also notes that, the majority of public transport users continue to rely on mini-bus taxis. It is against this background that this study investigates the role of the SOEs in

infrastructure development towards a DS.

### **3.3 Data sources**

#### **3.3.1 Secondary data sources**

Clarke (2005) notes, that, secondary research involves the examination of studies conducted by other researchers. Secondary sources include books, articles, and scientific debates or literary works. According to Marlow (1998), secondary data sources are data that are collected from another research project. They provide an understanding of what has been done by other researchers on the same or a similar subject.

Secondary data sources offer both advantages and disadvantages. The first main advantage is that someone else has already collected the data and the key objectives and outcomes are set out. The second advantage of using secondary data is far lower costs and faster access to relevant information (Hox and Boeje, 2005). Boslaugh (2007:3) notes that “the researcher does not have to devote many resources to this phase of research: cost is almost certainly lower than the expense of salaries, transportation, and so forth that would be required to collect and process similar data set from scratch”. Another advantage of secondary data is that it allows a researcher to explore their research question before attempting to analyse primary data.

Turning to the disadvantages of using secondary data, Hox and Boeje (2005) observe that the original data was gathered to achieve a different purpose by different authors. Hox and Boeje (2005) note that, secondary data may pose problems in the collection of relevant, useful information and in meeting research requirements if the objectives of the different studies are not similar. Therefore, they caution that it might not be the most suitable for the research problem under consideration or, in the case of qualitative data, may not be easy to interpret without explicit information on the informants and the context. In the same vein, Boslaugh (2007:4) argues that “one major disadvantage of using secondary data is inherent in its nature: because the data is not collected to answer your specific research questions, particular information that you would like to have may not have been collected”. He adds that another disadvantage of using secondary data is that, since the analyst did not participate in the planning and execution of the data collection process, he or she does not know exactly how it was conducted.

The secondary sources used for this study include articles, government publications, agencies' publications and books. The literature review and conceptual framework involved an examination of local and international SOE and DS discourse, as well as those in the Johannesburg central business district (CBD). More importantly, the theories related to SOEs and the DS provided a profound understanding of the research problem. The secondary data sources provide an understanding of past research findings in relation to SOEs and DS on all continents as well as in Johannesburg, Gauteng Province, South Africa. While the secondary data merely offered the researcher a broad perspective of the research question, the advantages of using secondary data sources balance and in most cases outweigh the disadvantages.

### **3.3.2 Primary data sources**

Clarke (2005) defines primary research as the study of a subject through first hand observation and investigation. Primary sources of information include statistical data, historical data, works of art, etc. Hox and Boeje (2005:593) define primary data as "data that are collected for the specific research problem at hand, using procedures that fit the research problem best". Baumann (2007) observes that primary data sources focus on research not previously conducted and designed in relation to specific questions and decisions. In other words, primary data sources focus on first-hand information. They involve variables which are used to collect information in order to answer a specific research question. According to Curtis (2008:2), "primary data is collected specifically to address the problem in question and is conducted by the decision maker, a marketing firm and a university or extension researcher: unlike secondary data, primary data cannot be found elsewhere". Curtis (2008) adds that the focus is extensive interviews, experiment and surveys. The current study used semi-structured interviews, questionnaires and observation to collect pertinent information. This enabled the researcher to collect original data from key informants. The respondents reacted directly to the questions raised and the unstructured nature of the interviews resulted in more in-depth probing.

Hox and Boeje(2005:594) note that the "most important advantage of collecting one's own data is that the operationalization of the theoretical constructs, the research design, and data collection strategy can be tailored to the research question, while ensuring that the study is coherent and that the information collected indeed helps to resolve the problem". Respondents are free to provide original responses to the research question without limiting their views and opinions. The most

important disadvantage of collecting one's own data is that it is costly and time consuming. This was particularly true of this research study, as scheduled meetings were postponed a number of times sometimes up to two months due to the respondents' high level of responsibilities. However, alternative dates were offered. The researcher accepted these postponements rather than trying to squeeze in rushed interviews. With the respondents more relaxed and the researcher having accommodated their time constraints, the interviews took longer than scheduled at the insistence of the respondents themselves.

### **3.3.3 Sampling**

Sampling refers to "the process of selecting a few from a bigger group to become the basis for estimating or predicting a fact, situation or outcome regarding the bigger group" (Kumar, 1999:148). Babbie and Mouton (2009:164) observe that, "sampling is the process of selecting observations". These observations are selected from the total population which in this study is represented by all the stakeholders involved in SOE-led infrastructure development and the creation of developmental state. Out of about 30 respondents consulted, twenty one were selected from South African SOEs, government departments and independent researchers in order to investigate the role of SOEs in leading infrastructure development for a DS. The SOEs include PRASA; six key informants were interviewed from PRASA's technical and rail division responsible for planning and project development, design and implementation. A further six key informants from the City of Johannesburg that are involved in the integration of the transport system and facilitating access, were also interviewed. These ranged from the Rea Vaya BRT system, to Metrobus, which are local SOEs, and the municipal Development Planning Department. The researcher interviewed five representatives in charge of planning at national, provincial and local levels. This enabled an assessment of the level of alignment of the planning and design of the projects that would have had an impact on the phenomenon studied for the purposes of this research and that would combine the best features of rail with the flexibility and cost advantages of road-based public transport. Finally, four independent researchers in urban land uses were selected. The study sample is based within and outside the boundaries of the City of Johannesburg, and all respondents, while having more responsibilities than the City of Johannesburg- based projects are directly responsible for projects, programmes and policies within these boundaries.

The sampling process aims to select a set of elements from a population (Babbie and Mouton, 2009). Sampling designs include random/probability, non-random/probability, and mixed sampling (Kumar, 1999:166).

This study employed random and purposive sampling to select key informants. The process of selecting a sample from the total population offers advantages and disadvantages. The advantages include “saving time as well as financial and human resources, while the disadvantages are that you do not find out the actual facts about the population’s characteristics that are of interest to you but can only estimate or predict them” (Kumar,1999:148). The researcher encountered time constraints in interviewing key informants as they are very busy.

The different types of sampling include probability and non-probability sampling (purposive, snowball and quota sampling). Probability sampling assumes that the sample is representative of the population from which it is selected as all members of the population have an equal and independent chance of being selected. The following sections elaborate on the types of sampling used in this study.

#### ***3.3.3.1 Purposive or judgment sampling***

Purposive sampling was used to select the key informants due to their knowledge of the topic under study. The purposive sampling technique is “a type of non-probability sampling that is most effective when one needs to study a certain cultural domain with knowledgeable experts within” (Tongco, 2007:147). The primary consideration in purposive sampling is the judgment of the researcher as to who can provide the best information to achieve the study’s objectives. According to Babbie and Mouton (2009), knowledge of the population from which the sample is selected is important as well as the aims of the research. A sample of three SOEs from those operating in the transport sector in the City of Johannesburg was purposefully selected. As noted earlier, this included PRASA technical and rail, the BRT and Metrobus agencies of the City of Johannesburg. The respondents included heads of institutions/ executives, project managers, development economists, town planners, and transport planners within these agencies. The sample targeted institutions and individuals involved in infrastructure development, including SOEs that improve socio-economic conditions by providing different services. The ultimate aim of assessing this sample of SOEs was to understand their role in the creation of a DS.



Development planning practitioners, elites, economists, planners, engineers, and politicians were interviewed in order to ascertain their views and opinions on the question of whether or not SOEs are leading infrastructure development to promote a DS in South Africa. More specifically, the aim was to determine whether or not the infrastructure plan will achieve the objective of a DS, and promote economic growth, while meeting the social needs of the population. A further question was whether SOEs are the most effective institution to drive infrastructure development and why. The respondents were also asked whether infrastructure development manifests economically, socially and spatially as the main aim is to reverse socio-economic and spatial inequality.

### ***3.3.3.2 Convenience sampling***

Convenience sampling involves “choosing settings, groups, and/or individuals that are conveniently available and willing to participate in the study” (Onwuegbuzie and Collins, 2007:286). Respondents are chosen for the convenience of the researcher. In line with this definition, the researcher conveniently chose a sample of SOEs, as this provided easy access to information and was less time consuming. The PICC, PRASA, BRT, the Transport Planning Department in the City of Johannesburg and the National Planning Commission were consulted. Convenience sampling reduces the time and cost of collecting information. A small sample was selected from different stakeholders using a mix of targeted and untargeted qualitative and quantitative research tools which reveal the unique features of SOEs and the DS. Regardless of the convenience of the selected sample, some potential informants were unwilling to participate due to their busy schedules. The researcher was therefore obliged to seek out other suitable respondents.

The sampling procedures enabled the direct participation of different stakeholders in the City of Johannesburg, SOEs and government in order to assess the role of SOE-led infrastructure development initiatives.

### **3.4 Data collection tools and procedures**

Primary and secondary data were collected to investigate the role of SOE-led infrastructure development in the creation of a DS. Primarily data were collected by means of semi-structured interviews and questionnaires which allowed participants to answer the research questions according to their personal experience of SOEs and the DS in South Africa and globally. As noted earlier, secondary data sources include information collected from other researchers in different contexts: journal articles, evaluation reports, policy documents, case studies and census data. Finally, observation was used as a data collection method in order to correlate the information from different stakeholders. The selection of different data collection tools was motivated by the diversity of key informants and their expertise and contribution to the study.

#### **3.4.1 Interviews**

Interviews are a common method to gather information. Face-to-face interviews are the most common method of collecting data in national surveys in South Africa (Baddie and Mouton, 2009). As stated above, primary data include first-hand information, using semi-structured interviews, questionnaires and observation. The researcher employed semi-structured interviews to gather information from experts and professionals in different fields on infrastructure development and the DS. Key informants targeted included town/urban planners, transport planners, development economists, and development planners at provincial and national levels.

The semi-structured interviews allowed these individuals to state their own opinions on whether or not and to what extent SOE-led infrastructure development initiatives contribute more to a DS than those led by other players. These unstructured interviews also enabled probing Interviews provide in-depth information and represent individuals' different interests. While they offer both advantages and disadvantages, the advantages outweigh the disadvantages. One of the advantages of interviews is that they provide direct data from well-informed individuals.

Prior to each interview, the researcher introduced the research topic and asked the respondent to sign a consent form; this both established the researcher's credibility and guaranteed the respondent confidentiality and anonymity. Each interview lasted between 30 minutes and an hour. Some interviews had to be postponed to a more convenient time for the respondents. According to Sarandakos (2008), interviews offer an opportunity to probe for new ideas and challenges relating

to the research question. However, interviews also suffer from the disadvantage of biased data due to the selection of different stakeholders.

According to Knox and Burkard (2009:11) “interviews have become such an important tool to qualitative researchers that many qualitative methods rely heavily or solely on them as the primary mechanism for data collection”. Semi-structure interviews were conducted to determine the role of SOEs in infrastructure development in South Africa. Kajornboon, (2005) notes, that, semi-structured interviews are non-standardised and are frequently used in qualitative analysis. He defines them as a research instrument and as a means to collect data.

Semi-structured interviews enabled the researcher to probe deeply into the question of SOEs and the DS in terms of infrastructure development. The researcher was able to explain or rephrase questions when they were not clear to the respondents. Spontaneous questions were avoided as they cause confusion and make the answers difficult to quantify and analyse.

### **3.4.2 Questionnaire**

A questionnaire is a formal set of questions to obtain information from respondents (Malhotra, 2006). Malhotra (2006) notes, that, questionnaires are the main means of collecting quantitative primary data. Kumar (2011) describes a questionnaire is a basic research tool that consists of a formal set of questions. Questionnaires are based on the research problem. Bulmer (2004, cited in Bird, 2009:1309) notes, that, “a questionnaire is a well-established tool within social science research for acquiring information on participant social characteristics, present and past behaviour, standards of behaviour or attitudes and their beliefs and reasons for action with respect to the topic under investigation”.

Bird (2009:1310) adds that, “questionnaire format, sequence and wording, the inclusion of classification, behavioural, knowledge and perception questions, and questionnaire length and output, needs to be considered to ensure reliability, validity and sustained engagement of the participant”. A question may be unstructured or structured. Unstructured questions are open-ended questions that respondents answer in their own words (Malhotra, 2006:182). Malhotra (2006) notes, that, questionnaires enable respondents to express general attitudes and opinions that can

help the researcher to interpret their responses to structured questions. Structured questions specify the set of responses as well as their format. This research study used unstructured questionnaires based on the advantage they offer of collecting more information. Questionnaires were administered to representatives of three SOEs in the City of Johannesburg in order to ascertain their views and opinions on infrastructure development and the DS. Open-ended questions were also posed to gather information on how people commute in the Johannesburg CBD, and whether or not infrastructure development will lead to a DS. However, direct questions arose out of the responses, such as which projects had a more significant impact.

Questionnaires have advantages and disadvantages. The advantages of open-ended questions include the production of verbatim comments that add depth and meaning. In addition, they allow the time and space for free-form responses which invite participants to share their understandings, experiences, opinions and interpretations. This was the case in this study, where open-ended questions were posed to all stakeholders. Furthermore, according to Bird (2009:1313), complex questions can be asked to motivate participants to give longer verbal responses than written questions and sequenced, controlled responses. Visual prompts can be used and long questionnaires sustained. The disadvantages include cost effectiveness, and the fact that this method is time consuming, and spatially restricted. Furthermore, answers may be filtered or censored, and the interviewer's presence may influence the respondent. In this study, the researcher used the advantages offered by open-ended questions to gather more information, while balancing the disadvantages. It was observed that, while the respondents from the local authorities were not happy with what they considered PRASA's top-down approach as the implementing agent of SIP 7, there was reluctance to challenge them or expand further on this question during the interviews.

Overall, the questionnaire took approximately 30 minutes to an hour to complete, which was acceptable to all stakeholders. However, some stakeholders spent more or less time on the concepts under analysis. Questions were sequenced in a logical order, starting with infrastructure development, SOEs and the DS. However, the DS concept was attractive and led to more discussion. Stakeholders responded to precise questions as well as providing further information and various views, knowledge and perceptions of SOEs and the DS. However, implementers were keen to discuss their actual projects and tended to veer off the subject. The researcher was able to



### **3.5 Data analysis**

This study used qualitative analysis to deconstruct the data. Qualitative analysis involves the analysis of qualitative data such as text data from interview transcripts (Bhattacharjee, 2012). Qualitative data analysis transforms data gathered from respondents into meaningful information in relation to the research problem. According to Baddie and Mouton (2009:490), qualitative data analysis refers to all forms of analysis of data gathered using qualitative techniques, regardless of the paradigm used to govern the research. The data obtained from a study may or may not be in numerical form. If they are not in numerical form, it is still possible to conduct qualitative analyses based on the experiences of the individual participants (Michael, 2004:3). This research study used numerical and non-numerical information gathered from key informants in order to make sense of the data in relation to the research question. The emphasis in qualitative data analysis is “sense making” or understanding a phenomenon, rather than predicting or explaining (Bhattacharjee, 2012). Bhattacharjee (2012) adds that an inductive technique is appropriate in interpreting recorded data on a social phenomenon in order to build theories about that phenomenon. The researcher used thematic analysis to identify the main themes in the information gathered from all key informants. This was achieved by analysing and reviewing transcripts and field notes. Boyatzis (1998) defines thematic analysis as a method to identify, analyse, and report themes within data. It organises and describes a data set in detail. Fereday and Muir-Cochrane (2006) maintain that, thematic analysis enables the identification of overarching themes that capture the phenomenon described by participants in the raw data from interview transcripts and organisational documents. The researcher analysed all the data collected from key informants on SOEs, infrastructure development and the DS in the City of Johannesburg.

Fereday and Muir-Cochrane (2006) and Boyatzis (1998) identify six steps in thematic analysis: developing a code manual for important statements; identifying themes and reaching a conclusion; testing the reliability of the code in order to ensure consistency; summarising the data and identifying the initial themes in the form of table to capture and make sense of the data; applying the template of codes and additional coding; connecting the codes and identifying the themes, and corroborating and legitimating coded themes. Despite the linearity of this step-by-step procedure, the research analysis was iterative, flexible and reflexive. In analysing the information gathered on SOEs, infrastructure development and the DS, the researcher examined the raw textual data line by line to identify discrete events, incidents, ideas, actions, perceptions, and relevant interactions

that were coded as concepts (Bhattacharjee, 2012:114). Thereafter, the remainder of the data are coded, similar concepts are grouped into higher order categories; and, finally, constructs from the existing literature can be used to name these categories, particularly if the aim of the research is to extend current theories. However, caution was exercised when using existing constructs, as such constructs may bring with them commonly held beliefs and biases.

The emphasis in this research study was the stated experiences of the participants and the stated meanings they attach to themselves, other people, and their environment. In this regard, the researcher sometimes makes use of direct quotations from the participants, as these are often very revealing.

Michael (2004) also identified a number of steps in data analysis. The first is gathering together all the information obtained from participants. At this stage, the emphasis is on what the respondent wants to communicate so that the researcher can fully understand what he or she is trying to communicate. The researcher then arranges the items of information into various groups, taking into account the categories or groupings suggested by the participants themselves. Finally, the researcher forms a set of categories based on the information obtained from the previous steps. In the current study, the researcher changed some of the categories in the analysis process as additional information came to light. She was not only interested in the number of items or statements falling into each category but concerned with the various meanings, attitudes, and interpretations found within each category based on SOEs and the DS.

In general terms, unstructured interviews lend themselves to qualitative analyses, whereas structured interviews lend themselves to quantitative analysis (Michael, 2004:4). This study used unstructured interviews and qualitative analysis. Qualitative analysis requires that the researcher establish a good understanding with the person interviewed; adopt a non-judgemental approach, and develop effective listening skills (Michael, 2004:4). These principles were applied in this research study.

Table 3: Overview of the Research analysis

Overview of the Research Analysis	
<p><b>Qualitative analysis</b></p> <p><b>Thematic analysis</b></p> <p><b>Coding, grouping and constructing data</b></p>	<p>To deconstruct data and orient the research purpose and give meaningful information in relation to the research problem using numerical and non-numerical information</p> <p>Identifying the main themes in the information gathered from all informants</p> <p>Experiences of the participants and the stated meanings they attach to themselves</p>
<p><b>The Analytical Phase</b></p> <p><b>The Dissemination Phase</b></p>	<p>Analysing the data and interpreting the</p> <p>Results</p> <p>Communicating the results to the appropriate audience</p>

Source: Author, Own adaptation



### **3.6 Limitations of the study**

1. The study area covers only the City of Johannesburg and the scale of the project could not adequately cover the role of SOEs in creating a developmental state.
2. Rail commuting represents less than 10% of the mode of transport used in Johannesburg, with the majority using buses and minibus taxis. The study could therefore not exhaustively argue the case for the integrative aspects of rail.
3. SIP 7 is still in its initial stages (phases 1 to 3); therefore, its impact could not be measured adequately. The extent of the impact is mainly speculative at this stage.
4. The study did not investigate all SOEs in the City of Johannesburg or critical projects undertaken by the city to meet spatial integration requirements and provide a full picture of the importance of an integrated approach on the part of SOEs to create a developmental state.
5. The study encountered time constraints.
6. It was difficult to organise interviews with some key informants that could have shed more light on some of the impacts discussed.
7. The study was limited to SIP7 within the City of Johannesburg.
8. The study did not take into account the spatial development framework of the transport landscape of the City of Johannesburg and its updated GIS.
9. The study was limited to the qualitative method.
10. The study was limited to speculation on future SIP7 outcomes.

### **3.7 Summary of the chapter**

This chapter discussed the research methodology used to investigate the role of SOE-led infrastructure development in the creation of a DS. The study adopted qualitative research methods, techniques, and procedures to implement the research design or research plan. The study investigated SOE-led infrastructure development in the City of Johannesburg in order to determine whether this drives the creation of a DS. This case study is part of 18 SIPs which integrate more than 150 individual infrastructure plans into a coherent package. The study focuses on the objectives and possible impact of Strategic Infrastructure Project 7 and the various strategic plans. The researcher used semi-structured interviews, questionnaires and observation as research tools. Intensive one-on-one interviews yielded pertinent information, while direct observation of relevant behaviour in the City of Johannesburg enabled in-depth understanding of infrastructure development in this area. Thematic analysis was used to analyse the raw data from interview transcripts and organisational documents and to identify overarching themes that capture the role of SOE-led infrastructure development in the creation of a DS.

## **CHAPTER FOUR:**

### **MANIFESTATION OF SOCIO-ECONOMIC AND SPATIAL IMPACT OF INFRASTRUCTURE DEVELOPMENT**

#### **4.1 Introduction**

This chapter presents the findings and analysis of the primary and secondary research, including the interviews and questionnaires, that represent the socio-economic and spatial impact of infrastructure development. The key stakeholders interviewed included town and urban planners, development economists, project managers, and transport experts within the Passenger Rail Agency of South Africa (PRASA) and the City of Johannesburg, central planning authorities and independent consultants. Based on the information gathered from engaging with these stakeholders, five significant themes emerged, viz., reducing inequality, the socio-economic impact, spatial impact, state-owned enterprises' (SOEs) role in the fulfilment of the objectives of the developmental state (DS), and the importance of infrastructure development in planning and the intermodal transport system.

This chapter responds to the important questions raised in the first chapter: how infrastructure development can narrow the inequality gap and lead to integrated urban spaces that promote a DS, the extent and quality of the jobs created during the phases of the projects, and the impact on overall economic growth. The three significant impacts, namely, social, economic, and spatial are discussed at length and substantiated through an examination of the various projects and programmes undertaken by PRASA. The following sections present the pilot site in order to understand the dynamics of transport features within the City of Johannesburg.

##### **4.1.1 Presentation of the study area CoJ**

The City of Johannesburg is a creation of post-apartheid South Africa. In 2000 it was created as the Johannesburg Metropolitan Municipality with seven regions, from Diepsloot/Kya Sands in the north to Orange Farm, Ennerdale in the south incorporating the areas of Randburg,





Johannesburg Park, Germiston, and Tembisa, etc., were prioritised as investment areas to achieve these objectives. The PRASA respondents agreed that the programmes and projects embarked upon do address these issues.

However, the City of Johannesburg respondents felt that the PRASA network does not accommodate the south to south west orientation of the City, in order to address spatial movements for home-work opportunities, as its network is east to west oriented. This is demonstrated by the fact that trains run from Johannesburg and Germiston towards Springs, Pretoria, Soweto and Randfontein via Krugersdorp.

In addition to PRASA, the city's BRT system aims to transform the transport landscape of City of Johannesburg by integrating road transport with railway, and according to CoJ respondents, tries to close the gaps caused by the current orientation of the rail system, which does not integrate the city optimally.

#### **4.1.2 Spatial orientation**

The spatial orientation of the City of Johannesburg is that most low and lower middle class income groups reside in the south and south west of the city and most of the work opportunities are in the north and central regions.

The City of Johannesburg respondents argued that the current PRASA rail network is east-west oriented serving Witwatersrand from Springs in the east to Randfontein in the west and in the south and south-west of the city, serving Soweto; as a result, it does not accommodate the majority of spatial movements from home-work opportunities. The current network connects the city centre with previous labour dormitories in the then fringes of Johannesburg. Fifty percent of the respondents (from the City of Johannesburg, two consultants and local SOEs) agreed that these are not aligned with the current residential and economic nodes. The current network does not cater for new nodes and infill areas in the central and northern regions of the city such as Sandton, Midrand and Fourways, which have become major destinations over the years.



The respondents further argued that the rail system is outdated, poorly serviced and unreliable, a fact that is acknowledged and is being addressed by PRASA through its SIP 7 related interventions to modernise services and introduce new rolling stock.

#### **4.1.3 Surrounding Land Uses**

The CoJ land use is rooted in the apartheid spatial pattern of separate land use activities. According to Harrison 2008:210, the planning environment in CoJ both reflects and reinforces inequalities spatially and economically. According to 10% of the respondents; central and provincial planning authorities the SIP 7 was meant to address those spatial inequalities, but with the entrenchment of these and the complexities around ownership patterns, it will take time to address this even with the ambitious SIP programmes that government has embarked upon. However they remain confident that the various role players such a PRASA and CoJ, with their project interventions will slowly and surely alter the land use patterns.

According to the respondents, an integrated public transport system will help close the gaps of the current transport system but most importantly revitalise and alter the spatial patterns to create an economically vibrant and a spatially integrated Johannesburg. This will be done through densification of marginalised areas and areas linked to public transport routes and upgrading infrastructure.

The map 7 below show areas that are currently being densified (pink areas) around public transport, those that are marginalised (yellow) that are being brought into the integration and new or expansion areas (green). The majority (purple) are consolidation areas.







**Source: Author adaptation**

The above table of actors and their roles or functions, presents, amongst other key functions, Develop and Drive Corporate Strategy; Manage the Capital Investment Programme (Infrastructure Development); Plan Capacity Requirements to meet Long-Term Demands and Implement the Integrated Management System (SHEQ and Universal Access).

In this regard, the PRASA and BRT head offices, including but not limited to PRASA Rail Operations (PRO), PRASA Technical, roads and rail infrastructure and Intersite investment, play a critical role in these institutional arrangements. They are responsible for:(1) Putting systems in place, (2) Developing suitable strategies, (3) Setting service standards; (4) Providing support for Operations; (5) Ensuring the implementation of policies and decisions made by the PRASA and BRT Boards; (6) Monitoring and evaluating the performance of these operations and, (7) Ensuring that quality transport services are delivered at all times (PRASA, 2012/2013). In addition to the above, independent consultants intervene with critical views and opinions on the infrastructure development under way in the City of Johannesburg with regard to the transport landscape.

## **4.2 Research findings**

### **4.2.1 Historical background of the project**

Strategic Infrastructure Projects within PRASA in the City of Johannesburg were planned in phases. These are meant to upgrade the service levels currently available to commuters. It had been identified that electricity shortage or disruptions in train lines have a domino effect on productivity as passengers arrive late for work or at home, as the train end up being operated manually and disrupt communication systems such as signalling. Upgrading of electricity is therefore prioritised in order to address this and decongest the lines.

The project; provision (started in 2003) of a 6.6kV Transmission line between Johannesburg & Langlaagte and Krugersdorp & Randfontein. This phase has been executed.

The 2008 Gauteng South Region project: Anglers, Eatonside and Mpilisweni Stations, involving the construction of new footbridges, remains in the procurement stage.

The 2011 project: Stabilisation of the Embankment between Delmore and Germiston based on perway and structures also remains in the procurement phase.

In 2012 the project: Jeppe / Tshiawelo / Grasmere: Construct New Drainage System and Formation was launched.

Finally, in 2013 the project: Screening and Stabilizing Network was launched. According to a representative of the PRASA executive team, the above planning was done within the footprint of the existing depot and the layout of the depot will be amended to accommodate the requirements for new rolling stock scheduled for delivery in 2015. Entrance and exit from the depot was determined by traffic impact assessments, including discussions with the local authority.



The following sections present the findings of the research study. A number of key informants were interviewed using the methods outlined in Chapter 3. Information was obtained from relevant stakeholders using semi-structured interviews and direct observation. The respondents were asked questions relating to infrastructure development, SOEs, the City of Johannesburg's transport system, and the DS. The findings reveal that transport infrastructure development in the City of Johannesburg plays an important role in the creation of a DS state in South Africa and that this should be driven by SOEs due to the high levels of investment required. While the monetary returns are low, there is significant impact in terms of spatial integration and stimulating economic growth. The findings are presented as follows, adapted by the author from the Johannesburg SITP:

**PUBLIC TRANSPORT DECISION MATRIX: JOHANNESBURG  
STRATEGIC**

**INFRASTRUCTURE TRANSPORT PLAN**

**Table 6: Public transport decision Matrix**

<b>Mode/Technology</b>	<b>Demand Requirements</b>	<b>Advantages</b>	<b>Disadvantages</b>
Metro Rail/Elevated Rail	High to very high passenger demand (30 000 to 80 000 pphpd)	<ul style="list-style-type: none"> <li>* Superior image for city</li> <li>* High commercial speeds (28-35 kph)</li> <li>* Attracts discretionary public transport riders</li> <li>* Uses relatively little public space</li> </ul>	<ul style="list-style-type: none"> <li>* Very high infrastructure costs</li> <li>* Poor revenue recovery during off-peak</li> <li>* Long development and construction times</li> <li>* Complex integration with feeder services</li> </ul>
Light Rail Transit	Moderate passenger demand (5 000 to 12 000 pphpd)	<ul style="list-style-type: none"> <li>* Provides good image for city</li> <li>* Attracts discretionary public transport riders</li> <li>* Quiet ride performance</li> <li>* Can be fitted to narrow streets</li> <li>* Low local air emissions</li> </ul>	<ul style="list-style-type: none"> <li>* Moderately high infrastructure costs compared to BRT</li> <li>* Limitations with respect to passenger capacity compared to rail</li> <li>* Require operating subsidy under Johannesburg conditions</li> </ul>
Bus Rapid Transit	Low to high passenger demand (3 000 to 45 000 pphpd)	<ul style="list-style-type: none"> <li>* Low infrastructure costs for exclusive right of way (compared to rail)</li> <li>* Good average commercial speeds (20-30 kph)</li> <li>* Ease of integration with feeder services</li> <li>* Moderately good image for city</li> </ul>	<ul style="list-style-type: none"> <li>* Moderately high infrastructure costs (compared to conventional bus/taxi) - R35 million/km in Johannesburg for bi-directional lanes excluding stations</li> <li>* Require operating subsidy under Johannesburg</li> </ul>





#### 4.2.2 MANIFESTATION OF THE SOCIAL IMPACT OF THE RAIL SYSTEM WITHIN THE CITY OF JOHANNESBURG

The rail system has strengthened job creation within the City of Johannesburg. Three minor projects have already created 247 jobs and 296 jobs are expected to be created once the projects move beyond the design and procurement phase into construction. The table below (Table 6) presents the number of jobs already created and expected to be created by each project per programme:

**Table 7: Impact of infrastructure development on social aspects**

No	Programme	Jobs created/ to be created
1	Strategic Infrastructure Project- Programme	Electrical 133 jobs created and 40 jobs projected
2	Strategic Infrastructure Project- Structures Programme	Perway and 256 jobs projected
3	Strategic Infrastructure Project- and National Fencing Programme	Depot Upgrade 114 jobs created

Source: PRASA Technical 2013: Author, adapted

More and better quality jobs will be created with the current modernization of the fleet and the construction of new perways to accommodate the new rolling stock fleet.

Development economists envisage that customer safety will improve with the advent of the Anglers, Mpilisweni Station - Construct Footbridges project and the Park Station - Rectify Platform Clearance project. The construction of footbridges and platforms will provide safe crossing facilities for passengers to walk from one platform to another.

The Oakmoor Installation Crossover points project, Stretford Installation Crossovers points project and Screening and Stabilizing Network project are expected to improve rail system efficiency and turnaround times. The installation of crossover facilities will help trains turn around more quickly.

#### **4.2.3 MANIFESTATION OF THE ECONOMIC IMPACT OF THE RAIL SYSTEM WITHIN THE CITY OF JOHANNESBURG**

This section presents the views of economists and planners on the impact of the project on economic activities. The three projects within the Traction Subs Refurbishment phase, BMR Substation new equipment and building project and Rebuild JHB "A" 6.6kV Substation project are expediting economic transformation within the City of Johannesburg.

Fifty seven percent of the respondents, including economists, planners and project managers within PRASA Johannesburg stated that these rail system electrical projects have strengthened key value chains across the City of Johannesburg by spiking demand for local capital goods industries, services and products. The use of locally-produced inputs in construction has led to growth in the City of Johannesburg's manufacturing industry and businesses. The remainder of the respondents (43%) expressed the same views in relation to social impact.

PRASA's technical and rail division indicated that the depot upgrade project and security and fencing project at Braamfontein are hastening infrastructure growth and transforming the economic landscape within the City of Johannesburg. The two projects support formal and informal traders at the depot and surrounding stations. In addition, it was noted that the depot upgrade project and security and fencing project at Braamfontein have also improved the generation of rates and taxes from PRASA via electricity, bulk water and sewage tariffs. The social and economic exclusion caused by apartheid are evident in the long distances many people travel from home to work or to seek work, and access health care and other government or social services (City of Johannesburg, 2013:47).

All the respondents however agreed that there is far less spending on infrastructure than envisaged by the R847 billion investments in infrastructure roll out. In fact they agree that spending on infrastructure, at 3.5% of GDP remains at less than 3 times than was anticipated. The respondents agree that this slow spending means that South Africa as a whole and CoJ, as the economic hub of the country will not be able to achieve economic growth of more than 3% p.a if its expenditure on transport remains as low as it currently is.

In addition to the abovementioned projects, the BRT projects currently underway are set to create new economic opportunities. The BRT will acquire new articulated buses and 102 solo double decker buses. This will not only enable them to transport more passengers per day, but will create economic opportunities for the bus drivers who are shareholders in the BRT system. An in-depth analysis of these benefits is, however, beyond the scope of this study.

#### **4.2.4 MANIFESTATION OF THE SPATIAL IMPACT OF THE RAIL SYSTEM WITHIN THE CITY OF JOHANNESBURG**

This section describes the spatial impact of the SIP7 in the City of Johannesburg. The aim of SIP 7 is to *inter alia* strategically use infrastructure to support urban development, overcome apartheid spatial patterns, build integrated and sustainable communities and reduce commuting costs and time. In order to achieve these objectives, there is a discernible strategic shift towards not only integrating race-based settlement patterns but densifying and providing mass transportation to reduce home-work journeys and overcrowding.

The initial phases concentrate on major urban areas. The PRASA network in Gauteng is the busiest in the country, reflecting Gauteng's status as the most concentrated province in terms of both population and economic activity. As a result there is significant overcrowding of services and very long journey times between home and work.

Eighty percent of the respondents from the PRASA rail and technical division and the BRT pointed out that the spatial structure of the City of Johannesburg has changed as a result of the Braamfontein depot upgrade. Two key points are investment in plant and equipment and the impact on structure within the existing footprint and boundaries of the existing depot and that the project has ensured the security of the site. Security facilities have been put in place to enhance the safety of the depot itself as well as the general public. However, the remaining respondents (20%) indicated that change has yet to occur given that the project phases have not accomplished all the envisaged changes. The previous and current maps of the state of the projects illustrate their spatial impact.



The above maps display the previous and current state of Braamfontein depot. The depot upgrade project at Braamfontein is within the footprint of the existing depot. However, the visible structure at the site may require investigation by a heritage specialist and the application is awaiting feedback.

The key informants unanimously agreed that plans to strategically use infrastructure to support urban development, overcome spatial apartheid, build integrated and sustainable communities (economic, residential and social) are yielding fruit. Other objectives are reducing commuting costs and time and promoting green urban development.

#### **4.2.5 Intermodal transport system**

All the respondents agreed that due to the high levels of investment required, the capacity of the rail/bus intermodal system is not adequate and should be complemented by conventional buses and BRT. According to the key informants from BRT, there are two prevalent views. The general view is that the cost and capacity of minibus taxis play a major role in low volume over shorter distances. The second view is that conventional buses and BRT should provide services in longer, medium to high volume corridors. However, theoretically BRT aims to integrate rail and road modes of transport for efficient and effective services to customers.

All the respondents indicated that SOEs confront challenges in ensuring profitability and maintaining customer satisfaction while at the same time managing and implementing change. They were of the view that, from a strategic perspective, SIP7 is an important step towards the integration of previously separate and racially-based settlement patterns, housing densification, mass transportation, environmentally sustainable designs and community participation.

However, it was noted that challenges persist in the delivery of an efficient commuter rail service, as overcrowding, and the reliability and punctuality of trains remain a concern for rail customers.

With regard to the extent to which the SIP7 projects will reduce inequality, 57% of the respondents identified progress made, with station modernisation, the signalling programme, and the accelerated stock rolling programme within the City of Johannesburg having improved commuter access. On the other hand, 43% of respondents felt that, while it is not possible to

completely eradicate inequality, gaps could be progressively reduced over time. Based on the importance of railway, the PRASA representatives indicated that, from a historical view perspective, it has contributed to progress in society and will continue to do so in order to strengthen the economy. In addition, the SIP7 progressively responds to increases in the population.

#### ***4.2.5.1 Modal integration***

The respondents were of the view that modal integration poses problems internally and externally. Within the City of Johannesburg, an urban centre is networking with a regional centre; a single enterprise platform and architecture is therefore preferable. The priority is a review of the operational service synergies that can be developed, specifically in the peripheral areas of the metropolitan city, including integrated facilities, passenger information and ticketing. From the external perspective, the priority is strengthening relationships with the various planning authorities to ensure an integrated model interchange facility, zonal systems, fares, passenger information, ticketing and service provision. The core of modal integration is planning and service provision levels, with the BRT system being developed in big cities as well as broader community-based feeder service integration with existing and proposed rail services.

The interactive mode of transport in the City of Johannesburg includes Metro Rail/Light Rail Transit, BRT, conventional bus, and minibus taxi. This mode presents advantage and disadvantages.

On the question of BRT, the respondents noted that the advantages include low infrastructure costs for exclusive right of way, good average commercial speeds, ease of integration with feeder services and a moderately good image for city. However, the disadvantages are moderately high infrastructure costs, the fact that BRT requires an operating subsidy under Johannesburg conditions and encroachment on the bus ways that calls for enforcement.

Turning to Metro Rail, 80% of the respondents pointed out that it secures a superior image for the City of Johannesburg, offers high commercial speeds, attracts discretionary public transport riders, uses relatively little public space and produces low local air emissions. On the other hand,

20% of the respondents indicated that Metro Rail suffers very high infrastructure costs, poor revenue recovery during off-peak periods, long development and construction times and complex integration with feeder services.

The interviewees articulated similar viewpoints on light rail transit, which they perceived as creating a good image for the city, attracting discretionary public transport riders, and offering a quiet ride performance and low local air emissions. Light rail transit can also be fitted to narrow streets. The disadvantages of this mode of transport include moderately higher infrastructure costs than BRT, limitations with respect to passenger capacity compared to rail and the fact that it requires an operating subsidy under Johannesburg conditions.

The respondents all indicated that the small size of minibus taxis enables a more extensive door-to-door operation and more agile operation in traffic than conventional buses, with low infrastructure costs. All the interviewees felt that these taxis are an integral part of the City of

Johannesburg's transport system, providing a highly convenient although not always safe and reliable transport service. The problem is that the city has no control over the quality of this service. Traffic congestion in Johannesburg is quite severe and mobility is compromised on many of the arterials and freeways during peak periods (City of Johannesburg, 2013: 85).

All the respondents pointed to a shortage of leadership and skills development where matters of infrastructure development are concerned. There is a shortage of crucial skills in different departments to ensure that SIP7 fulfils its mandate. In light of this, 57% of the respondents proposed continuous training to create a strong base of key skills that will lay the foundation to sustain the rail passenger transport system.

#### ***4.2.5.2 Challenges related to the transport system model***

This section discusses the challenges relating to the transport system model in the City of Johannesburg. According to 70% of the respondents, the poor condition of the existing rolling stock is the single largest obstacle to PRASA achieving its strategic objectives and delivering quality services. The remaining 30% of the respondents singled out challenges in skills development and management. They agreed that there was a great need for change and the

modernisation of the railway transport system within the City of Johannesburg and elsewhere in South Africa to ensure world class standards. All the respondents supported the R53bn modernisation programme that PRASA has embarked upon as an integral part of changing the face of transportation in Gauteng. They further agreed that SOEs and PRASA in particular, are best placed to undertake this project, given its cost and scale, and that resources need to be leveraged from both the public and private sectors.

The respondents also noted that human capital development is required to increase productivity, improve service quality and customer focus and promote innovation in the provision of integrated public transport in the City of Johannesburg. Skills development is a problem within PRASA, as 7% of its employees are at 58-63 of age. New rail technology requires new information technology which the SOE lacks. Global technological advancements in rail have moved beyond the skills shortage in technology information. As a result, the private sector has been roped in to assist, strengthening public-private partnerships.

The respondents all concurred that lack of skills to drive the infrastructure projects is resulting in a plethora of problems such as poor planning, slow approval of projects, poor project control etc. They further identified that in order to deliver the infrastructure project, project related skills such as project management and engineering skills must be further developed. In the course of the interviews, it was identified that in fact 4 SOEs, PRASA, ESKOM, Sanral and Transnet had about 85% of the engineering skill of the country and yet there is still a critical skills gap within these institutions. PRASA, as a result undertakes some of its on-the job skilling in engineering and project management with overseas partners, especially Germany. In fact in the fleet modernisation project of PRASA, all the bidders and the winning bidder are based out the country. A French company, Alstom is leading the consortium for the manufacturing of trains for PRASA. A Skills Plan is in the process of being developed by PRASA in order to deliver SIP 7 from cradle i.e. construction up to maintenance phase.

The City of Johannesburg proposes two key approaches to congestion management. The first is to improve public transport coverage and the second is to attract new developments to public transport corridors, nodes and hubs.



Rail technology also calls for skills development within the human development sector. Training and capacitating officials, councillors and community activists will impact the upgrading of the transport system.

According to the City of Johannesburg the transport sector's strategy is to realise the many opportunities for jobs creation and new enterprise development in the sector through the expansion of a quality public transport system, transport infrastructure development and the development of a green economy, and to actively ensure that these are fully exploited (City of Johannesburg, 2013:.97).

#### ***4. 2.5.3 Institutional arrangements within the City of Johannesburg transport system***

According to the City of Johannesburg (2013), all spheres of government play a significant role in Johannesburg's transport system. The national sphere is responsible for freeways (N routes), and passenger and freight rail. The provincial Department of Roads and Transport builds and maintains various provincial roads in Johannesburg. Edigheji, (2010:5) underlines the role of institutional arrangements in the state's capacity to define its developmental agenda and to formulate and implement policies in a legitimate and credible manner in order to achieve its objectives.

The City of Johannesburg runs a municipal bus service called Metrobus and the Rea Vaya BRT system. It builds and maintains the roads owned by the city, including two freeways (the M1 and M2), and builds public transport infrastructure on city-owned roads and off-street.

The respondents from the PRASA rail and technical division stated that City of Johannesburg seeks to move from operator control to public sector control. It also seeks to move from uni-modal routes to fully-integrated mass rapid public transport networks. The city argues that some current initiatives, such as taxi recapitalisation or upgrading rail, while important, will not be capable on their own of halting the on-going switch to cars. The transformation of public transport will require government to act as a "network authority" exerting strong public regulation, management and network control (City of Johannesburg, 2013:46). The delivery of

projects under SIP7 is an opportunity for PRASA to establish the link between rail and municipal infrastructure (City of Johannesburg) to increase the relevance of rail in transport. Job creation and the growth of local economies will emanate from the SIP7 projects facilitated by PRASA (PRASA, 2012/2013:46).

#### ***4.2.5.4 Importance of Planning in the City of Johannesburg***

According to the City of Johannesburg, the planning of the transport system aims to manage metropolitan city business activities, and the movement of people and goods within the city. Furthermore, the role of railway within the transport system is to promote social and economic development. For example, the improvements planned at Johannesburg's Park Station aim to improve the quality of the passenger environment, modal interchange facilities, and passenger information within the station, the signage to platforms and the waiting areas (City of Johannesburg, 2013: 34).

The City of Johannesburg is responsible for transport planning, policy development, project implementation and services. It is also responsible for providing infrastructure and services that support walking, cycling and public transport, for fostering behavioural change to improve road safety, and for enabling mobility, including that of freight (City of Johannesburg, 2013: 41).

The Transport Department as the transport planning authority of the city has considerable statutory responsibilities in terms of the National Land Transport Act (NLTA) of 2009 to plan and regulate the private, public and freight transport system (City of Johannesburg, 2013: 97).

However, 20% of the respondents indicated that very little public transport is reliable, safe or secure in Johannesburg, while 80% pointed to improvements in the city's transport system.

The City of Johannesburg's vision is, "A people-centred transport system that is transformed and whose aim is innovative transport infrastructure and systems to improve the quality of life for present and future generations of residents of Johannesburg and which will contribute to the City's goals of: Nation building and social cohesion; Poverty alleviation, job creation, local manufacture and economic growth; and Human development and environmental

sustainability”(City of Johannesburg, 2013: 40).

## **4.3 Infrastructure development in the creation of a developmental state**

### **4.3.1 Network problem in the City of Johannesburg**

This section focuses on the network problem and issues identified by commuters. The current state of the rail transport network in the City of Johannesburg reveals pertinent issues to be attended to by the SIP7 project. Commuters have pointed to operations management problems, including overcrowding as a serious issue on corridors at peak periods; and timetable management, as few corridors operate trains at regular intervals. Management and service quality issues include poor integration with other transport modes and slow journey times on most corridors. The facilities are not of a standard quality in term of ticketing; train interiors and station facilities and there is a need for price flexibility, and updated standards and improvements.

The rail network does not fit entirely with present day residential and economic nodes as it is east-west aligned and concentrated in the south and south west of the city. Some major destinations, such as OR Tambo International Airport, Midrand and Sandton are not served (although all are now served by Gautrain) (City of Johannesburg, 2013:7).

In terms of a transport model for the City of Johannesburg, 57% of the respondents felt that, from a cost and capacity perspective, minibus-taxis focus on lower volume, shorter-distance routes where good levels of local accessibility are required. On the other hand, 43% of the interviewees felt that BRT and conventional buses were appropriate for longer, medium- to high-volume corridors. In general, the respondents favoured rail to serve very high-volume commuter corridors.

However, all the respondents were of the view that rail is the backbone of South Africa’s transport system; this requires that the policy provides sufficient guidance to transport planning authorities in this regard. Above all, the City of Johannesburg should address the problems with schedules and contractors in order to successfully complete the projects. These impact negatively

on the station upgrading development programme and increase the financial costs.

#### **4.3.2 SOE's socio-economic and spatial impact and the developmental state**

This section assesses whether socio-economic and spatial infrastructure development impacts reveal the influence of SOEs on the DS. As noted earlier, the railway system has strengthened job creation within the City of Johannesburg. Two hundred and forty seven jobs were created and it is envisaged that a further 296 will be created once projects in the design and procurement phase progress to construction. The respondents stated that SIP7 will bring about social change and uplift the standard of transportation experienced by commuters. As noted earlier, Netshitenze (2011) observes that a DS is one that drives social interventions to reduce inequality. State intervention corrects externalities and enhances the standard of living. In this light, the City of Johannesburg's intervention drives changes in the transport system to improve citizens' lives.

In terms of the economic impact of the railway projects, Acemoglu (2012) notes that organisations play a crucial role in promoting economic growth. PRASA and the City of Johannesburg have played this role in fashioning the SIP7 projects. These projects have strengthened key value chains across the City of Johannesburg by spiking demand for local capital goods industries, services and products. The use of locally-produced inputs in these construction projects has led to growth in the city's manufacturing industry and businesses.

As noted in chapter two, Esfahani and Ramirez (2003) refer to economic growth as a consequence of an accumulation of factors that enable an economy to take advantage of opportunities to increase its income. The City of Johannesburg's SIP7 projects are some of the factors that influence economic growth and improve infrastructure development.

However, the city is not without its critics from an economic growth perspective, with an emphasis on entrepreneurial spirit, appropriate institutions and policies to improve economic growth. SOEs established as business entities by central and local governments in reference to SIP7 require strong supervision to achieve the envisaged development. Furthermore, an emphasis on development based solely on enhancing the socio-economic system falls short of infrastructure development. The City of Johannesburg's strategy is to exert increased control on

quality so as to guarantee its residents a quality public transport system and to ensure that public transport plays a critical role in transit-orientated development, improving residents' quality of life and enhancing the city's economic competitiveness. Fifty percent of the respondents stated that such control would become progressively effective, while the remainder felt that strong institutions, coupled with skills development, is required to take control of public transport.

Observation of the visible structure of the pilot site revealed the spatial development and transformation of the City of Johannesburg. The upgrading of the Braamfontein depot and the significant investment in plant and equipment has enhanced the appearance of all the pilot sites for infrastructure development.

According to Litman (2012) quoted in chapter two of this dissertation, transportation planning decisions have tremendous economic, social and environmental impacts. These decisions have and are still influencing land use directly, by affecting the amount of land used for transport facilities, and indirectly, by affecting land use accessibility and the improvement of mobility in the City of Johannesburg.

With reference to the literature on transport planning, Rodriguez (2004) wondered "if development is influenced by policy decisions in the land use plan and its application, and if the resultant land use and transportation would be influenced by the plan as well".

There is a greater need for the integration of land use and transportation planning.

Mkandawire (2005) postulates, that, infrastructure development is a crucial factor in developing capabilities. He argues that this requires three critical conditions: governance, democracy, and an efficient and effective service delivery system. The key informants' views and opinions on infrastructure development support Mkandawire's (2005) views and identified skills development and strong institutional arrangements as essential requirements to enhance the City of Johannesburg's transport system.

The railway system in the City of Johannesburg has boosted job creation and created expectations of further jobs. This demonstrates that infrastructure development leads to a DS in South Africa in general and the City of Johannesburg in particular. Fifty seven percent of the

respondents stated that the rail system electrical projects have been critical in strengthening key value chains across the City of Johannesburg through spiking demand for local capital goods industries, services and products. At the same time, 43% of the respondents agreed that job creation reduces inequality. It should be noted, however, that the number of jobs created thus far is still negligible as the SIP 7 is in the initial stages of development.

### **4.3 Observation**

Observation can be conducted on almost any subject matter; the type of observation is determined by the research question. According to Driscoll (2011), observation is considered a primary research method. Kumar (1999) defines observation as a systematic, sequential way of presenting information through attentive listening and observation during an interaction or event at a particular time. Observation was used to scrutinise infrastructure development in transport projects under way in the City of Johannesburg. The researcher used visual techniques to collect information as well as intensive interviews, documentary study and a case study (Sarandakos, 2008). Observation can be structured and unstructured. Sarandakos (2008) note that structured observation uses a formal and strictly defined procedure. In positivistic research “structured observation is a discrete activity whose purpose is to record physical and verbal behavior” (Mulhall, 2003:306).

Unstructured observation is subject to control and respecting norms. Sarandakos (2008) states, that, in unstructured observation, the researcher has full control of how and what to observe in order to gather information. Unstructured observation is used to understand and interpret cultural behaviour (Mulhall, 2003:306). This research study used unstructured observation. Observation offers benefits and disadvantages. It can provide private, intensive information on a small scale, but cannot be applied to a large group of stakeholders. The researcher used unstructured observation at different sites to view transformation of railway transport landscape and surrounding land uses in the City of Johannesburg.

#### **4.4 Summary of the chapter**

The findings presented in this chapter identified a number of impacts of infrastructure development run by SOEs as leading to a DS in the City of Johannesburg. These include socio-economic and spatial impacts. In terms of socio-economic progress, a number of jobs have been created and more are expected to be delivered. Economically, the railway system is strengthening key value chains across the City of Johannesburg through spiking demand for local capital goods industries, services and products. The use of locally-produced inputs in the construction projects has led to growth in the city's manufacturing industry and businesses. Furthermore, it was noted that the railway system has booted infrastructure development and transformed the economic landscape within the City of Johannesburg. Spatially speaking, site structures are enhancing the economic development of the city and its surrounding areas. However, network problems persist and skills development is urgently required to drive the DS and reverse inequality and disparities in the City of Johannesburg.

## **CHAPTER FIVE:**

### **CONCLUSION RECOMMENDATIONS AND LIMITATIONS**

#### **5.1 Introduction**

The aim of this research study was to examine whether infrastructure development implemented by state-owned companies (SOCs) can effectively contribute to the achievement of a developmental state (DS) by stimulating economic growth, and reducing inequality, while simultaneously addressing the social needs of the majority of the population and integrating apartheid spatial patterns. The primary premise was that drastic action is required to stimulate economic growth and address social demands. Infrastructure development is part of such drastic action that PRASA and the metropolis of Johannesburg have undertaken through SIP7 to enhance citizens' living conditions. Therefore, the role of state owned-enterprise (SOE)-led infrastructure development in the creation of a DS in South Africa can be expressed in terms of four themes, namely inequality, the DS, SOEs, and infrastructure development, each with their own objectives. The following sections reflect on the research by revisiting the study's objectives and provide a synthesis of the findings and conclusions and the study's recommendations.

#### **5.2 Reflection on research objectives**

The purpose of this research study was to examine whether infrastructure development implemented by SOCs can effectively contribute to the accomplishment of a DS by stimulating economic growth, and reducing inequality, while simultaneously addressing the demands of the majority of the population and integrating apartheid spatial patterns.

The first and second objectives (see section 2.3.) were to review local and international studies on SOEs and the DS. As noted in chapter two, many scholars advocate that SOEs should operate as if they were private firms operating in a competitive market, with the invisible hand of the state in the form of direct investment, resulting in the expected outcome for the good of all citizens. It was noted that the nature of governance and institutions in the DS varies from country



to country, depending on the geopolitics of the region. The public service is a significant stakeholder, authority and negotiator within the developmental landscape. Chapter two also discussed the concepts and theories underpinning the notion of SOCs leading infrastructure development in relation to the DS.

The third and fourth objectives (see sections 2.2 and 3.2) were covered in chapters two and four. Chapter three presented the methodology employed to assess the role of SOE-led infrastructure development in the creation of a DS in South Africa. It was concluded that SOEs have significant impact in driving infrastructure development towards a DS.

### **5.3 Synthesis of the findings**

The findings of this study revealed that SOEs and the DS play an important role in different countries. SOEs are common throughout the world and play an important role in the structural formation of the economy, particularly in developing nations. In Africa SOEs are major players in economic sectors and have a crucial impact on development. They provide access to critical services such as water, electricity, health and transport. However, in South Africa, many SOEs currently require a massive injection of capital and their financial policies require close re-examination.

The South Africa government has sought to address some of the inequalities of the past by promoting „black empowerment groups“ in situations such as privatizations of State assets and allocations of government contracts and licenses” (Longden, 2001). It was noted that South African SOEs tend to lack robust leadership and initiative in crucial transformation imperatives such as broad-based black economic empowerment, the creation of meaningful work opportunities and comprehensive skills development (PCR, 2013). De Wet and Van der Waldt (2013) observe that public servants are required to undertake inspections and repairs in a complex landscape and often lack the requisite skills. The Asian model has been identified as an authoritarian one that has shaped industrialisation, viewed as performance legitimacy. The literature review highlighted that theories and approaches to SOEs and the DS emphasise the capacity of a country to advance its development endeavours, its capacity to organise appropriate institutions and establishments, and the policies in place to enhance development based on a DS.

The railway system in the City of Johannesburg has created a number of jobs, which will reduce inequality while addressing the social needs of the majority of citizens in the urban centre of Johannesburg. Economically, the railway system has strengthened key value chains across the city by spiking demand for local capital goods industries, services and merchandise. The socio-economic impacts of the railway system lead infrastructure development towards a DS. However, much remains to be accomplished in terms of strong institutional arrangements and skills development.

### **5.3 Concluding remarks**

The rationale for this study was to establish whether infrastructure development can help to address inequality and resultant underdevelopment in order to achieve a DS in South Africa and how SOEs can play a leading role in reversing underdevelopment and inequality through infrastructure development.

The study's findings show that infrastructure development can reverse underdevelopment and inequalities under certain conditions. The findings revealed that an understanding of the theories and approaches underpinning SOEs, infrastructure development and the DS is essential. SOEs are understood to be business entities established by central and local governments, whose supervisory officials are government employees. The study found that, in Africa, SOEs engage in a large number of economic sectors and impact significantly on internal development. They deliver critical services such as water, electricity, health and transport. According to UN-habitat (2011), infrastructure refers to all basic inputs into and requirements for the proper performance of the economy. One part of economic infrastructure is facilitating economic production relating to railroads and urban transport schemes. As such, infrastructure positively impacts a country's GDP and, in general, surpasses the monetary value of the provision of these services.

Sound planning of infrastructure development, particularly on the part of transport authorities, has tremendous economic, social and environmental impacts, while poor planning decisions reduce transport system efficiency and fairness.

The findings of this study also reveal that no single theory or approach can fully explain infrastructure development and the DS. This dissertation was interested in the neoliberal approach as it does not necessarily imply catering for the needs and demands of private market actors, but rather emphasises the challenges of planning in cities. The researcher also examined the institutional approach, which focuses on administrative capabilities, maintenance and skills development. This approach highlights a country's capability to boost its development endeavours through putting appropriate institutions, establishments, and policies in place to enhance development based on a DS. The study found that South Africa has a limited number of listed companies in which national or regional government agencies have a controlling share, as public enterprises. There are 300 SOEs in South Africa, including PRASA and BRT that formed the basis for this study, many of which require a massive injection of capital and a re-examination of their finance policies. The literature review revealed that many scholars advocate that SOEs operate as if they were private firms in a competitive market, with the invisible hand of the state directing investment, resulting in better services to citizens. The literature review also revealed differences and similarities in state-led development processes at international level, in Asia, Europe, America, Africa and, finally, South Africa. The Asian model stands out as an authoritarian one that has enhanced industrialisation, viewed as performance legitimacy.

Significantly, this research study found that 57% of the respondents, including economists, planners and project managers within PRASA Johannesburg were of the opinion that the rail system electrical and telecommunication projects have been essential in strengthening key value chains across the City of Johannesburg through spiking demand for local capital goods industries, services and merchandise. In addition, railway infrastructure has boosted job creation within the city; 247 jobs were created and 296 more are expected to result once projects in the design and procurement phase move into construction. On the other hand, 43% of the respondents pointed out that the lack of skills development and effective institutional arrangements impeded the enhancement of living standards in the urban centre of Johannesburg.

## **5.4 Recommendations for future research**

The literature review noted that there is a rich literature on SOEs, infrastructure development and the DS. It is recommended that both South Africa and the City of Johannesburg devote more attention to skills development and institutional capabilities in order to enhance the standard of living of residents in Johannesburg. It is also recommended that SOEs consider the adoption of private sector managerial approaches rather than public sector approaches as the former focus on efficiency, pro-active management and skills development.

Further quantitative research is required on the linkage between SOEs, infrastructure development and the DS. Research on SOEs and infrastructure development trends would provide more insight into approaches to promote a DS.

## References

- Abe, M. (2006). The Developmental State and Educational advance in the East Asia. *Educate*, 6(1), 6-12.
- Ahmed, R. and Donovan, C. (1992). *Issues of Infrastructural Development: A Synthesis of the Literature*. Washington: International Food Policy Research Institute.
- Amartya Sen, (2004). *Development as Freedom*, Oxford: Oxford University Press.
- Amin Samir (1985). *Delinking. Towards a Polycentric World*. Zed Books Ltd (translation from French).
- Anthony J. O. and Kathleen M. T. (2007). A typology of Mixed Methods Sampling Designs in Social Science Research. *The Qualitative Report* 12 (2) 281-316  
<http://www.nova.edu/ssss/QR/QR12-2/onwuegbuzie2.pdf>. Accessed on 02/12/2013
- Arrighi, G. and Silver, B. J. (1999). *Chaos and Governance in the Modern World System*. Minneapolis: University of Minnesota Press.
- ARUP (2013) PRASA National Strategic Plan: Phase 3 report
- Aschauer, D. A. (1990). Why is infrastructure important? In Mundell (ed) *Is there a shortfall in public capital investment?* Federal Reserve Bank of Boston, Boston MA.
- Babbie, E and Johan, M. (2009). *The Practice of Social Research* 9<sup>th</sup> ed Oxford University Press: South Africa.
- Basu, K. (1987). "Achievements, Capabilities, and the Concept of Well-being," *Social Choice and Welfare*, 4: 69–76.
- Ben Ross Schneider (2013). *Institutions for Effective of Business-Government Collaboration: Micro Mechanisms and Macro Politics in Latin America*. Department of Political science MIT. Accessed 10/10/2013
- Bernstein, H. (2010). "Globalisation, Neoliberalism, labour, with reference to South Africa" in Saad-Filho, A. S. and Yalman, G. L. (eds.) *Economic Transitions to Neoliberalism in Middle-income Countries: Policy dilemmas, economic crises, forms of resistance*. London: Routledge.
- Bhattacharjee, A. (2012). "Social Science Research: Principles, Methods, and Practices". USF Tampa Bay Open Access Textbooks Collection. Book 3.
- Bird, D.K. (2009). *The use of questionnaires for acquiring information on public perception of*

- natural hazards and risk mitigation a review of current knowledge and practice, *Nat. Hazards Earth Syst. Sci.*, 9, 1307–1325.
- Blomgren, A.(1997). *Nyliberalpolitiskfilosofi. En kritiskanalys av Milton Friedman, Robert Nozickoch F. A. Hayek.*Nora: BokförlagetNyaDoxa.
- Bolesta, A. (2012). *China as a post socialist developmental state; explaining Chinese development trajectory: PHD, The London School of Economics and Political Science.*
- Booth, W.C, Colomb, G.G and Williams, J.M. (1995).*The craft of research.* The University of Chicago Press. Chicago & London.
- Boslaugh, S. (2007). *Secondary Data Sources for Public Health: A Practical Guide.* Cambridge University Press.
- Boyatzis, R. (1998). *Transforming qualitative information: Thematic analysis and code development.* Thousand Oaks, CA: Sage.
- Boyd, G. (1999). „*Corporate-government relations in the Pacific*“, in Alan M. Rugman and Alan Boyd(eds) *Deepening Integration in the Pacific Economies: Corporate Alliances, Contestable Markets and Free Trade*, Cheltenham and Northampton: Edward Elgar, 149–192.
- Bojan, B. (2013). *Law and development in central and eastern Europe: neoliberal developmental state and its problems.* Jerusalem Papers in Regulation & Governance, working paper no 50.
- Boslaugh, S. (2007). *Secondary Data Sources for Public Health: A Practical Guide.* Cambridge University Press.
- Buge, M., Egeland, M., Kowalski, P. and Sztajerowska, M. (2013).*State-owned Enterprises in the Global Economy: Reason for concern? OECD.*
- Calderón, C. A. and Servén, L. (2008). “*The Effects of Infrastructure Development on Growth and income distribution*”, unpublished manuscript.
- Capobianco, A. and Christiansen, H. (2011).“*Competitive Neutrality and State-Owned Enterprises: Challenges and Policy Options*”, OECD Corporate Governance Working Papers, No. 1, OECD Publishing.
- Carthaigh, M. (2009). *The Corporate Governance of Commercial State-Owned Enterprises in Ireland*, Institute of Public Administration.
- Cerovic, S., Pero, P., and Stanislav, C. (2013). *Economic crisis impact on changes in international financial institutions operating.*UTMS Journal of Economics 4(2): 187– 99.

- Charlton, S: (2008) *Inequality and Marginalisation: The state of land use management in South Africa*
- Cheng, T. and Lin, C.I (1999). “*Taiwan: a long decade of democratic transition*”, in J. W. Morley (ed.) *Driven by Growth: Political Change in the Asia-Pacific Region*, Armonk: M. E.Sharpe, 224–54.
- Christiansen, H (2011), “The Size and Composition of the SOE Sector in OECD Countries”, OECD Corporate Governance Working Papers, No. 5, OECD Publishing.
- Christian, G. (2012). *Random walk to innovation: why productivity follows a power law*, *Journal of Econ. Theory* 147 (2) 710–734.
- City of Johannesburg (2013/14). *Integrated Development Plan. Review2013/2014* [www.joburg.org.za/.../2013-16%20idp%2017may2013%20final.p](http://www.joburg.org.za/.../2013-16%20idp%2017may2013%20final.p).accessed on 25/12/2013
- City of Johannesburg: (2013) *Gauteng 25 year Integrated Transport Master Plan*
- City of Johannesburg (2011) *Gauteng Spatial Development Framework*.
- Clarke, R.J (2005). *Research methodologies. HDR seminar series. Faculty of commerce. Spring session.*
- Cohen, P. (2010). “*Lessons from the Nationalization Nation: State-Owned Enterprises in France*,” *Dissent*, Vol. 57, No. 1, Winter 2010, pp. 15-20.
- Crowe, S.C., Robertson ,K.A., Huby, G. Avery, A. and Aziz, S.( 2011). *The case study approach BMC Medical Research Methodology.*
- Curtis, R. (2008). *Conducting Market Research Using Primary Data*. Reno: Department of Resource Economics.
- Dana, G. (2011). *On Some Controversies about East Asian Developmental States* *The Romanian Economic Journal*, 40,155-171
- Daniel, A. R, David R. G, Richard K. N, and SemraAytur (2004). *Connection between land use and transportation in land use plans*. North Carolina Department of Transportation (NCDOT) Research Project 2003-16, Final Report.
- Daron,A. (2012). *Introduction to economic growth*. *Journal of Economic Theory* 147 (2012) 545–550.

- David M. K. (2000). Globalization and Neoliberalism. Department of Economics and Political Economy Research Institute. Accessed on 10/09/2013.
- David, G. V, David R. H, and Mark, C, T. (2011). *Oil and Governance: State-Owned Enterprises and the World Energy Supply*. New York, Cambridge University Press.
- Demurger, S. (2001) *Infrastructure Development and Economic Growth: An Explanation for Regional Disparities in China?* Journal of Comparative Economics 29, 95–117.
- Department of Transport (2013) .DOT Strategic and Annual Performance Plans 2013. South Africa
- De Wet C H and G van der Waldt (2013). Ascertaining South Africa’s public service senior management competence domains from a developmental state landscape. Ed in Holtzhausen Administratio Publica | Vol 21 No 1 March 2013.
- Driscoll, D. L. (2011). Introduction to Primary Research: Observations, Surveys, and Interviews. Chapter in writing spaces: Reading on writing, (2), a peer-reviewed open textbook series for the writing classroom.
- Edigheji,O. (2010). *Constructing a democratic developmental state in South Africa: potential and challenges*. Cape Town, HSRC Press.
- Falconer, R and Richardson, E(2010)Rethinking urban land use and transport planning: opportunities for transit oriented development in Australian cities case study Perth Australian Planner, (4) 1, 1-13
- Flew, T. (2013). The global creative economy and the new development debate. In 3<sup>rd</sup> International SEARCH Conference: Communicating Cultural Diplomacy Through the Media, 30-31 May 2013, Taylor’s University, Kuala Lumpur, Malaysia. (Unpublished)
- Forkenbrock (1990).Putting transportation and economic development into perspective: Transportation Research Record 1274: 3-11.
- Francisco, J.C.(2006).Knowledge cities: approaches, experiences, and perspectives, [www.elsevier.com/books/knowledge-cities/carrillo/978-0-7506-7941-1](http://www.elsevier.com/books/knowledge-cities/carrillo/978-0-7506-7941-1).Accessedon 25/12/2013
- Fred,B. (2008). Swimming Against the Current: The Rise of a Hidden Developmental State in the United States politics & society, vol.20,10 Sage Publications.



- Fereday, J., and Muir-Cochrane, E. (2006). *Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development*. *International Journal of Qualitative Methods*, 5(1).
- Freund, B. (2007). "South Africa: The end of Apartheid & Emergence of „BEE Elite“", *Review of African Political Economy*, 34(114): 661-678.
- Galor, O and Michalopoulos, S. (2012). Evolution and the growth process: Natural selection of entrepreneurial traits, *Journal of Economic Theory* 147, (2)756–777.
- Gardu, D. and Muşetescu, R. (2011) *States and Networks as Drivers of East Asian Development* *International Journal of Business and Social Science* ( 3)15
- Glenn, A. (2011). How South Africa's State Owned Enterprises Drive Up Inflation. <http://sacsis.org.za/s/story.php?s=640> accessed on 10/10/2013
- Giulia, F. and Jozef Konings (2003). Job creation, job destruction and employment growth in transition countries in the 90s. *Economic Systems* 27, 129–154.
- Goerne, A. (2010). „The Capability Approach in social policy analysis. Yet another concept?“ *Reconciling Work and Welfare in Europe*. REC-WP 03/2010.
- Hadi Salehi Esfahani and Maria Teresa Ramirez (2003). Institutions, infrastructure, and economic growth. *Journal of Development Economics* 70, 443–477.
- Harvey, D. (2005). *A Brief History of Neoliberalism*. Oxford: Oxford University Press.
- Harrison, P, Todes, A and Watson, V (2008.) *Planning and Transformation*. Lessons from the post Apartheid experience. London; Routledge
- Hox J. J and Boeje R. H (2005). Data collection, primary vs secondary. *Encyclopedia of social measurement*, volume 1, 593-599.
- Hugo, R. (2008). *The Developmental State under Global Neoliberalism*, *Third World Quarterly*, 29:6, 1153-1174.
- Ivan, T. (2012). *Urbanization and Development in South Africa: Economic Imperatives, Spatial Distortions and Strategic Responses*. International Institute for Environment and Development (IIED).
- Jajati K, P. (2008). *A critique of Neo-Liberal Development and Alternatives*, *Mainstream Vol. XLVI No 26*.

- Jeff, F (1981). *Third World indebted industrialization: International balance and state capitalism in Mexico, Brazil, Algeria, and South Korea*. *International Organization*, 35, 03, 407 – 431.
- Johan, V. (2013). Lending a hand: state-owned enterprises can assist small business development. <http://www.hsrc.ac.za/en/review/hsrc-review-march-2013/lending-a-hand>. Accessed on 10/10/2013
- Johnson, R. B. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come Educational Researcher. 14-26.
- Johnson, C. (1982). *MITI and the Japanese Miracle*, Stanford University Press.
- Johnson, C. (1987). „Political Institutions and Economic Performance. The Government-Business Relations in Japan, South Korea and Taiwan“, in: Frederic, C. Deyo (ed.): *The Political Economy of the New Asian Industrialism*, Ithaca. Cornell University Press (pp. 136-164).
- John, R. (2007). *Understanding Development: Theory and Practice in the Third World*, Third edition Lynne Rienner, USA.
- Kahla, V. (2007). “The Role of State Owned Enterprises in Infrastructure Development.” Transnet Limited.
- Kagiso, (2011). City of Johannesburg: Regional Spatial development Framework (RSDF 2010-11). Johannesburg
- Kajornboon, A ( 2005). *Using interviews as research instruments*, *Journal for Researching Teachers*, Vol. 2, No. 1, December (<http://www.culi.chula.ac.th/e-Journalt/index.htm>). Accessed on 02/12/2013
- Kamo, T. (2000). *An Aftermath of Globalisation? East Asian Economic Turmoil and Japanese Cities Adrift*, *Urban Studies*, 37, 2145–2165.
- Kanyane, M.H., Houston, G., Onouha G., Wentzel, M., Viljoen, J., and Sausi, K. (2013.) Legislative and regulatory framework review, the role of SOEs in skills development and job creation, SOEs’ contribution to enterprise and socio-economic development and the qualitative review of the SOEs landscape in South Africa, HSRC.
- Karl, V.H. (2010). *Nationalism, Bureaucracy and the Developmental State: The South African Case*, *South African Review of Sociology*, 41:1, 4-27.
- Khor, M. (2013). New Threat to State's Economic Role. Accessed on 11/10/2013 from, <http://www.thestar.com.my/Opinion/Columnists/Globaltrends/Profile/Articles/2013/07/2/>

- Kiarie, M (2007). *The Failure of Corporate Governance in State Owned Enterprises and the Need for Restructured Governance in Fully and Partially Privatized Enterprises: The Case of Kenya*. Fordham International Law Journal. Volume 31, Issue 1.
- Kojo, A. (2001). *State-owned enterprises and privatisation in Ghana*. The Journal of Modern African Studies / Volume 39 / Issue 02 / June 2001, pp 197 – 229.
- Kowalski, P., Büge, M., Sztajerowska, M. and Egeland, M. (2013). “*State-Owned Enterprises: Trade Effects and Policy Implications*”, OECD Trade Policy Paper, No. 147, OECD Publishing.
- Kozlov, G.A. (1977). *Political Economy of Capitalism*, Progress Publishers Moscow.
- Kulasekera, L. (2000). Restructuring State-owned Enterprises through Privatization. Legal Public Enterprise reform Commission of Sri Lanka.  
<http://www.csstc.org/reports/egm/p4/presentationsrilanka.htm>
- Kumar R. (1999). *Research methodology. A step by step guide for beginners*, Sage Publications.
- Kumar, R (2011). *Design of questionnaire*. Department of Marketing Xavier Institute of Social Service. <http://xisspm.files.wordpress.com/2011/02/questionnaire-design-full.pdf> accessed on 02/12/2013
- Kumhof, M. and Ranciere, R. (2010). International Monetary Fund article “INEQUALITY, LEVERAGE AND CRISES”.
- Kurt, S & Gerhard, B (2008). *Black economic empowerment ownership initiatives: a Johannesburg Stock Exchange perspective*, Development Southern Africa, 25(4), 437-453.
- Lall, R and Ritu A (2008). „Financing Infrastructure“, in Business Standard India 2009.
- Lewis, A.W. (2006). *Theory of Economic Growth*, Routledge.
- Linda, W. (2010). Transformative Capacity and developmental states: Lesson for South Africa. Lecture at the HSRC, 18 February 2010.
- Litman, T. (2010). Evaluating Transportation Land Use Impacts Considering the Impacts, Benefits and Costs of Different Land Use Development Patterns. Victoria Transport Policy Institute December 2010.
- Litman, T. (2011). Sustainability and Liveability Summary of Definitions, Goals, Objectives and Performance Indicators. Victoria Transport Policy Institute 11

March 2011.

Litman, T. (2012). *Comprehensive Transport Planning Framework: Best Practices For Evaluating All Options And Impacts*. Victoria Transport Policy Institute.

Litman, T. (2013). The new transportation planning paradigm. *ITEJournal/* June.

Low, L. (2001). “*The Singapore Developmental State in the New Economy and Polity*”. *The Pacific Review*, 14:3, 411-441.

Luke, H. and Shirley, M. (1997). *A New Data Base on State-Owned Enterprises* *World Bank Econ Rev* (1997) 11 (3): 491-513.

Lynde, C and Richmond, J (1992). *The role of public capital in production: The Review of Economics and Statistics* 73: 37-44.

Malhotra, N.K. (2006). Questionnaire design and scale development. Georgia Institute of Technology [http://www.terry.uga.edu/~rgrover/chapter\\_5.pdf](http://www.terry.uga.edu/~rgrover/chapter_5.pdf). Accessed on 02/12/2013

Maphunye, K.J . (2009). „*Public Administration for a Democratic Developmental State*” In, *Africa: Prospects and Possibilities*. Centre for Policy Studies, Johannesburg, April 2009.

Marawa, M (2006): *Foundation for a developmental state: A case for technical education* Mattlin, M *Chinese Strategic State-owned Enterprises and Ownership Control*. Asia Paper, Brussels. Institute of Contemporary China Studies (BICCS), Vol. 4 (6).

Marlow, C. (2007). *Research Methods for Generalist Social Work*. Belmont: Cengage Learning.

Marlow, C. (1998). *Research methods for generalist social work* . Grove, USA: Brooks/Cole.

Mary, M. S. (1999.) *Bureaucrats in Business: The Roles of Privatization versus Corporatization in State-Owned Enterprise Reform*. *World Development* Vol. 27, No. 1, pp. 115-136.

Masayuki ,O. and Masaoki, T. (2013). Monetary Growth Theory under Perfect and Monopolistic Competitions. *Theoretical Economics Letters*, 3, 216-219.

Mattlin, M. (2013). *Chinese strategic state-owned enterprises and ownership control*, BICCS Asia Paper Vol. 4 (6) consulted on 09/09/2013.

[http://www.vub.ac.be/biccs/site/assets/files/apapers/Asia%20papers/Asia%20Paper%204\(6\).pdf](http://www.vub.ac.be/biccs/site/assets/files/apapers/Asia%20papers/Asia%20Paper%204(6).pdf)

- McCann, P and Shefer D (2004). Location, agglomeration and infrastructure. Papers in Regional Science 83: 177 -196.
- McCaul C (2013) City of Johannesburg: Strategic Infrastructure Transport Plan Framework. Draft discussion document, Johannesburg
- Meredith.W. (1999). The Development State. Ithaca, NY: Cornell University Press.
- Meredith.W. (1999). „Introduction: Chalmers Johnson and the Politics of Nationalism and Development“, in Meredith Woo-Cumings (ed.). The Developmental State, Ithaca and London: Cornell University Press, 1–31.
- Michael W. E. (2004). Research methods: data analysis. An international perspective. Psychology Press Ltd.
- Michel, B, Frederic D, and Hillel, R. (2001). Brain drain and economic growth: theory and evidence. Journal of Development Economics 64, 275–289.
- Mkandawire, T. (2005). „Towards a Development, Democratic and Socially Inclusive Africa  
Once Again,” in CODESRIA Bulletin, 3- 4, 47-49.
- Muiris, M. (2009). The Corporate Governance of Commercial State-owned Enterprises in Ireland. Institute of Public Administration (IPA) and Committee for Public Management Research (CPMR) Research Report 9.
- Mulhall A. (2003). In the field: notes on observation in qualitative research. Journal of Advanced Nursing 41(3), 306–313.
- Murphy.E. (2012). Urban spatial location advantage: The dual of the transportation problem and its implications for land-use and transport planning. Transportation Research Part A 46, 91–101.
- MyoTun, S. (2011). *A Comparative Study of State-Led Development in Myanmar (1988–2010) and Suharto’s Indonesia: An Approach from the Developmental State Theory*, in: Journal of Current Southeast Asian Affairs, 30, 1, 69-94.
- Nancy L. K., Nancy, S. Wellman and Naniel, R.A. (2002). *Content analysis: review of methods and their applications in Nutrition education*. Journal of Nutrition Education and Behaviour (34), 4, 22- 230.
- Navroz K. D and Bronwen, M. (2012). Understanding the rise of the regulatory state of the South Regulation & Governance (2012) 6, 261–281 Blackwell Publishing Asia Pty Ltd.
- Netshitenze, J. (2011). South Africa: the path towards a developmental state. Sanpad thematic conference on the developmental state. Mapungubwe Institute for Strategic Reflection (MISTRA) Dublin, Ireland 04 July 2011.

- OECD (2009). State owned enterprises in China: reviewing the evidence. Working Group on Privatisation and Corporate Governance of State Owned Assets. Occasional Paper: accessed on 04/09/2013.
- Ostrom, E., Schroeder, L. and Wynne, S. (1993). „*Analyzing the Performance of Alternative Institutional Arrangements for Sustaining Rural Infrastructure in Developing Countries*”: .Journal of Public Administration Research and Theory, (3) 1, pp. 11-45.
- OXFAM (2013) Report: “The cost of inequality: how wealth and income extremes hurt us all”  
Published before the 2013 World Economic Forum.
- Pantazis, C., Gordon, D. & Levitas, R. (2006). *Poverty and social exclusion in Britain: the millennium survey*, Bristol: Policy Press.
- Pattnaik J.K. (2008). *A Critique of Neo-liberal Development and Alternatives in Mainstream Weekly* Vol.XLVI.no.26.<http://www.mainstreamweekly.net>>2008>June 14,2008
- Paul, R. (1998). Human capital and growth: theory and evidence Working Paper. NATIONAL BUREAU OF ECONOMIC RESEARCH.
- Perotti, E. (2003). “State ownership: A Residual Role?” Global Corporate Governance Forum, Discussion Paper, No 2.
- PCAS (2008). Towards a fifteen year review (PCAS: policy coordination and advisory services, The presidency: Republic of South Africa) Pretoria.
- Philippe, A, U and Preterm (2013). What do we learn from Schumpeterian growth theory? Nber working paper series 18824.
- PICC.(2013).A summary of the South African national infrastructure plan [www.economic.gov.za/...infrastructure...summary-of-SA-national-infrastructure](http://www.economic.gov.za/...infrastructure...summary-of-SA-national-infrastructure). Accessed on 01/12/2013.
- PICC. (2012). Provincial and Local Government Conference A summary of the Infrastructure Plan PRESIDENTIAL INFRASTRUCTURE COORDINATING COMMISSION Friday, 13 April 2012.
- PCR (2013). Presidential review committee on state-owned entities VOLUME 1 7Executive summary of the final report Volume 1.
- Rajaseka, S. Philominathan, P. and Chinnathambi,V.(2006). Research methodology. [arXiv:physics/0601009](https://arxiv.org/abs/physics/0601009) [physics.ed-ph]
- Richard,P. and Elaine,H (2009). *THEORIES OF DEVELOPMENT contentions, arguments, alternatives*, The Guilford Press, NY.

- Richard, F. & Daniel, M. K. (2013). *International Order and Global Swing States*, The Washington Quarterly, 36:1, 93-109.
- Rietveld P, and Bruinsma, F. (1998). *Is transport infrastructure effective*, Berlin, Springer.
- Rodney, W. (1972). *How Europe underdeveloped Africa*. Howard University Press.
- Robert, G. L. and Stephen, L. (2001). *Management accounting in companies adapting to structural change and volatility in transition economies: a South African study*. Management Accounting Research, 12, 299–320.
- Robert M. S. (1994). *Perspectives on Growth Theory*: The Journal of Economic Perspectives, 8, 1, 45-54.
- Rostow, W.W. (1916). *THE WORLD ECONOMY History and prospect* University of Texas Press Austin and London.
- Ruth, T (2004). *Transforming state owned enterprises in the Global Age: Lessons from Broadcasting and telecommunications in South Africa*, Critical Arts: South-North Cultural and Media Studies, 18:1, 7-41.
- Saito, A. (2003). *Global City Formation in a Capitalist Developmental State: Tokyo and the Waterfront Sub-centre Project*, Urban Stud 2003 40: 283.
- Sally, M (2004). *Post-development theory and the question of alternatives: a view from Africa*. Third World Quarterly, 25, 2, 373–384.
- Sam, H. (2012). *Turning Governance Thinking Upside-down? Insights from „the politics of what works“*, Third World Quarterly, 33:7, 1231-1247.
- Sarantakos, S. (2005). *Social Research*. London: Palgrave Macmillan.
- Sarah, K. and Alan, B. (2009). *Qualitative Research Interviews*. Psychotherapy Research, Volume 19, No. 4-5.
- Shuanglin, L. and Wei, R. (2006). *“Determinants of the Profitability of China's Regional SOEs”*. China Economic Review, Vol. 17, pp. 124–125.
- Stiglitz, J. (1997). *Whither Socialism*. Cambridge: MIT Press.

- Stubbs, R. (2009). *What ever happened to the East Asian Developmental State? The unfolding debate*, The Pacific Review, 22:1, 1-22.
- Sedar Fred Pougaza, F.S. (2007). „Infrastructure and Economic Growth”: The role of infrastructure for Economic Growth in Africa: Case study, Cote d’Ivoire.’New School University, New School for Social Research.
- Sen, A., (1980). „*Equality of What?*” in McMurrin (ed.), Tanner Lectures on Human Values, Cambridge: Cambridge University Press.
- Stewart, J. (2010). “The UK National Infrastructure Plan 2010”, European Investment Bank Papers: Public and Private Financing of Infrastructure.
- Tasan-kok,T.(2012).*Contradictions of neoliberal planning: cities, policies, and politics*,2ed, springer.
- Terry,F (2013) New Media and the Transformation of Higher Education. Presentation to the School of Humanities and Cultural Industries, Bath Spa University, Bath, UK
- Thandika, M.(2001).*Thinking about developmental states in Africa*. Cambridge Journal of Economics, 25,289-313.
- Tongco, M. (2007). *Purposive Sampling as a Tool for Informant Selection*. Ethnobotany Research & Applications, 147-158.
- Torsten, P and Guide, T (1991).*Is inequality harmful for growth? Theory and evidence* Working Paper. NATIONAL BUREAU OF ECONOMIC RESEARCH Massachusetts.
- Tsukada, Shunso (2013). *Potential Pitfalls in PPP Policy Application: Lessons Learned from National Highway Development Programmes in India*. Journal of InfrastructureDevelopment, 5, 1,87–102.
- Tun, S.K.M. (2011). “*A Comparative Study of State-Led Development in Myanmar (1988–2010) and Suharto’s Indonesia: An Approach from the Developmental State Theory*”, Journal of Current Southeast Asian Affairs 1/2011: 69-94.
- Tuna, T. (2012). *Introduction: Contradictions of Neoliberal Urban Planning*, GeoJournalLibrary 102, 1-19.
- UN Economic and Social Council (2013). The Developmental State: What Options for Africa? Economic commission for Africa governance and public administration division/ECA/CGPP/3/7 Addis Ababa, Ethiopia 20-21 February 2013.
- Uphoff, Norman T., ed. (1986). *Local Institutional Development: An Analytical Sourcebook with*



*Cases*. West Hartford, Conn.: Kumarian Press.

Valentijn, B. and Jozef, K.(1998).*Job Creation, Job Destruction, and Growth of Newly Established,Privatized, and State-Owned Enterprises in Transition Economies: Survey Evidence from Bulgaria, Hungary, and Romania*, *Journal of Comparative Economics* 26, 429–445 (1998).

Vivien, F. and Cecilia, B. (2010). *Africa’s Infrastructure: A Time for Transformation*.The international bank for reconstruction and development. World Bank. Washington.

Van Vuuren, I (2013). *Varieties of Neoliberalism within the Post-Cold War period: Economic Policy in Post-Apartheid South Africa*. Master of Arts in international studies at the University of Stellenbosch.

World Economic Forum (2012). „Strategic Infrastructure: Steps to Prioritize and Deliver Infrastructure Effectively and Efficiently“, September 2012.

Yooil,B. and Jefferey, M. S.(2006).*Globalization, the Developmental State and the Politics of Urban Growth in Korea: A Multilevel Analysis*. Department of Political Science. University of Southern California. Accessed on 10/10/2013.

## **APPENDIX**

### **QUESTIONNAIRES TO DIFFERENT STAKEHOLDERS**

#### **INTERVIEW GUIDE**

Good Day, I am Tembakazi Mnyaka from University Of KwaZulu-Natal, I am doing research on a project entitled “the role of state-owned enterprise(soe)-led infrastructure development in the creation of a developmental state in South Africa: case study of city of Johannesburg. The focus is on State owned enterprises in the transport infrastructure sector in the context of the City of Johannesburg. The focus is on mainly Railway infrastructure development.

This survey is for a Masters dissertation in the School of Architecture Housing and Planning (Town and Regional Planning). Would you please kindly answer the following questions for me.

- The information you provide will be treated as confidential and it will be processed in such a way that no personal identification is possible;
- Your participation is entirely voluntary;
- You are free to refuse to answer any question; and
- You are free to withdraw at any time.

The purpose of this questionnaire is to collect information and data related to the above topic:

#### **ADMINISTRATION**

Date of interview	
Name and surname of interviewee	
Organisation	
Position held in the organization	
Gender:	
Race:	
Level of Education(optional )	

**Problem statement**

Infrastructure development implemented by State owned companies can effectively contribute towards the achievement of a developmental state through stimulating economic growth, reducing the inequality gap while simultaneously addressing the social needs of the majority of the population and integrating apartheid spatial pattern.

OR

Can and if so how can infrastructure development help to alleviate the inequality gap and resultant underdevelopment in order to achieve a developmental state in South Africa and how can State owned companies play a leading role in reversing the underdevelopment and inequality through infrastructure development.





**Specific but not limited to: Transport planner/ Engineer/Town and urban planners**

6. Will infrastructure development redistribute development to areas of less development
7. Which physical infrastructure will have the most spatial and most redistributive impact
8. In your view, what would be best transport system to respond to your needs?