



TECHNICAL DELIVERY OF INFRASTRUCTURE PROJECTS WHILST MEETING SOCIO-ECONOMIC CRITERIA- A RISK MANAGEMENT PROCESS

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SUMMARY

Technical delivery of engineering projects has historically involved the guarantee of delivery projects on time, budget and schedule. However with the increasing requirement of using infrastructure projects to kick start and increase economic development, the requirements of a successful project entails the ability to meet the socio-economic objective. This paper reviews some of the initiatives in the South African environment and will assess; past and ongoing projects where Socio-economic criteria has been implemented for various state entities. The paper will provide a risk review, mitigation and management process to achieve technical delivery, whilst meeting broader social objectives.

1. INTRODUCTION

Worldwide, the use of infrastructure projects to kick-start an economy through the value chain that enables a catalytic impact to have a far reaching impact on Countries and Cities. The main objective of an economic analysis of transport projects is to assess the extent of the economic impact resulting from the investment and therefore determining whether a project under consideration is worth investment at all. However social impacts of projects have been recognised as a key driver for infrastructure investment. World Bank has historically been dedicated to improving the value of social analysis and participatory processes in the projects it supports. The social analysis in the implementation of World Bank projects is defined under an ample framework, through Poverty and Social Impact Analysis (PSIA) at the program and policy level while at the country level a Country Social Analysis (CSA) for Bank-supported projects, which focus on the social development concerns in a project cycle.

This paper aim to assess the implementation of social and environmental objectives through large infrastructure projects in South Africa. The overview is limited to recent Transport projects

with specific emphasis on the Gautrain Management Agency and Transnet. The risk management process of implementing the social agenda of these projects will be the major outcome of the paper. The first section of the paper outlines the various initiatives and outcomes of fulfilling the infrastructure agenda and thereafter some of the key lessons learnt will be provided. The paper thereafter focuses on Transnet's supplier development agenda and how project implementers can minimise and mitigate their risk on the project whilst understanding the social economic benefit of delivering these projects in a meaningful way.

2. INFRASTRUCTURE PROJECT VALUE CHAIN

The World Bank¹ (1994) report on linkages between transport and the economy states that transport helps an economy in the following ways:

- Giving access for people to engage in income-generating activities, access to services or engage in leisure services;
- Transport serves as part of a supply chain process in trade, manufacturing

and production of goods and services. And as such improving transport may lower the cost of production of the goods or the cost of logistics in delivering the goods to the end market;

- On a national level, improved transport may increase trade and competition from imports, which in turn may lead to improved production efficiency, putting downward pressure. Countries that have efficient customs, good transport networks and fewer document requirements—making compliance with export and import procedures faster and cheaper—are more competitive on a global scale. Globally this leads to more exports—and exports are associated with faster growth and more jobs.

Figure 1 shows the number of services that are impacted when large infrastructure projects go through concept studies through to implementation. Broadly speaking, transport projects assist in contributing to the following areas.

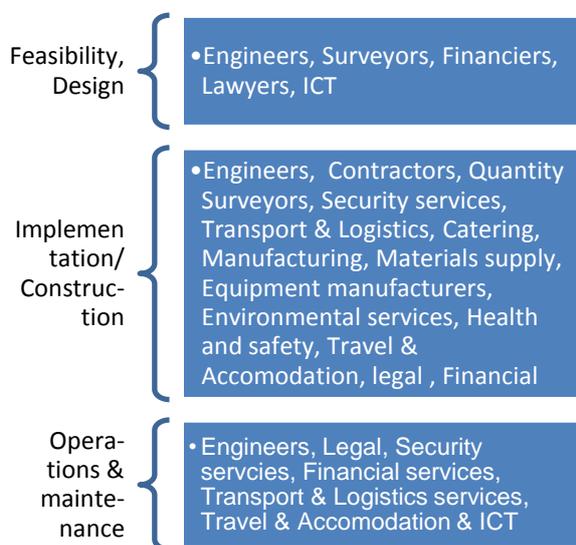


Figure 1: Service industries in the infrastructure project supply chain

2.1 Trade:

Moving South Africa (2002) stated that transport has always been perceived as a major economic driver of development and that the transport infrastructure network needs linkages to markets and services for the purpose of development. The SADC protocol on transport states that the

state of road transport infrastructure is only one of many factors constraining the region’s international trade. Therefore the improvement of market access, demand growth, increased investment, development of private partnerships and deeper regional integration, are among others factors that can improve trade and export performance in the region. The South African Development Community (SADC)’s Regional Infrastructure Development Master Plan (RIDMP, 2012) is aimed at aligning the macroeconomic indicators of each of the member states, using infrastructure development programmes, to reduce barriers to trade and raise GDP growth of the region to 7% per annum

2.2 Social development:

There is a need to distinguish between an economical transport network and a social transport network, where a transport network is used as a tool to facilitate social development. One of the millennium development goals identifies access to services and poverty eradication, which has road transport as a major linkage area that can be improved with infrastructure development. In South Africa after 1994, more emphasis in infrastructure development was placed on social development. For example, the provision of rural freight transport was recognized as a core requirement (in terms of future demand) for the “second economy” as South Africa tries to elevate subsistence farming to commercial farming throughout the economy.

2.3 Productivity:

Transport is one of the industries known to stimulate and encourage competition, innovation and greater efficiency. The efficiency of rail transport corridors in South Africa, is being revitalised as part of the Market Demand Strategy (MDS, 2012), in which Transnet is dedicated to achieve the following strategic objectives regionally:

- To spearhead South Africa’s economy through export-led growth, through infrastructure and services provision in the freight services sector;
- To focus specifically on improving trade and logistics in the Southern Africa

market so as to foster growth and economic development; and

- To solidify South Africa's competitiveness as a Gateway into Africa by serving neighbouring land-locked countries through its port and rail systems.

2.4 Current realities

Some of the current realities in South Africa as specified in the National development Plan (NDP, 2012) that are aimed at delivering these projects include the following:

1. Too few people work
2. The quality of school education for black people is poor
3. Infrastructure is poorly located, inadequate and under-maintained
4. Spatial divides hobble inclusive development
5. The economy is unsustainably resource intensive
6. The public health system cannot meet demand or sustain quality
7. Public services are uneven and often of poor quality
8. Corruption levels are high
9. South Africa remains a divided society

Since the dawn of the first democratically elected government in South Africa in 1994, the government has introduced various legislations and policies aimed at addressing economic imbalances inherited from the previous government, the latest being the National Development Plan, having previously adopted the Reconstruction and development Programme (RDP) and Growth, Employment and redistribution (GEAR).

While the achievement of the objectives of the National Development Plan requires progress on a broad front, three priorities stand out:

- Raising employment through faster economic growth
- Improving the quality of education, skills development and innovation

- Building the capability of the state to play a developmental, transformative role.

The South African Government uses major infrastructure projects as vehicles to enhance economic development, growth and job creation and to address the economic inequities and imbalances. Procurement in state owned enterprises is one of the cornerstones towards black economic empowerment. Procurement strategies of SOEs are aimed at assisting previously disadvantaged companies to participate in the provision of services and products to the SOEs. Specific socio-economic development strategies are required to ensure that significant portions of the proposed investment will be utilised towards achieving economic empowerment and achieving other socio-economic and developmental objectives.

3.0 INITIATIVES

Some of the large infrastructure project where social economic development was put at the fore front are discussed in the section below to highlight the benefits of the projects.

3.1 Gautrain (Van der Merwe et al. 2012)

During its development phase (September 2006 to June 2012) this public private partnership between the Gauteng Provincial Government and the Bombela Concession Company presented Gauteng with various opportunities. These included the empowerment of its citizens and, in addition, increasing the economic activity of the Province. Some of the outstanding results of these initiatives are listed below:

More than R5 350 million was procured from, or sub-contracted to black entities, compared to an obligation of about R2 520 million. More than 390 black entities have benefited from the project to date.

- More than R2 610 million was procured from, or sub-contracted to new black entities, compared to an obligation of about R1 300 million. More than 120 new black entities have benefited from the project to date.
- More than R1 370 million was procured from, or sub-contracted to small, medium and micro enterprises, compared to an obligation of about R310 million. More than 310 small, medium and

micro enterprises have benefited from the project to date

- 36 920 jobs were created for personnel based in South Africa.
- 33 100 jobs were created for local people, i.e. South African citizens, compared to an obligation of more than 18 280.
- 28 350 jobs were created for HDIs, compared to an obligation of 13 030.
- 3 290 jobs were created for women, compared to an obligation of 1 305.
- 220 jobs were created for people with disabilities, compared to an obligation of more than 160.

One of the biggest drivers of this success story that the Concessionaire; who consists of local and international companies, embraced the socio-economic development philosophy and that all project activities are undertaken with due consideration of the socio-economic development objectives,

3.2 Coega Development Corporation (CDC, 2014)

The Coega IDZ is South Africa’s premier location for new industrial investments. The CDC is the licensed developer and operator of the IDZ’s 11 500HA of land and have created the necessary infrastructure and facilities to offer potential investors 6 443HA of prime lettable industrial space. Coega also offers total solutions for construction, spatial development and Small, Micro and Medium Enterprise (SMME) development within the Coega IDZ’s Core Development Area (CDA). In the 15 years since inception, the Coega IDZ has grown to become one of the biggest drivers of job creation, creating in excess of 50 000 jobs, and the Eastern Cape economy thanks to both local and foreign direct investment. Currently, the Coega IDZ contributes an estimated 5.9% to the provincial gross domestic product (GDP) and 0.5% to the national GDP, a figure the CDC intends to increase in the near future as its traction both within the IDZ, Eastern Cape and South Africa grows with investment and projects.

Success stories

CDC has 35% SMME participation target in all the service contracts it awards as the participation of emerging businesses is important to ensure development and transformation in the province.

29 000 South Africans benefit from job creation and skills upliftment programmes, 13 000 benefitted from Coega by community development programmes

Since inception, 47 186 construction and 4 409 operational jobs have been created; a further 50 000 direct and induced jobs were created during the 2013/14 FY

Table 1: CDC 2013 achievements

TARGET	2012/13 Targets	2012/13 Actual	% Achievement
Revenue	R 230-mn	R 290.8mn	126%
Number of Signed Investors	7	8	114%
Investment Value	R1.7-bn	R1.21-bn	71%
Job Creation	10 056	13 569	134%
Number of people trained	10 826	13 607	126%
Number of Interns	73	124	170%
Driver Training	300	398	132%
SMME Procurement	35%	41%	117%

4. TRANSNET’S SUPPLIER DEVELOPMENT PROGRAM

4.1 Overview

Transnet’s mandate is to lower the cost of doing business in South Africa whilst promoting shared growth and transformation

•The new Corporate Strategy, the Market Demand Strategy (MDS) provides an opportunity to accelerate South Africa’s economic transformation and industrialisation objectives through leveraging the planned capital investment of R300bn. Longer planning horizons provide better opportunity for sustainable economic development

The SD Plan (Transnet, 2013) shown in Figure 2 is aimed to include a view of how the capital investment plan and other planned procurements will be leveraged to achieve Government’s objectives of job creation, industrialization, skills development and transformation. Transnet’s Supplier development programme’s objectives include a targeted investment in skills development, industry upliftment and community beneficiation aimed at redressing the imbalance of wealth and social equity in South Africa.

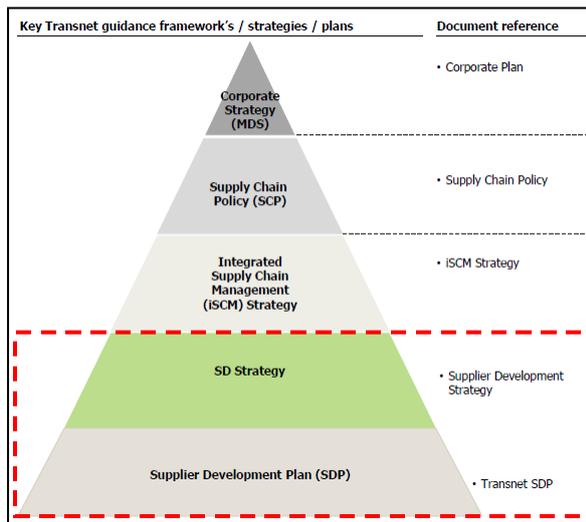


Figure 3: Transnet Supplier development framework (Source: Transnet, 2013)

Transnet’s mission is to transform its supplier base by engaging in targeted Supplier Development (SD) initiatives to support localisation and industrialisation whilst providing meaningful opportunities for black South Africans with a particular emphasis on:

- Youth;
- Black People;
- Black Women;
- Small Businesses (SMME’s);
- People with Disabilities.

The pillars of holistic supplier development, which highlight Transnet’s focus as part of the infrastructure implementation strategy are illustrated in Figure 3.



Figure 2: Supplier development overview

Skills Development

Future skills transfer within the industry, with an emphasis on the accumulation of the knowledge and experience, which will occur as a result of the transaction. The pillar focuses on targeted investment in skills development, industry upliftment and community beneficiation aimed at redressing the imbalance of wealth and social equity in South Africa, through infrastructure development projects. The specific programs that fall underneath this pillar include training inside and outside of the project team and any other mentorship, learnerships and bursary programs undertaken during the contract period.

Job Creation / Retention / Preservation

The increase in the number of jobs by the Contractor as a result of the award of business from Transnet. The number of jobs that are preserved as a result of the award of business is also taken into consideration. The intention is to report on all skilled and unskilled jobs, with specific emphasis on local community jobs.

Small Business Development

The encouragement of growth and expansion of

emerging microenterprises, qualifying small enterprises and start-ups through procurement and support mechanisms provided during the Contract duration. Recent projects especially at implementation stage have seen Transnet dictate percentages as high as 30% to Black Owned (BO), Black Women Owned (BWO), start-ups and 100% generics. The intention is to build small businesses and give exposure and training on the implementation of strategic projects, to build black owned EPCM companies that can compete in Transnet's Capital Expansion program.

National Spend

Specifically to industrial capability building that focuses on value-add activities of the local industry through manufacturing or service-related functions. The purpose of this is to enable foreign consultants performing specialists services that are not locally available, to commit to a reduction in foreign procurement and encourage the inclusion of local suppliers in the supply chain of the procurement spend.

Regional spend refers to planned percentage monetary value spend on procurement of goods and services from SA suppliers within a region/locality where the project works are being executed. The intention and benefit is to improve local economic development and encourage community participation through project implementation.

5 SD IMPLEMENTATION: A RISK MANAGEMENT APPROACH

The components that make up the SD spend is shown in the Figure 4 with a specific emphasis on optimising some of the processes. The components of supplier development compliance monitoring will be covered as illustrated in the figure below. The SD compliance team will ensure that all components of SD will be reported and evidence compiled monthly in a report and that each component has a portfolio of evidence that has to be agreed prior to project implementation. This will assist in ensuring any challenges in meeting the proposed SD plan are identified and solutions proposed timeously.

The risk management framework in the implementation of supplier development is based on the following objectives:

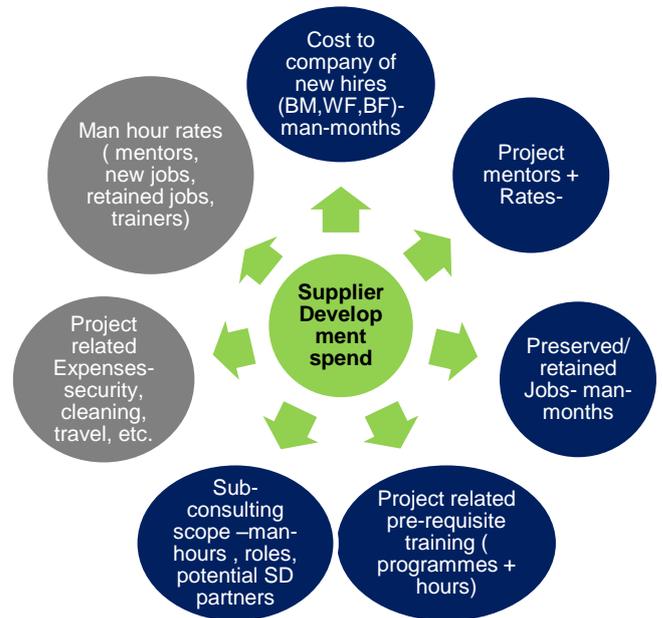


Figure 4: SD component spend

- Restrict new hires on the project to qualifying individuals
- Prioritise and engage qualifying small businesses
- Include mentoring and skills development in the resourcing plan
- Employ an independent company to monitor, audit and ensure our compliance
- Formalise the skills development and mentoring process using structured professional accreditation programs with oversight from independent yet relevant organisations like SAICE & CESA
- Engage technical teams earlier in the resourcing plans and the implementation plan.
- Compile existing database of qualifying small enterprises and Black businesses , that also qualify for regional spend

The table below provides a risk management approach to implementing SD. Interface management with the various teams as they interface with Supplier development spend needs to be managed through a robust communication process. Supplier development forms part of the

core Project management of the project so that decisions that have an impact on supplier development can be made on an ongoing basis.

The table shows the components of implementing SD and provides the level of detail required and the risk management and mitigation approach to show that all sections have different interfaces, requirements, spend calculation and portfolio of evidence required. Interface management and a robust management is a key requirement.

Components	Detail required	Risk Mitigation
Supplier development management systems	<ul style="list-style-type: none"> Contract management: performance, scope, etc. Cost management: invoices, cash flow, etc. Document management: Evidence, reports, Quality Assurance 	<p>Online system that is easy to link into and provide reporting information.</p> <p>Independent audit process</p> <p>Build a portfolio of evidence.</p>
Job creation, preservation, retention	<ul style="list-style-type: none"> Contracts for new and retained jobs Project roles & hours Candidate profiles Preserved jobs and project roles Skilled & unskilled profiles 	<p>Pre-planning job designations in the resourcing plan for supplier development for all project phases</p>
Small Business Development & Local spend	<ul style="list-style-type: none"> Company compliance: taxes, BBBEE, etc. Financial Support Non-Financial support- mentoring, oversight teams Contract scope SD compliant database 	<p>Compile a database that allows SD complaint companies to register and be audited.</p> <p>Technical teams need to pre-plan based on companies available</p>
Skills transfer	<ul style="list-style-type: none"> Accreditation programs Work-based training Performance management (sub-consultants) Skills development program plan 	<p>Identify train the trainer skilled individuals in the resourcing plan</p> <p>Reduce subjectivity of the training and make it structured.</p>
Technology Transfer	<ul style="list-style-type: none"> Business Processes Training- cash flow management, pay-roll, etc. Software training (e.g. PRIMAVERA) Project reporting systems 	<p>Identify technology and IP training and software transfer that can be utilised.</p>

6 CONCLUSIONS

In this paper we attempt to understand the need and requirement for the social economic development objectives that are used to drive the implementation of infrastructure projects. The paper provides the understanding of the South African policy context in which various infrastructure projects are being used as told for socioeconomic development. The projects that are used as examples of good news stories for the CDC and Gautrain project provide numbers that reiterate the emphasis of focus on social developmental objectives. The paper focuses on Transnet's supplier development program and the implementation and risk management process that can be used in its implementation. The major findings in this process are that:

Supplier development needs to be run as an independent project management program with key linkages to the components of supplier development.

The team needs to be fully aligned in their understanding of what constitutes and qualifies as supplier development spend and what deters from it.

The use of a transparent SD management system that can be used as a repository of information, qualifying and approved SD beneficiaries and a reporting template, should be setup to make supplier development as easy to report on.

The project specific supplier development strategy, implementation plan, spend calculations and portfolio of evidence should be agreed by the Project team and Client beforehand so as to manage risk

Despite it being a new process that requires a reporting and management process that increases the cost of delivery and project implementation, the potential of Supplier Development in increasing value-Add, Corporate Social Investment and training and development initiatives that would only add value for both the Clients, Community and the project implementation teams.

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