LEVERAGING PUBLIC WORKS PROGRAMMES TO MAXIMISE ECONOMIC DEVELOPMENT

C WILCOCK

Lukhanji Projects, Private Bag X 7111, Queenstown, 5320.

ABSTRACT

The potential economic benefits of public works programmes and the provision of infrastructure are well documented. Not only does the infrastructure provided improve the quality of life of the beneficiary community but it can lead to local economic growth, creation of jobs and reduction of poverty. The literature contains many examples of the positive economic and social effects of public works programmes.

An econometric study by Calderon and Serven showed that significant economic gains can be achieved through infrastructure development and that infrastructure development programs can positively affect income inequality. This latter finding is particularly important for South Africa which has one of the highest levels of income inequality in the world.

Since 1994 the South African government has made excellent progress with the provision of basic infrastructure to those who previously had no access to even the most basic services. Cartwright (2004) in an article in the Hologram newsletter however points out that while the provision of infrastructure in South Africa has been impressive, economic growth and job creation has languished far behind the GEAR targets. Drawing on the classical work of economist John Maynard Keynes, Cartwright argues that much more can be done to increase the local economic benefits of infrastructure development programs.

The objective of this paper is to propose measures by which the current and future infrastructure development programs in South Africa can be leveraged to provide maximum local economic benefits as well as provide desperately-needed infrastructure.

LIST OF ABBREVIATIONS AND ACRONYMS

ABE	Affirmable Business Enterprise
CBPWP	Community Based Public Works Programme
CIDB	Construction Industry Development Board
CMIP	Consolidated Municipal Infrastructure Programme
DME	Department of Minerals and Energy
DWAF	Department of Water Affairs and Forestry
EPWP	Expanded Public Works Programme
LED	Local Economic Development
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
SMME	Small, medium and micro-enterprises

1. INTRODUCTION

The theme of this conference is: “Transport challenges for 2010.” With great excitement, and with more than a little trepidation, we look forward to hosting the FIFA World Cup in South Africa in 2010, now only 5 short years away.

South Africa in general, and the transport industry in particular, does indeed face many challenges in its preparations for this great event. We have to be in a position to efficiently and safely transport our visitors and their goods around our country with the eyes of the world upon us. We need however, to go further than that and, in addition to providing the extensive infrastructure required for this undertaking, we need to improve the lot of those who suffer the effects of poverty so that all South Africans will be able to enjoy the spectacle of Soccer World Cup 2010.

Since 1994 considerable progress has been made in South Africa towards eradicating its massive infrastructure backlogs, and considerably more progress will be made towards this goal in the years to come, especially during the run-up to 2010. While much of the focus so far has been on the life-sustaining basic services of water and sanitation, the transport industry has not been neglected and will be given a further boost by projects such as Gautrain, the rail re-capitalisation, the completion of the port of Ncura and the needs of the 2010 event.

The Minister of Transport, in his opening address to the 2004 Southern African Transport Conference, stated that *“The underlying purpose of any transport system is to move people and goods efficiently, as cheaply as possible, and safely across or through different mediums such as air, land and sea.”* (Radebe, J. 2004).

To achieve this purpose will require significant investment in systems, human resources and infrastructure. It is the investment in infrastructure, and specifically, the potential economic benefits derived from public infrastructure development programs which is the focus of this paper. As Cartwright (2004), in an article in the Hologram newsletter points out, the socio-economic benefits in terms of economic growth and job creation flowing from the impressive infrastructure spend have been unsatisfactory. This paper will explore the reasons for the underachievement of these secondary goals of infrastructure development and propose ways of improving the situation.

2. EXPENDITURE ON INFRASTRUCTURE

To determine and analyse the extent of expenditure on infrastructure in the transport industry is beyond the scope of this paper but it is sufficient to state that, notwithstanding the fiscal discipline practised,[1] it is significant. According to Cartwright (2004: 2) the CMIP alone has funded projects totalling R7bn. This is in addition to the funds allocated by DWAF, DME, CBPWP, SANRAL etc. and the spending on housing, schools, district and provincial roads, ports, airports, clinics and recreational facilities.

According to the CIDB 2004 status report on the construction industry, total construction spend in 2002 exceeded R57,5 billion of which 43,1% was public sector spending representing 5,1% of GDP, up from 4,9% in 2001 As the country develops and household sizes decrease (Construction Industry Development Board, 2004: 12) i.e. total number of households increases at a greater rate than the population growth, the demand for housing, roads and services will continue to grow. The MIG programme alone has

[1] Debt service costs projected in the 2005 budget are 3,5% as opposed to 5,6% in 1999 and a deficit of only 3,1% of GDP falling to 2,7% by 2007/08 (Manuel, 2005: 17)

budgeted to spend over R15bn over the next three years while total infrastructural spending for 2004/05 is estimated at R12,5 billion (Republic of South Africa, 2004: 56-72). An additional amount of R3 billion has been included in the 2005 budget for transport infrastructure and services (Manuel, 2005: 21). The Medium-term Expenditure Framework indicates that the trend of extensive infrastructure development will continue with large investments in transport infrastructure included in the allocations for the next three years (Manuel, 2005: 18).

3. OBJECTIVES OF INFRASTRUCTURE DEVELOPMENT

The primary goal of infrastructure development is the efficient and effective creation of good quality assets on time and within budget (CIDB, 2004: 4)

Research by a number of authors has shown that the creation of infrastructure can also be used to achieve a number of secondary socio-economic goals including: local economic development, job creation, SMME development, black economic empowerment, skills transfer, poverty relief and gender equity. According to Hassen (2000: 1) infrastructure delivery programmes can also reduce income inequality. An econometric analysis by Calderon and Serven, for the World Bank, of 121 countries over the period 1960-2000 revealed that infrastructure development has a significant positive effect on long-term economic growth and that it can reduce income inequality dependent on improved quality.

A review of the literature reveals widespread use of public works programmes which had objectives other than just the creation of infrastructure. The best known ones are Roosevelt's "New Deal" which provided work during the Great Depression and the Marshall Plan to rebuild Europe's infrastructure and economies after World War II but such programmes have also been successful in other parts of the world such as Asia and parts of Africa (De Jardin, 1196: 4).

In the light of the serious poverty, unemployment and income inequality[2] problems facing South Africa, and the fiscal constraints within which the country functions, it is essential that the contribution to socio-economic development, of every programme which can contribute positively, be maximised.

As pointed out by Cartwright (2004: 2) the emphasis of infrastructure programmes such as CMIP has, in the past, been on achieving the primary goals resulting in an under-achievement of the secondary goals. The experience of the author is that the job creation and equity goals detailed in business plans and design reports are seldom followed up by funding agencies and then not vigorously when there are queries.

Although the South African economy has performed well in macro-economic terms the targets of GEAR in terms of economic growth and job creation have not been met as attested by numerous South African Reserve Bank quarterly and annual reviews. Samson *et al.* (2001: 10) have found that construction is one of the sectors which have shed jobs as a result of the substitution of capital for labour. It is thus relevant to the transport industry to examine ways of increasing jobs through infrastructure development which, as discussed later, can be done by setting objectives for the increased use of SMMEs and by specifying labour-intensive and labour-friendly methods.

[2] South Africa has one of the most unequal income distributions in the world. The 2003 Human Development Index (Human Development Report, 2003: 284) states that SA has a Gini index of 59,3 which is the third highest in the world. (The Gini index is a measure of the concentration of wealth in the hands of a small percentage of the population.)

The arguments usually advanced against pursuing the secondary goals of infrastructure development are that this adds to the cost, reduces quality and takes longer. Setting and monitoring these goals also ties up resources which municipalities, provincial departments and funding agencies mostly do not have. According to the findings of Watermeyer *et al.* (1998: 22) and Gounden (2000: 9.4) however, case studies have shown that the premium paid for the use of targeted enterprises is low (0.8% in the case of the Watermeyer study).

Even where there are cost premiums on the initial tendered price and / or through the additional supervision and monitoring required it is necessary to take a holistic view and to determine total lifetime benefits including the welfare costs to the State of unemployed people. As stated in the Green Paper on the reform of the public procurement process *"value for money need not be a measure of monetary cost alone."* (RSA, 1997: 104). As Samson points out that where unemployment is reduced there will also be benefits to society in terms of reduced crime and social unrest (2001: 11).

Clearly, in a climate of fiscal restraint, the primary goals of infrastructure development cannot be totally discarded in favour of the secondary socio-economic goals and thus a balance has to be found where good quality affordable infrastructure is created in a way which also fosters local economic development, job creation, empowerment of the marginalized and previously disadvantaged, gender equity and SMME development.

The socio-economic benefits of infrastructure development are well documented but are not evident as a result of the recent South African infrastructure development programmes. The following section examines some reasons for this failure.

4. REASONS FOR FAILURE

The reasons for the lack of success in terms of the achievement of the socio-economic objectives include:

4.1 Emphasis on delivery of physical infrastructure

As stated earlier, the focus of infrastructure development programmes has been on the delivery of infrastructure with the secondary socio-economic goals being seen as desirable by-products rather than as of cardinal importance. Virtually all business plans for projects contain goals in respect of the creation of employment and targets for the employment of youths and women and many also contain minimum levels of usage of SMMEs, ABEs and local resources. These goals are seldom monitored and even less often enforced. Future allocations are also not dependent on the achievement of the project socio-economic goals.

The LED function in many municipalities is also not central to the municipal activities but often regarded as an "add-on" function. The LED function, which would certainly follow up on the developmental goals of projects, is often under-powered, under-staffed and delegated too low down in the organization to be effective.

Notwithstanding policy directives, engineers and project managers play a vital role in the direction that construction projects actually take "on the ground." If the engineer is not committed to the achievement of the secondary goals the project will lapse into a delivery-driven technical exercise. These secondary goals form part of the "softer" side of the project for which non-technical skills are required. Studies have indicated that many engineers lack these soft skills which require right-brain thinking and further that the

engineering education system is not geared towards right-brain users who perform less well academically than left-brain thinkers (Horak & du Toit, 2002: 18-24).

It is the author's experience that many project and programme managers are drawn from the ranks of the engineering profession who are more comfortable bringing projects in "on time and within budget" than in delivering social outcomes.

4.2 Too low labour / capital ratio

As economies develop and as global competition intensifies, industries tend to replace labour with capital. Since 1975 South Africa's capital / labour ratio has increased steadily with an steep upturn in 1996 and only a slight flattening in 2001 (SARB, 2002: 24) (Samson *et al.*, 1999: 8-9). The curve will probably turn more steeply upwards again as a result of the recent Rand strength.

The findings of Samson *et al.* (1999: 9) show that the public sector ratio remained fairly constant over the period 1991-1998 whereas the private sector ratio increased markedly over the same period. The trend current towards increased use of private sector service providers by organs of state and SOEs will thus exacerbate the situation unless such usage is made conditional upon use of labour-friendly methods.

4.3 Procurement policies

Among the issues which the World Bank classifies as the most important and frequent sets of LED interventions are: supporting small and medium sized enterprises, targeting disadvantaged groups, supporting survivalist, primarily informal sector enterprise and targeting particular geographical areas (Rogerson, 2002: 4). Samson (2004: 7) also points out the economic benefits of increased female involvement.

The state due to its dual role of legislator and largest client of the construction industry can influence both the demand and supply side of the industry (Kajimo-Shakantu and Root, 49). One of the interventions it can make is to implement developmental infrastructure development through the vigourous use of preferential procurement policies.

The Constitution of the Republic of South Africa makes provision for targeted procurement and the Preferential Procurement Policy Framework and Broad-based Black Economic Empowerment Acts give effect to this provision. It is felt that, despite the demonstrated economic benefits and enabling legislation, too much emphasis is still placed on cost when considering tenders at the expense of developmental criteria. For example few, if any, public sector procurement policies allow any preferences for tenderers offering alternative labour-intensive methods. Indeed employers are more likely to accept capital intensive alternatives offering a discount on the tender price.

4.4 Lack of a public works strategy

Until the advent of the Expanded Public Works Programme, which is still in its infancy, there was no real comprehensive cross-cutting strategy applied by all organs of state. The CBPWP was fairly low-key and not extensive enough to create large-scale employment even of a temporary nature. The new EPWP has set an ambitious target of creating 900 000 jobs over a period of 5 years (Macozoma, 2004: 1) but will need to be rolled out much more aggressively and effectively if it is to reach that target.

4.5 Lack of planning

Few will dispute that implementing labour-intensive and SMME-friendly projects takes longer, is more burdensome and requires more resources than conventional large-scale contracts do. It is thus essential that thorough planning is done to ensure that sufficient time is allowed for the completion of the work and that sufficient staff and resources can be allocated to the project.

Every municipal engineer and project manager is however familiar with the lamentable "end of financial year rush" syndrome when budgets have to be spent or be lost. There is then no alternative to large conventional contracts if the deadlines are to be met. Fortunately this situation is improving with the advent of the Public Finance Management and Municipal Finance Management Acts which require three-year budgeting and set timeframes for notifying beneficiary municipalities of funding allocated to them.

4.6 Lack of real community participation

The key to a successful LED programme is to involve the local communities in projects right from conception through prioritisation of projects, choice of methods, setting of targets and monitoring of the targets. Although extensive use is now made of ward committees, project steering committees, joint management committees, village water committees etc. there is still a tendency to communicate decisions as opposed to real joint decision-making. This is probably due to time and cost constraints, the risk of "workshopping the project to death" and the lack of the soft skills discussed above.

4.7 Lack of real skills transfer

While virtually every project business plan has a section covering the transfer of skills to the participants, lack of time, tight budgets and the non-availability of skilled trainers limit the effectiveness of the skills transfer.

4.8 Lack of capacity

As discussed above, the "soft skills" required to implement community-based projects is lacking among project engineers and managers. The writing of technical specifications is a standard and relatively straight-forward process for conventional contracts focussed on the delivery of infrastructure. To write specifications for developmental-type projects with additional (secondary) objectives is more complex and, in many cases, unique to the specific project. This takes longer and requires additional skills which are often lacking in both the public and private sectors.

Setting targets is the first part of the process but if these are not monitored and enforced serve no purpose. There is again a lack of people and skills to carry out this function.

4.9 Lack of empirical research

The theories of Keynes are widely known and accepted (although not universally). Of relevance here is his work on the economic multiplier effect of a fiscal injection on a local economy. There is however very little empirical research on what can be practically done to maximise the multiplier effect in the case of infrastructure development projects.

As discussed later, the use of SMMEs is an important tool in the achievement of some of the secondary objectives. The activities of small, micro and survivalist enterprises which operate largely in the informal sector are by the nature of these enterprises not well documented making research on SMMEs very difficult.

5. KEYNES' THEORIES OF UNEMPLOYMENT AND THE ECONOMIC MULTIPLIER

A detailed discussion of Keynesian economics is not possible here but those aspects relating to unemployment and the economic multiplier are relevant here. Although gleaned from a number of sources this section draws heavily on the work of Black, Hartzenberg & Standish (2004: 180-199) and of Cartwright (2004: 5-6).

Keynes' view on eradicating unemployment was that, in a recessionary condition, demand-side government intervention is required i.e. increasing expenditure, lowering taxes and lowering the interest rate. These three interventions have indeed taken place during the past few years but, while the South African economy is growing consistently, employment is not growing at the same rate, and certainly not fast enough to eradicate unemployment within an acceptable timeframe. While it can be argued that not enough government spending is taking place and that the taxes and interest rates are still too high, it is contended that these macro-economic conditions are in place and attention must thus be given to the local level conditions to reduce unemployment.

Keynes developed the idea of the multiplier to explain that when an injection of money is made into an economy the money circulates within that economy and increases the economic activity to a greater extent than the initial injection. The extent of the multiplier depends on how much "leaks" out of the economy in the form of taxes, savings and expenditure on imports. This concept is important when considering the local benefits of government spending on infrastructure. When unemployed local labour is used to replace machine work the amounts of money leaked out is low due to them being under the tax threshold and due to their requiring all the money to live on thus not saving and not importing.

6. PROPOSED STEPS TO IMPROVE ECONOMIC DEVELOPMENT

As stated previously, little or no empirical research has been done to establish causal and quantitative links between the investment in infrastructure and the achievement of the secondary objectives. Proper research is rigorous, time-consuming and expensive. Even if an extensive research programme is immediately embarked upon it will be some time before concrete results are obtained. In the interim however there are a number of steps which can immediately be taken. These are discussed hereunder.

6.1 Private sector involvement

Although Government is the major role-player in the construction industry and the focus of this paper is on public works programmes, the role of the private sector should not be ignored particularly in the current climate of greater involvement of the private sector by government as evidenced by a number of statements by Minister Alec Erwin for example.

Because of their propensity to substitute labour with capital the involvement of the private sector must be regulated to ensure that this does not happen. The primary objective of private developers is to develop infrastructure as cheaply and quickly as possible because of their profit motive. An increasing number of enterprises are implementing substantial corporate social investment (CSI) programmes. While these works are laudable they should be encouraged to include labour-intensive and labour-friendly methods as part of their CSI mix.

6.2 SMMEs

The use of SMMEs can contribute to economic development for a number of reasons:
- they are labour-intensive not being able to afford extensive capital outlays;
- they contribute to the multiplier effect by paying lower taxes, by not importing extensively and by not saving extensively due to their need to maintain cash flow; and
- increased PDI involvement is achieved.

The promotion of SMMEs is established government policy. According to Minister of Finance Trevor Manuel, "*One of the key elements in Government's strategy for employment creation and income generation is the promotion of small, medium and micro enterprises (SMMEs).*"

The use of SMMEs including their advantages, disadvantages and special measures required is a complex subject and is not discussed further here. Organs of state must however increase their knowledge of SMMEs and build their capacity to make increased and effective use of SMMEs as one of their tools to increase employment.

6.3 Developmental procurement policies

Councils are required by the MFMA to develop and implement supply chain policies that result in fair, equitable, transparent, competitive and cost-effective procurement. The Constitution allows for preferential treatment of designated groups and the Municipal Systems Act requires a developmental approach. Out of all these requirements a balance must be obtained. The Green Paper on public sector procurement reform (1997) states that "*Public sector procurement can be used as an instrument of policy in the transformation process.*" The Green Paper also identifies the promotion of SMMEs as one of the key objectives of any organ of state's procurement policy (RSA, 1997: 51-54).

Councils and other public sector institutions can thus implement policies which promote black economic empowerment, gender equity, SMMEs, local resources, the unskilled and the marginalised (e.g. rural women) as envisaged by this paper provided that this is not to the extent that national economic policies are materially and unreasonable prejudiced.

6.4 Break-out procurement

The use of break-out procurement i.e. the parcelling of large contracts into a number of smaller ones can be used to promote the use of SMMEs. Again this should not be isolated and used only to reach certain quotas but should become a culture within the organisation. Every contract should be critically examined to determine the extent to which it can realistically be unbundled.

The law of diminishing returns shows that there is a limit to the extent to which breakout procurement can be economically employed and some projects will require large specialised contractors. Many large and medium-sized contracts can however be unbundled into a number of smaller contracts without significant cost premiums provided that sufficient support systems are put into place.

6.5 Reduction of the Capital / Labour ratio

On a project level the preference granted for labour intensivity will assist in curbing the increasing capital / labour ratio but it is suggested that the problem also be tackled at a macro level by investigating the granting of tax incentives to those firms who demonstrate

a sustained reduction in their capital / labour ratio and / or which make use of labour-intensive methods.

It is not wise to fix one problem only to create a larger problem in another area so any changes to the tax structure should be carefully investigated before being considered but it would assist in job creation to consider amending the tax benefits obtained through capital investments where these lead to job losses. Of course this is not a simple matter as the effects on productivity, competitiveness and discouraging investment must be considered.

6.6 LED structures

LED is a function which, in many municipalities, is regarded as a function on its own and its success is dependent on the LED manager. As the function is often delegated quite far down the structure this success can be limited by the lack of a “champion” with seniority or political standing. LED thus needs to be given upgraded status within local authorities and needs to become a culture which pervades all the municipality’s activities rather than just another function competing for scarce resources.

6.7 Community involvement

Allied to the improvement of LED is the increased involvement of the communities to take ownership of the projects and to participate more fully in the projects thereby increasing the percentage of money injected into the local economy.

6.8 Redefinition of value for money

Value for money is difficult to define and is considered to be a function of cost, quality and value. The term life-time cost is also used to include future costs for operation and maintenance and takes the salvage value into account. In theory, life-time costs and value for money should be taken into account when evaluating tenders. Indeed many tender documents state that this will be the case. In practice however, the calculation of value for money is difficult to calculate and even more difficult to justify to the unsuccessful bidders.

It is proposed that additional research be commissioned to develop an easy to use model to determine more accurate and credible values.

6.9 Building of capacity

Few, if any, papers and studies on infrastructural development by the public sector fail to mention the capacity constraints within the three spheres of government. A study by Allyson Lawless indicated a dearth of experienced civil engineers in the mid-career stage. Personal observation has indicated that there are a large number of young recently-qualified engineering technicians who have academic qualifications but little practical experience, especially in project management.

While much effort and money is going into training much of this is of a short-course nature and, while necessary, does not impart the invaluable experience needed to successfully implement infrastructural programmes. It is thus proposed that more use be made of mentoring programmes where experienced professionals are placed in municipalities and provincial departments to mentor the project staff in the same way that advisors have been placed in municipalities to assist in the implementation of the MFMA. Consultants and contractors can also play a role by taking on additional staff to be guided and mentored by their experienced personnel as part of their Corporate Social Responsibility.

6.10 Setting of developmental objectives

As discussed above and as pointed out by Hassen (2000: 20), infrastructure funding programmes tend to focus almost exclusively on service delivery. The setting and monitoring of secondary developmental objectives as described earlier need to be central and integral parts of the whole process.

7. CONCLUSIONS

The following conclusions are drawn from the above discussion:

- Considerable progress has been made towards the eradication of the massive infrastructure backlogs in South Africa through significant investment in infrastructure despite the fiscal restraint practiced by government;
- The levels of spending on physical infrastructure will be maintained in the short- to medium-term at least especially with a view towards the presentation of the FIFA World Cup in 2010;
- The investment in infrastructure so far, while successful in delivery of infrastructure of the required quality on time and within budget (the primary objectives), has not had the desired effect on local economic development, job creation and poverty alleviation (the secondary objectives);
- The reasons for this failure include: the emphasis on the achievement of the primary objectives; the substitution of labour for capital; inadequate use of preferential procurement; lack of a comprehensive strategy; lack of planning; absence of real community participation; inadequate transfer of skills especially in project management; lack of capacity; and lack of empirical research to establish the optimal policies to achieve both primary and secondary objectives;
- Steps must be taken to leverage the current and future infrastructure development programmes to maximise the economic benefits of these programmes; and
- A co-ordinated programme of research needs to be implemented.

The aim of the transport industry for 2010 should be to make a meaningful contribution to the achievement of the overarching MDG of eradicating poverty so that South Africans from all walks of life are able to meaningfully participate in the global spectacle of World Cup 2010 and not be reduced to performing menial tasks for foreign visitors or to being idle bystanders.

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