

Challenges and Opportunities in Infrastructure Delivery since *Democracy*



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From the start of democracy to the present, living conditions have changed dramatically for the better in South Africa. Household census surveys in 1996 and 2010 measuring living conditions and access to infrastructure give a clear picture of infrastructure development in this period. Nationally, the number of households without access to piped water had been almost halved by 2010 from 20.2% to 10.7%, while the 42.4% of households without access to electricity in 1996 had been reduced to 16.8%. These facts give an unambiguous picture of the inroads government has made in ensuring access to basic services since the fall of apartheid. However, it is equally true that this national picture obscures huge variations in progress by province and region.

The DBSA Infrastructure Barometer 2012: Progress in infrastructure development since democracy quantifies the types and levels of water, sanitation, energy and transport services, communication network infrastructure and social infrastructure for education and health care that are available to South Africa's people. Without detracting from the gains made, it is clear that in certain provinces – generally in the more rural or poorer areas with lower population densities – there are still sizeable backlogs in services and infrastructure. People in these areas have little access to clean water and dignified sanitation services; to electricity for lighting, heating and cooking; to communication technologies; to convenient

modes of transportation; to primary health care clinics and health centres within the recommended 5 km radius; or to schools and health centres that have access to water, electricity, sanitation and other appropriate technologies and facilities. As the Infrastructure Barometer 2012 shows, it is vital to look at the data carefully to understand what progress in network and social infrastructure delivery has really been achieved since democracy and the publication includes a detailed data appendix for that purpose.

The government has committed itself to eradicating the backlogs experienced by all South Africans by 2014 (the target date for electricity was 2012). Achieving these targets will be challenging. Many of the challenges and opportunities are common to all infrastructure sectors and the purpose of this synopsis of the Infrastructure Barometer 2012 is to draw out and briefly discuss these common themes, namely:

- public infrastructure investment and job creation
- skills and their effects on municipal infrastructure development and maintenance
- estimating municipal infrastructure requirements
- opportunities created by greening the economy.

Public infrastructure investment and job creation

Infrastructure is indisputably a fundamental prerequisite for medium and long-term economic growth. While infrastructure spending has been used in short-term interventions to stimulate economic recovery, the wider benefit of infrastructure development lies in its ability to fuel and shape economic growth.

Analysis presented in the Infrastructure Barometer 2012 shows that, within important limits (that the spending is focused and occurs within a sustainable fiscal envelope), socio-economic infrastructure spending by general government and public corporations at national, provincial and local level stimulates secondary industries and contributes to growth and poverty reduction. Infrastructure spending by public corporations raises productivity in network infrastructure sectors (power, water, transport, telecommunications), while socio-economic infrastructure spending by general government has a slightly higher multiplier and pro-poor effect than other public spending, as there are fewer leakages in the economy from this type of investment. This is because it is less skills-intensive and therefore skills can be sourced from the local economy or surrounding community. Building infrastructure assets, properly maintaining them, and delivering social and economic services raises people's productivity and their quality of life. Properly executed, public infrastructure investment is a powerful instrument for job creation, for growing the economy and for reducing inequality by increasing employment among less skilled workers where unemployment is concentrated.

Skills and their effects on municipal infrastructure development and maintenance

Skills are critical for leveraging the opportunities for local economic development that the development and maintenance of municipal infrastructure present. A study conducted by the CSIR and the Construction Industry Development Board confirms that the majority of local authorities are deficient in strategic planning and financial management skills and face chronic shortages of engineering and technical skills. As a result, despite the tremendous progress made in providing access to basic services since the advent of democracy problems have emerged in maintaining services once constructed.

Surveys of water treatment standards have found that the large metros perform well but in over half of the other municipalities standards were found to be at risk, and although services were not on the verge of collapse the surveys concluded that most facilities in rural areas were not equipped or staffed to perform satisfactorily. As the Department of Water Affairs has pointed out, skills shortages have compromised water quality management and this, compounded by inadequate maintenance, has resulted in many plants being assessed as poor to non-functional, creating a situation that is unsustainable on the current trajectory. Inadequate capacity in local government, with skill deficiencies at their centre, are fuelling community protests over breakdowns in service delivery and raise the prospect of reversing the improvements in access to basic services the country has recorded since democracy.

In the analysis of the skills situation affecting municipal infrastructure the Infrastructure Barometer 2012 points out that the picture is complicated by the limited data at institutional level, the expanding scope of infrastructure functions extended to municipalities and the, at times, blurred lines of responsibility for various functions between local and provincial government. The Barometer argues that simply increasing the numbers of graduates in high priority professions (even allowing for the long lead times involved) will not produce workable solutions on its own. A successful strategy to turn the lack of skills in local government into an opportunity and to produce rapid results needs to engage with several inter-related factors involving how local government operates. It argues opportunities exist to address the skills shortages in creative ways including:

- sharing resources and best practices
- employing paraprofessionals and adapting systems so that current skills can be used more effectively
- using the consulting labour market more effectively
- mobilising retired engineers
- providing bursaries for engineering students
- creating partnerships between institutions
- providing coaching and mentoring
- improving the supply of technical skills for local government occupations
- Paying supplementary wages for scarce skills.

Estimating municipal infrastructure requirements

The Municipal Infrastructure Investment Framework (MIIF) has computed the scale of national infrastructure investment required to eliminate backlogs. This assists municipalities to: assess their capital requirements for meeting infrastructure delivery targets; assess the options for financing the capital cost of that infrastructure, and ensure sustainability through providing sufficient revenue to cover operating costs and maintenance of the infrastructure services constructed.

The MIIF covers infrastructure on ten year projections for the five basic municipal services of water supply, sanitation, electricity, solid waste and roads and for other infrastructure that municipalities are responsible for namely, public services, public transport, public places, economic infrastructure and buildings and administration. With the goal of providing all South Africans with at least a basic level of service by 2014, the most recent MIIF estimates that total capital expenditure required for the five basic municipal services is R65.5 billion and R17.5 billion for other infrastructure.

Operating expenditure to support the long term financial viability of this investment is calculated by taking into account proper operations and maintenance of services with assumptions for affordability of tariffs, extent of free basic services, cross-subsidy levels and trends in operating subsidies, mainly from the equitable share of revenue flowing to municipalities.

The national picture over the MIIF's ten year projections shows the operating account moving into deficit from year four onwards due to the rapid roll-out of services to poor households.

Understandably there is huge variation in the financial circumstances across the different categories of municipalities taking into account their size, extent of economic activity and rates base.

Extending services will, as the MIIF shows, create shortfalls on the municipal operating account. Yet current levels of expenditure should be higher to operate and maintain infrastructure related services properly, particularly in the economically weaker municipalities. Consequently, achieving basic infrastructure coverage to all households and infrastructure for non-residents and accommodating for economic growth requires a real annual increase in operating expenditure of 6.8%. Operating expenditure is also strongly influenced by the price of bulk electricity. These estimates are most sensitive to assumptions concerning affordability, that is the extent to which consumers are willing to pay for municipal services; optimistic revenue collection rates (given that free basic services are provided); and that property rates revenue will increase at the rate of economic growth.

Over half of all municipal infrastructure is funded by grants from the national fiscus with many municipalities, particularly district and local municipalities in more rural areas, relying totally on these grants. The maximum borrowing capacity of municipalities has been estimated to be R18 billion a year. Therefore, with budgeted borrowing amounting to R11 billion there is additional municipal debt capacity to finance infrastructure.

At present, the main municipalities that are willing and able to borrow are the large metros, which account for 74% of budgeted borrowing. Even allowing for municipal borrowing rising to the upper limit of R18 billion a year, the capital requirements for extending basic municipal services to all would still result in a funding gap of some R24 billion. The inescapable conclusion is that the infrastructure programme in its current form is not financially achievable.

The above analysis indicates that the service delivery targets set by government for ending backlogs for all South Africans were evidently set without reference to affordability and are overly ambitious. As a result, capital constraints will prevent these targets being met. Moreover, as has been shown above with reference to the water sector, these capital constraints exist alongside severe institutional capacity constraints, particularly constraints in the capacity of technical staff. However, what the MIIF analysis also shows is that a different approach to achieving progress in infrastructure delivery is possible. By extending the target dates for coverage, by setting thresholds for serving people in scattered rural settlements, by lowering service levels where possible and by foregoing proper rehabilitation of low-volume rural roads South Africa would be able to implement a more realistic path to achieving basic service coverage that materially improves the welfare of the nation.

Greening the economy through infrastructure development

Examining progress with infrastructure delivery since democracy through the lens of greening the economy, in response to the imperatives of natural resource constraints and eco-system sustainability, exposes another layer of challenges and opportunities. The Infrastructure Barometer 2012 reviews the guidance being given by government's evolving policy for the green economy programme and discusses how the envisaged transition poses opportunities for economic growth and employment creation, while simultaneously addressing the infrastructure backlogs in the country.

Hurdles to be overcome include capacity and skills, particularly relating to the technological capacity of firms to shift to producing and servicing green products and markets so that domestic employment is expanded rather than being displaced by imported green technologies. Opportunities opened up by efforts to structurally transform the economy, it is argued are, among others, in the energy sector where there is scope to develop renewable energy industries along with supporting infrastructure. Greening the economy will face many challenges not least of which are tight public infrastructure budgets. However, much of what is missing from the lifecycle management of public assets is consistent with a greening the economy approach and therefore efforts to promote either will bring benefits for the other.

Conclusion

The rollout of infrastructure, both social and economic, remains an important instrument for creating employment, promoting economic growth, and addressing other objectives of the developmental state. Progress in extending basic services to all South Africans since democracy is carefully assessed in the Infrastructure Barometer 2012. The picture it paints shows that while challenges exist in the service delivery capacity of local government, tremendous progress has, nevertheless, been made in extending access to services and improving equity. Opportunities exist to solve capacity and skills problems in local government and to eliminate basic service backlogs, albeit by extending the dates for achieving targets, as well as to turn the challenge of long term sustainability into an opportunity by moving towards a green economy.

DBSA Infrastructure Barometer 2012: Progress in infrastructure development since democracy is available in printable document format:

<http://www.dbsa.org/EN/About-Us/Publications/Documents/Infrastructure%20Barometer%202012.pdf>

or readable online as an e-journal:

<http://www.dbsa.org/EN/About-Us/Publications/eBooks/Pages/Infrastructure-Barometer-2012.aspx>

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