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## KNOWLEDGE MANAGEMENT AND INNOVATION (KMI) UNIT

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DBSA Research Agenda

### **Growth in Large Urban Areas**

January 2016

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# 1 INTRODUCTION

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Growth is universally recognized as essential for South Africa to make progress on its goals for improving the lives of the population. Accelerating economic activity is the starting point any strategy offering the country prospects for a better future before any particular conditions are attached to growth, for example, growth favoring women may produce additional welfare benefits. Along with questions of how to achieve growth go questions of where it can take place.

Economies exist in and are shaped by space, specifically at the micro, meso and macro levels, namely household or firm, city or city region and national or international levels respectively. It is impossible to separate the mechanics of consumption, production and exchange that is the essence of the economy from the spaces in which it occurs. Recognizing the importance of space in economic thinking has pushed cities to center stage. (Cities are both the stage upon which economic agents, strut their stuff and actors themselves in shaping economic development. Cities as economic actors have some space to change the terms on which they interact in the short and long run. Achieving growth in large urban areas is about the significant task of changing factors under the influence of cities that will favor the efforts of households and firms to increase their consumption and production.

Structural weaknesses in the South African economy limit the space for firms, households and government to exercise a wide choice in pursuit of their goals. South Africa is affected by global economic conditions along with each applicable sub-set of factors that cascade down to the lowest unit of analysis, namely emerging markets, Southern Africa, city region and micro economic conditions for firms and households. Strategies for growth in large urban areas therefore also need to overcome the problem of structural weaknesses in the economy to have reasonable prospects for success.

This paper on growth in large urban areas revolves around three inter-locked themes: growth, cities as economic spaces and structural economic weaknesses. By keeping focus on these three themes the objective of this paper is to pinpoint the implications for urban infrastructure priorities identified in studies of city competitiveness, models of urban economic dynamism and proposals for simulating the South African economy. Infrastructure priorities simply mean which of the economic infrastructure services provided mainly, but not exclusively by the public sector should receive the most attention judged by their relationship to growth and overcoming structural economic weaknesses.

## 2 FRAMING CONDITIONS

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South Africa needs a theory of change that works with the prevailing conditions if it is to achieve development goals. The diagnostic report that preceded the National Development Plan 2011 did this at a high level for the whole nation. This paper starts with a discussion of three basic framing conditions that need to be considered in the design of strategies for urban growth. First, the current urban reality and contrasting that with the vision captured in policy for an urban future, as the latter shows what the country is broadly aiming for. Second, public investment activities will then be briefly examined since these make up the body of what has historically been done within the means of the prevailing fiscal and institutional delivery channels to underpin growth. Moreover and the spatial distribution patterns of infrastructure coverage carry forward and are difficult to shift because they comprise the locations that are able to pay for infrastructure. Third, structural

economic weaknesses will be reviewed for purposes of specifying the obstacles that need to be avoided when selecting infrastructure priorities.

## 2.1 URBAN FUTURES AS SEEN IN THE INTEGRATED URBAN DEVELOPMENT FRAMEWORK

At the close of 2015 an Integrated Urban Development Framework (IUDF) that has been in a process of participative development since 2013 is close to finality. The IUDF is important in the following respects. It represents a concerted government effort to put in place, for the first time, an urban policy alongside existing and patchy rural policies and a mixture of spatial approaches. Now, as the country is well into the fourth administration since 1994, the IUDF incorporates what can be digested from the New Growth Path and the National Development Plan, drawing extensively on the latter for how it is intended to be implemented. It speaks of a New Deal for the future. “The IUDF marks a New Deal for South African cities and towns. It sets a policy framework to guide the development of inclusive, resilient and livable urban settlements, while addressing the unique conditions and challenges facing South Africa’s cities and towns.” (Cogta 2015: 25).

### 2.1.1 Current urban reality

South Africa’s current urban reality is a legacy of racial segregation, poverty, and exclusion from social and economic opportunities. Cities and towns are, in short, riven by deep class-based segregation and profound inequality. In the two decades of democracy urban centers have grown in importance in terms of population, economy, individual incomes and employment, the IUDF observes. Underpinning these changes are the following demographic, economic and spatial changes documented in the IUDF.

- Individuals and households are moving into ‘inner-core’ cities, where jobs are being created and household incomes are higher. In 2011, almost 63% of South Africa’s population lived in urban areas (up from 53% in 1994), with just four city-regions (Gauteng, Cape Town, eThekweni and Nelson Mandela Bay) accounting for 42% of this population.
- The majority (64%) of South Africa’s youth and just over half (54%) of its children live within urban areas.
- Most migrants retain strong ties with, and regularly visit and send back money to their rural areas of origin to where they tend to return when not economically active and also choose for retirement.
- The urban centres dominance of the country’s economy is increasing. The four city-regions account for more than half the national gross value added (GVA). Adding in the GVA contributed by other cities and large towns the share rises to 81.4% of the country’s GVA.
- Within the ‘inner core’, the economies of metropolitan municipalities (metros) are growing twice as fast as those of secondary cities and the rest of the country. Between 1996 and 2013, the GVA of metros grew nearly twice as fast as that of the secondary cities and the rest of the country.
- Incomes in metros are much higher (by about 40%) compared to average incomes in the country as a whole as metros are more productive.
- Income inequality in metros is high and growing, witnessed by the ‘urbanisation of poverty’, especially in townships, informal settlements and inner cities.
- Metros are main job creators. Between 1996 and 2012, employment grew twice as fast in the metros as anywhere else.
- Between 1996 and 2012, metros accounted for three-quarters (74.9%) of all net job creation in the country, secondary cities contributed just over 10%. Towns/rural areas added 15% of new jobs.

Cities' and towns' development patterns over the last two decades have perpetuated, and arguably, reinforced the spatial legacy of apartheid with class base segregation exhibiting concentrations of poverty that reflect profound spatial inequality. Physical infrastructure shaped by these realities are resource intensive, wasteful and ecologically unsustainable.

### 2.1.2 A New Deal for sustainable urbanization

Jobs, housing and transport are the elements anchoring the IUDF's spatial transformation objective that it has been named a New Deal for South African cities and towns. The IUDF's objective is to create cities and towns that are functionally integrated, balanced and vibrant, idealised as creating settlements where people can live, work, shop and play, and where business can invest, employ and prosper. Putting this into practice involves steps that will help restructure the urban space, particularly regarding:

- reducing travel costs and distances;
- preventing further development of housing in marginal places;
- increasing urban densities to reduce sprawl;
- improving public transport and the coordination between transport modes; and
- shifting jobs and investment towards dense peripheral townships.

The transformative vision of restructured urban space the IUDF is reaching for describes itself as establishing a new urban growth and management model intended to build compact, connected and coordinated cities and towns. The IUDF accordingly sets the following four strategic goals:

- **Spatial Integration:** To forge new spatial forms in settlement, transport, social and economic areas.
- **Inclusion and Access:** To ensure people have access to social and economic services, opportunities and choices.
- **Growth:** To harness urban dynamism for inclusive, sustainable economic growth and development.
- **Governance:** To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

To redirect the structural drivers that maintain the urban status quo intact and enforce the current urban reality, referred to above, the IUDF has distilled what it terms nine policy levers that must be acted on simultaneously thus:

*(1) integrated urban planning forms the basis for achieving integrated urban development, which follows a specific sequence of urban policy actions, (2) integrated transport that informs (3) targeted investments into integrated human settlements, underpinned by (4) integrated infrastructure network systems and (5) efficient land governance, which all together can trigger (6) economic diversification and inclusion, and (7) empowered communities, which in turn will demand deep (8) governance and (9) financial reform to enable and sustain all of the above.*

## 2.2 FISCAL RESOURCES AND INSTRUMENTS FOR CITY GROWTH

To support the development of infrastructure for economically integrated cities and communities, National Treasury provides subsidies, technical assistance, and training for infrastructure planning and development. The support is channeled through the neighbourhood development partnership grant, the integrated cities development grant, and the infrastructure delivery improvement programme in the Infrastructure Development Support and the Urban Development and Support subprograms in the Technical Support and Development division. The objective of these measures is to provide catalytic infrastructure that attracts third-party investment and assists metropolitan municipalities to develop more inclusive and productive built environments. Spending on the Urban Development and Support subprograms runs to R2.8 billion over the medium term budget period. Twenty six township urban hubs across 18 identified municipalities have been prioritised for strategic integrated development, and 18 spatial transformation zones will be identified for development by 2015/16. Twenty integrated city development projects will be implemented over the medium term, and a further estimated R1.5 billion is expected to be leveraged over the medium term through third-party investment in targeted locations by catalytic investments through the neighbourhood development programmes (ENE 2015:99-100).

The largest infrastructure transfers to cities are through the Urban Settlements Development Grant (USDG), R33.3 billion over the 2015 MTEF period, and the Public Transport Infrastructure Grant of R18.6 billion over the 2015 MTEF period.

During the course of 2015 national government efforts to channel resources into efforts that would support spatial restructuring in urban areas took on more urgency in an overall budget framework aiming for fiscal consolidation. Over the past decade national government transfers of infrastructure grants have grown rapidly, outpacing increases in infrastructure transfers to other government spheres. At stake has been the goal of structurally transforming the economy from one driven by consumption towards one led by investment, reducing energy-intensity of economic activity, strengthening tradable sectors with significant potential for job creation, and investing in cities to reverse inequitable and inefficient patterns of human settlement. The fruits of these efforts exist in the build of stocks of economic and social infrastructure, particularly in public transport assets. As at 2015, 53.7 per cent of capital financing for cities comes from national government, a ratio that National Treasury believes has displaced locally generated sources of infrastructure funding. Recognizing the consequence of a high level of support to cities the National Treasury has asserted that a greater share of the capital investment needed to transform cities needs to come from revenues generated by metropolitan municipalities themselves, in partnership with the private sector.

Deteriorating economic conditions over 2015 compelled the Minister of Finance in the Medium Term Budget Policy Statement (MTBPS) to revise down tax revenue projections and cutting real GDP growth from the 2015 budget projections over the MTEF from 2.0%, 2.6% and 3.0% to 1.5% 1.7% and 2.6%. Contrary to the promise of fiscal consolidation made in the budget by the time the MTBPS went live the over the limit public sector wage agreement has claimed more resources for current expenditure, diverting resources from investment. Over the MTEF period current payments will increase at an annual average of 8.2% compared to the 2015 Budget of 6.7% and capital payments will increase at the annual average of 4.3% compared to the 2015 Budget of 8.9%. Debt service costs ratchet up the fast rate of growth to 10.9%. It is this postponement of fiscal consolidation, government rising debt to GDP ratio, ballooning contingent liabilities to state owned companies and weak growth that prompted the down- rating of South African sovereign and corporate debt in the fourth quarter of 2015. The effect of these developments on fiscal support for city development

from the national government over the medium term (provided populist fiscal measures are suppressed) means an end to above real growth rates of resources channeled to the cities and a reversion down to nominal budget increases, at least until revenue growth is re-established.

The MTBPS also clarified local government infrastructure grant reforms to be instituted in the forthcoming budgets intended to streamline these grants and improve the value and sustainability of associated investments. Core reforms involve:

- Enabling the use of funds for the renewal, refurbishment and rehabilitation of existing infrastructure, alongside asset management systems to plan and prioritise maintenance.
- Reforming the public transport network grant to support financially sustainable transit networks in large cities by emphasizing life cycle operating costs.
- Rationalising grants to reduce complexity and administrative burdens. Several water and sanitation grants are being merged, for example.
- Introducing grants that differentiate between metros, secondary cities and rural areas. Secondary cities in particular will see changes to their planning requirements.

A material downward revision in South Africa's growth forecast was made by the IMF in its January 2016 World Economic Outlook, predicting 2016 growth at only 0.7% (IMF, 2016). The timing of the update chimes with the shock caused by President Zuma firing the Minister of Finance, however, the revision was primarily based on the structural economic weaknesses of the economy exacerbated by falling commodity prices.

#### 2.2.1 Future infrastructure requirements

2011 census data for access to infrastructure shows how far the country has come since 1994 and work that still needs to be done to provide full coverage. Particularly noteworthy are the approximately 1.25 million households who live in informal settlements that have proved difficult and expensive to service on an ongoing basis. As a share of all households those without access to services in urban areas are 5% for water, 15% for sanitation, 12% for electricity and 14% for solid waste collection.

Service backlogs continue to be a concern and a political priority, yet a more critical issue is that of the condition of South Africa's existing infrastructure assets, much of which is nearing, or has reached, the end of their useful lives. Meeting short and medium term infrastructure financing needs will require balancing investment in replacing assets, building for future growth and eliminating backlogs. Community life and economic activity, let alone growth, is compromised by infrastructure failures, hence the proper care and replacement of exhausted urban infrastructure is an essential precondition to plans for growth.

Projections of infrastructure requirements over the next decade for four core municipal services reveal the need for 5.7 million new water connections to (primarily) low income households, plus (assuming no significant water demand and conservation measures are instituted) 4,028 Ml/d of new treatment capacity in urban areas will be required by 2023. Sanitation requires the provision of 6.4 million sanitation connections. Significantly, approximately 92% of all wastewater generated will be in urban areas, resulting in additional wastewater treatment capacity of 3,263 Ml/d over the next 10 years. If electricity connection targets are met for all households by 2018 energy consumption projection up to 2023 suggest that municipal electricity consumption would rise 49% above its 2013 level. There are significant changes occurring in the electricity sector, however, and evidence suggests that elasticities are higher than predicted which means demand is going to drop faster as prices rise. Financing electricity infrastructure therefore needs to adapt to the structural changes

occurring in the sector. Solid waste collection in the urban areas over the next decade is expected to grow from just under 20 million tons pa to just under 30 million tons pa that will need the development of new landfills, transfer stations and recycling facilities.

Indicative capital investment numbers for infrastructure required to meet the infrastructure demand predicted are shown in table 1 (figures are in real 2013 Rands).

**Table 1 Projected 10-year capital investment in municipal infrastructure**

Service	10 year total capital investment (constant 2013 R million)	Annual average (constant 2013 R million)	% of total municipal capital investment	Proportion of total related to:		
				<i>Backlogs</i>	<i>Growth</i>	<i>Rehab</i>
Water Supply	285,349	28,535	24%	9%	57%	34%
Sanitation	187,974	18,797	16%	13%	54%	34%
Electricity	176,373	17,637	15%	15%	42%	43%
Solid Waste	8,354	835	1%	1%	75%	24%

Source: Palmer et. al.

Revisions to these estimates that factor in demand management will reduce the investment requirements somewhat but in general the required investment in rehabilitation and economic growth is considerably more than that required to resolve the remaining service backlogs, especially in urban areas.

Current levels of capital finance are insufficient to match the infrastructure requirements projected above. The municipal finance gap, after taking into account grants, borrowing and other external sources, is estimated to peak at R38 billion in 2017, and represents a shortfall of R227 billion over 10 years. In addition to the capital funding issues, the increased roll out of infrastructure to eliminate backlogs and to service demographic and economic growth also impacts on the municipal operating account. Total municipal operating expenditure is expected to increase by 63% over 10 years, which will have to be compensated for through commensurate tariff increases.

Infrastructure investments are wasted if assets are not properly maintained. Palmer et. al. point out that South Africa has a backlog of about R20–R40 billion in each of the water, sanitation and electricity sectors in municipalities (varying depending on the standard set) and cite the Financial and Fiscal Commission (FFC) estimates that an additional R4-billion per sector would be required every year for five years in the case of water and sanitation, and for just under seven years in the case of electricity. Remedies for poor maintenance, it is argued, require a combination of approaches that address intergovernmental funding for capital versus maintenance expenses (partially addressed in the grant reform measures) together with improvements in asset management practices that are in turn dependent on the availability of technical skills.

The implications of the above for financing municipal infrastructure are inescapable. Revenue collection has to rise significantly to pay for the replacement and expansion of basic network

infrastructure in cities and the incidence of service charges has to cover all users. In pursuit of sustainable municipal finances cities are simultaneously dependent on collecting fees from infrastructure service users as they are interested in the capacity of residents to pay for basic services which is a function of incomes. Put simply, functioning cities are dependent on the income of residents being above 'unaffordability' thresholds and therefore deeply interested in raising the income of poor residents to whom they are legally required to render basic services.

### 2.3 STRUCTURAL ECONOMIC WEAKNESS

On the supply side of the economy constrained electricity supply remains the single largest drag on economic activity, estimated by the National Treasury to cost close to one percentage point of annual GDP growth. The severity of this 'binding constraint' has been heightened by the coincidence of three factors. First, South Africa's structural reliance on the mineral-energy-complex to drive the international part of the economy. Second, the impacts of electricity price increases at the same time undermining the competitiveness of mineral exports. Third, a deep downward shift in commodity prices reacting to a rebalancing of the Chinese economy from investment to domestic consumption. South Africa's mineral-energy reliance has exposed its economic vulnerabilities, along with other commodity exporting countries.

Other significant infrastructure constraints hampering growth exist elsewhere in the core network industries. Transport constraints add costs to South Africa's logistics at various points: port costs remain high and productivity lower than in peer countries, roads in poor condition increase operating costs and slow road freight movement through border posts (due to regulations, rather than physical infrastructure) in practice runs counter to the official commitment to building regional economic integration. Transnet continues with its programme to expand rail and port infrastructure and renew rolling stock, adjusting the rate of investment to match lower overall growth but logistics deficiencies are masked by soft markets.

Water supply infrastructure is at present not yet a direct constraint to economic activity or public health at a national level but it should be viewed as a medium risk since long lead times are needed to build new water supply capacity. El Niño triggered drought conditions are highlighting water stress in the agricultural sector which will spill over into higher food prices and fuel inflation. There is cause for concern when a strategic project such as Phase 2 of the Lesotho Highlands Water Project is running almost five years late which could trigger severe water shortages in Gauteng from 2020 onwards.

On the demand side South Africa is boxed in by constraints, many of which are generated domestically: a low savings rate, low rate of investment, a growing current account deficit, weakening currency along with further vulnerability, real wage growth exceeding productivity growth, high levels of consumer debt accumulated through a credit fueled consumption boom that has run its course so it lacks further stimulatory impact. These factors combine to weaken business confidence, slow investment and exacerbate high unemployment.

## 3 EXPECTATIONS AND HOPES FOR CITIES AS ENGINES OF GROWTH

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Cities' growing economic importance in South Africa stands out in the discussion of the IUDF above. At a global scale the same dynamics are even more dramatic. In 2010 only 600 urban centers generated about 60 percent of global GDP according to the McKinsey report on the economic power of cities. Moreover, the study predicts that by 2025 the same share of global GDP will come from

600 cities but this group of 600 will have a very different membership (MGI, 2011). Over the next 15 years, the center of gravity of the urban world will move south and, even more decisively, east. As the human species urbanizes, having already passed the half way mark and heading for two-thirds by 2050, cities as objectives of study are understandably receiving a great deal of attention.

Throughout history cities have been the locus of economic activities as firms have been attracted to resources, particularly labour and skills, markets, transport networks, capital and knowledge that concentrate in cities. Infrastructures are, as an analogy to the human body, the arteries of the city, providing the pathways for the transport of material, people and information, supplying power and water and transporting away waste as well as public spaces for recreation which all together make up a positive sense of place in well-functioning cities. Supplying such infrastructure to firms and households is the core function of local government. The quality and price of core services are the primary factors influencing firms' choices for where to locate their activities.

### 3.1 SUSTAINABILITY IMPERATIVES

Sustainability, resilience and risk management issues for cities are important themes in conversations about the future of cities taking place in parallel to the focus on economic dynamism. Core recurring themes place cities in a global context that is being shaped by prime forces that will play out in different ways for each city, country or region. Six prime forces are as follows.

Urbanisation, as discussed above, is structurally altering the population distribution. Population growth rates for South Africa's major urban areas revealed by the 1996, 2001 and 2011 nation census have slowed in the 2001 to 2011 period but continue to grow at twice the national average. Climate change is another over-arching issue that is driving multiple responses for cities concerned about their vulnerability to shocks and reducing the carbon profile of firms and households. Water security is a concern for cities faced with rising demand and limits to accessing new resources. Creative responses to achieve water security include improving network efficiencies, reuse/recycling and demand management. Food security is a key global concern affecting the health and wellbeing of city residents yet it is a factor that cities have little direct influence over. Finally, energy is a prime force undergoing considerable change and such changes are most apparent in cities. On the one hand estimates for future demand are less certain as the energy intensity of the economy changes, while on the other hand shifts are taking place to lessen dependence on fossil fuels is introducing disruptive technologies into energy markets. Cities as distributors of electricity are key actors in this changing environment as they are responsible for providing reliable electricity to firms and households that is essential for economic activity.

### 3.2 INTERNATIONAL COMPETITIVENESS

Civic, political and business leaders around the world have become more intently focused on understanding the economic competitiveness of their regions as they jostle to push their cities up the rankings for connectedness and competitive environments. South Africa has the benefit of research on international competitiveness to guide efforts to stimulate growth in large urban areas. In late 2015, the Global Cities Initiative published its report on the Gauteng City-Region (GCR) using multiple performance indicators to contrast the city region with what it considered its global peer metro areas of Mexico City, Istanbul, Rio de Janeiro, Shenzhen, Santiago, Cape Town and Warsaw. In this study a competitive region is defined as one in which firms can compete successfully in the global economy while supporting high and rising living standards for local households. That in turn depends on a public sector able to support a vibrant private sector through investments in skills, innovation, and infrastructure benefitting both companies and people. The authors use a five factor

framework to analyse competitiveness that uses trade, innovation, talent, infrastructure, and governance. In the report the Gauteng City-Region is defined as Gauteng with breakdowns for the metros of Tshwane, Johannesburg and Ekurhuleni where available. Findings in the report refer to the Gauteng City Region. However, the implications of these findings holds broadly for identifying growth options in large urban areas across the country.

Key findings about drivers of competitiveness and enablers for growth are that tradable sectors contributed 43% of employment and 53% output in the GCR economy in 2014, that since 2000 the structure of the economy has changed considerably, shifting resources and economic dynamism towards advanced services, which grew by 32% over this period, and away from mining. Projecting forward the structural decline in commodity prices can only exacerbate these shifts. Compared to peer cities, GCR's share of tradable output is low, implying there are inefficiencies hampering growth. Exports from GCR are dominated by only five sectors: precious metals, iron and steel, transport equipment and machinery, a resource intensive trade basket based on South Africa's mineral-energy comparative advantage, while imports are dominated by manufactures. GCR contributes close to 40% of the national value added in tradable services but this figure could be raised as services exports are still relatively underrepresented in South African exports. Inward investment in the GCR has concentrated in new businesses in high value-added sectors such as ICT and automotive assembly and hosting of regional headquarters by multinational corporations that benefit from the depth of advanced services in the region.

Competitiveness is driven by innovation and talent. (To turn these resource to account requires infrastructure and an enabling governance framework)?. Briefly summarising the findings for each in turn reveals that the GCR hosts 44% of the national R&D capabilities and hosts high ranking universities but South Africa devotes less resources to innovation than its peers, moreover, while the region has generated more than half of South Africa's patent activity historically, over the last five years the rate of new applications has fallen. Entrepreneurial activity in the CGR is higher than the national average but venture capital investment per capita is below peer regions (as well as Cape Town). These findings show that the GCR has the key building blocks for innovation but needs to raise their effectiveness to convert knowledge into salable products. In migration is boosting the pool of workers available to work but job scarcity means unemployment is high and growing in cities along with the mismatch in the demand for skills compared to the skills of job seekers. Metropolitan municipalities have a higher share of the population with tertiary education than Gauteng as a whole which supports more skills intensive activities demanded by the dynamic tradable sectors, but jobs are being lost in low skill sectors which is fueling rising unemployment.

Infrastructure discussed in the CGI report is understandably slanted towards trade connections. Gauteng's aviation hub status, well developed logistics infrastructure and quality of ICT networks help to place South Africa 34<sup>th</sup> on the World Bank's ranking of 160 countries. Compared to its peer cities, however, costs to export containers from Johannesburg are only exceeded by Brazil and average broadband speeds are the lowest among its global peers, moreover service speeds are unequal with the city region, good in Sandton but average to poor elsewhere. Economic growth retarding spatial layouts of South African cities, inherited from Apartheid and reinforced by post-apartheid development on city peripheries, is recognized as a barrier to employment and driver of inequality.

Governance of cities is a key factor for competitiveness as it underpins the ability of firms, civil society, government (at national and sub-national levels), trade unions, social and political movements to collaborate on collective action affecting economic performance. Surveys show that the majority of residents in the GCR are satisfied with public service delivery but are concerned that

corruption is undermining democracy which works against the types of partnerships needed to help firms and regions succeed in global markets.

### 3.3 DOING BUSINESS IN SOUTH AFRICA SUBNATIONAL SURVEY

The 2015 Doing Business in South Africa report published by the World Bank is the first that extended the doing business investigation on regulations that enhance or constrain business from Johannesburg alone to now cover nine urban areas and four major ports. The survey gathered data on the six stages in the life cycle of a business covering starting a business, dealing with construction permits, getting electricity, registering property, enforcing contracts and trading across borders. The survey covered the eight metropolitan municipalities: Buffalo City, Cape Town, Ekurhuleni, eThekweni, Johannesburg, Mangaung, Nelson Mandela Bay and Tshwane as well as Msunduzi. For city administrators and policy makers the survey provides valuable data on their local business environment. From the learning embodied in survey good practices implemented in other cities can be replicated to improve the business environment for local firms. The rationale for this survey is to aid city leaders to drive reform programmes that will improve the operating environment for business. Comparing South African cities to others in the Doing Business surveys makes it possible to see how they compare to global good practice. Indicators are measured as the distance between a city's performance and that of the best performance globally across 189 economies defined as the 'frontier'. In the context of an economy performing below its potential steps to improve the environment for business, particularly SMEs that have a high employment generating effect are social, political and economic imperatives for South Africa.

**Table 2 Cities Performance in the Doing Business in South Africa 2015 survey**

Municipality Municipal seat	Starting a business*		Dealing with construction permits		Getting electricity		Registering property		Enforcing contracts	
	Ranking (1-9)	DTF score (100 = best result)	Ranking (1-9)	DTF score (100 = best result)	Ranking (1-9)	DTF score (100 = best result)	Ranking (1-9)	DTF score (100 = best result)	Ranking (1-9)	DTF score (100 = best result)
Buffalo City East London	4	78.67	3	77.50	4	75.32	4	62.84	9	62.54
Cape Town Cape Town	4	78.67	1	78.08	2	81.81	8	59.23	6	67.53
Ekurhuleni Germiston	1	81.18	4	76.84	5	71.83	3	64.23	4	68.26
eThekweni Durban	4	78.67	5	76.15	3	75.73	6	62.05	3	69.27
Johannesburg Johannesburg	1	81.18	8	68.52	8	55.74	1	65.82	8	66.14
Mangaung Bloemfontein	4	78.67	9	68.22	1	83.88	9	58.41	1	71.04
Msunduzi Pietermaritzburg	4	78.67	6	74.07	7	63.00	7	59.49	2	70.81
Nelson Mandela Bay Port Elizabeth	4	78.67	2	78.05	9	53.14	5	62.69	7	66.89
Tshwane Pretoria	1	81.18	7	69.88	6	68.51	2	64.71	5	68.17

Source: Doing Business in South Africa 2015, page 4

Findings set out in the table above show that no South African city comes out tops in all five indicators, nor do the most populous and largest city economies translate into better performance. Johannesburg does poorly on dealing with construction permits and getting electricity while Mangaung with the smallest population for a metro does well on getting electricity and enforcing contracts. As the World Bank argues, in low growth environment and faced with external economic factors that are beyond its influence, the relatively low cost of business environment reform makes

more sense than ever. “Local improvements will not only advance the standing of one location within South Africa, but also make a significant difference on the global scale: If a hypothetical city were to adopt the good practices found across the 9 cities in dealing with construction permits, getting electricity and enforcing contracts, it would surpass the average performance of the OECD high-income economies in all 3 areas” (World Bank, 2015: 1).

### 3.4 PROPOSALS FOR REVIVING THE SOUTH AFRICAN ECONOMY

The McKinsey Global Institute (MGI) published its prescription for reviving the South African economy in September 2015 which arrived a list of the ‘big five’ factors for inclusive growth based on its assessment of the strengths that South Africa should build upon. In their approach the prerequisite for growth is a concerted effort by the public and private sectors to raise productivity and strengthen competitiveness, involving, amongst other things, a massive expansion of vocational training programmes that build both the technical and personal skills needed, especially by young people to succeed in a more competitive world. In light of the downward revision of South Africa’s growth rates released at the end of 2015 it is salutary to refer to the economic strengths that the country does have. Size: second after Nigeria on the African continent and larger than other important emerging economies like Chile and Malaysia. The most diversified economy on the continent, with depth in segments of the services and manufacturing sectors. An open economy, attracting significant capital and foreign direct investment as well hosting firms making significant outwards investments. South Africa’s overall economic productivity compares well to that of many of its peers and is similar to that of China and Brazil. Urban centers show the highest level of dynamism and the share of households moving up the income brackets is steadily increasing. Five opportunities are proposed that could, the authors argue, increase GDP growth by 1.1% p.a and create 3.4 million new jobs by 2025 (MGI, 2015). They are as follows:

- Infrastructure productivity. Public and private sector cooperation to increase the returns on the considerable investments being made in infrastructure to use existing assets better, select better projects, maintain assets effectively and reduce procurement costs.
- Natural gas. Lifting the electricity constraint would immediately boost the economy. Natural gas represents a game changing energy option with lower environmental impacts than existing coal generation along with lower risks than big coal or nuclear due to its modularity, flexibility and lower capital costs.
- Advanced manufacturing. Building upon existing pockets of competitive strengths in manufacturing to expand output from high value added sub-sectors of industrial machinery, equipment, chemicals and automobiles. Increasing innovation and productivity is a prerequisite for this strategy.
- Service exports. Turning the large service sector outwards could access large markets in sub-Saharan Africa and exploit the depth of expertise existent in the tradable services sector focusing on financial services, technical consulting, transport and ICT.
- Raw and processed agricultural exports. Market fundamentals of rapid urbanisation reveal significant opportunities for South African agricultural exports in sub-Saharan Africa and Asia. Cities’ role in agricultural exports is material as they host the transport hubs that are used.

Proposals for how South Africa could return to its long-term average growth rate of 3.2% by solving four self-inflicted problems were made by Coleman in November 2015 who argued that it is urgent

to resolve four problems under domestic control. These problems are: energy supply disruptions and inefficiencies; labour conflicts, strikes, wage inflation and related impacts on productivity and exports; weak public sector output in health, education and infrastructure functions as well as state owned enterprise (SOE) failures with growing funding needs (Coleman, 2015). Bearing in mind that the proposal are presented as bullet points without substantiation of whether, or how, they could be implemented, the core message is that by labour, business and government engaging constructively by agreeing that as South Africans they are 'in it together' and prioritising growth and employment. The country needs to innovate in the high employment and high productivity sectors with potential. These are identified as tourism, high value added manufacturing and exportable services such as private education and health.

Extending the tri-partite approach further as a thought experiment to get South Africa to 5% GDP growth rates, Coleman makes a case for a 'Grand Bargain' for economic transformation involving a package of agreements between government, trade unions and business extending for five years. The package should be fiscally neutral with interdependent revenue and expenditure features and politically palatable to each party through compromises. The main features are a labour accord linking productivity to wage increases and establishing a national minimum wage. Creating a national youth service to train 60 000 unemployed youth per year over 5 years in technical skills that are then applied in community service. Extending incentives to 300 000 SMEs per year. Reforming SOEs that would involve raising private capital, partial listings and stricter governance. Business would provide training and business mentoring, government would freeze the regulatory architecture. Together these steps would aim to instill confidence to domestic and international investors and encourage an increased pace of private sector fixed investment. Little that is contained in the proposals directly applies to city growth strategies. However, it is a programme that would up the tempo of economic activity taking place within the city space. The rationale behind them is to motivate the public and private sectors to "...act with urgency to increase the pace and effectiveness of reforms to modernise the economy and address the weaknesses of unemployment, twin deficits and slow economic growth. Government should embrace business, and visa versa, as partners for economic growth" (Coleman, 2015: 33). Examples of successful city growth strategies from South Africa and around the world without exception include ways for the public and private sectors to cooperate in implementing mutually beneficial programmes. Without urgent action and common purpose South Africa will remain mired in a low growth trap that will make a credit downgrade a near term certainty and the task of financing infrastructure more difficult.

### 3.5 TOWNSHIPS AS ECONOMIC GROWTH ENGINES

Is it possible that the urban economic and spatial separation bedeviling cities could be turned into a major opportunity? Reviving the township economy is an idea gathering political momentum at present, particularly among provincial government politicians, the Gauteng City Region is coordinating its development efforts under the acronym TMR – Transformation, Modernisation, Re-industrialisation (GPG, 2015) . The juxtaposition of the township economy with low income and productivity alongside the modern albeit slow growing urban economy with much higher income and productivity creates the possibility of economic convergence between the two. Economic convergence or 'catch up' in which the low income and productivity base of an economy confers an advantage with respect to growth potential is well grounded in economic development theory and empirically validated by many successful country growth experiences of the last four decades. South Africa's economy is trapped in a low-level equilibrium, to the increasing frustration of the citizenry. Colonial and then apartheid legacy has segmented the urban economy into a dual economy of a formal advanced economy plus a traditional, largely informal economy of townships and informal

settlements. Conspicuously absent in South Africa is a middle sector made up of dynamic enterprises at various scales suited to absorb the limited skills offered by the masses of unemployed. Creating a viable convergence model for the South African economy is very important because the rate of growth that lagging economies can generate is far higher than what is possible for advanced economies, thus the turning of township economies into modernising informal economies would make them drivers of growth, making the South African economy fire on two cylinders instead of the one it limps along on now. Currently the potential gains are limited due to barriers in the urban economy that block the free flow of goods, services, technology and factors of production, especially capital, between the modern formal sector and the informal township economies.

Building a case for thriving informal modernising sector to develop in the townships is not easy in face of the stark economic dualism that is so apparent in the urban economy. World Bank research on the economics of South African townships (Mahajan, 2014) detailed the formidable obstacles enterprises, entrepreneurs and indeed residents of townships face in developing dynamic businesses or sustainable livelihoods. The Social Accounting Matrix modeling shows that internal multipliers that would expand the effects of interventions to raise the incomes of residents are very small, as would be expected from what are, in effect, dormitory suburbs, despite the visible economic activity at street level. In consequence the authors argue that no single isolated policy reform is going to achieve a shift from the current dualist economy and produce a game-changing shift in these multipliers. What is required "... is to start a virtuous cycle by first creating the conditions to make the informal modernizing economy viable and then enabling it to grow" (Mahajan, 2014:26). The measures proposed to create the necessary conditions are to deepen the economic and institutional linkages between the formal and informal economies as well as boosting the township economy's human and capital and infrastructure base with particular attention to improving the investment climate along with access to credit. Four focus areas for policy makers proposed by the authors are (1) improving economy wide competitiveness, (2) strengthening urban management, (3) reversing the decline of the rural economy, and (4) targeting interventions specifically at the township level.

## 4 CITY GROWTH AND INFRASTRUCTURE

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### 4.1 TARGETED INTERVENTIONS ACCOMPANIED BY HOLISTIC REFORMS

All proposals for lifting South Africa's growth rate deal with a spectrum of problems and explicitly reject a quick fix solution that involves a change in one or two factors. All proposals share a common view that systematic reforms are required to breaking out of the low growth and employment equilibrium state the economy is mired in. Institutional, human capacity, political and social factors are given prominent attention in all proposals as they are inextricably linked to economic performance. Political and institutional factors are influential parts of real world economic life. Finally, many of the proposals are not novel and have themselves featured in previous city, provincial or national level planning and strategies or are captured in some way in the National Development Plan. The latter point is significant because it suggests first, that the diagnosis of economic problems and recommending solutions enjoys a broad base of similar thinking, and secondly, that implementation is the crucial obstacle to overcome to achieve results.

Prioritizing interventions that will have the greatest impact is the hallmark of a good strategy. In the proposals for reviving the South African economy McKinsey and Coleman both attempt to lay out a strategy that focuses on a limited number of decisive solutions (five and four respectively) that the

public and private sector should concentrate their efforts on because many of the efforts of business enterprises, cities, provincial or national government departments are blunted if not directly undermined by contradictory policies and practices across government.

A final common thread running through these proposals is that they argue for effort directed at particular promising targets while still working to solve broad problems with long lead times to measure effects, in particular the quality of public education and competencies of the working population. Thus these recommendations should be seen as proposals for sequencing reforms and interventions that have to tackle a full suite of problems to be effective.

## 4.2 OVERCOMING STRUCTURAL ECONOMIC WEAKNESSES

How far do proposals for reviving the South African economy go towards overcoming embedded structural problems? This question is answered by classifying into four degrees of influence how far each proposal could go to solve six core features holding back the economy. The classification is set out in Table 3. From this analysis the following conclusions are drawn:

- Each proposal, in the main, has impacts on only a few of the six key problems listed.
- SOC reform would address a large spread of key weaknesses, however, far reaching reforms are at odds with the prevailing political position in Government. While National Treasury has communicated the concern of government over the financial state and performance of many SOCs, no effective steps have been taken to break from the prevailing governance model and perpetual financial recourse to the state.
- Outward oriented strategies to increase exports of services, agricultural and advanced manufacturing would have major positive influences on employment intensity

**Table 3 Relationship between growth proposal and key structural economic weaknesses**

Proposal	Energy constraint	Infrastructure constraint	Low savings & investment	Trade & fin balance	Depreciating currency	Employment intensity
1. Public and private sector cooperation to raise the productivity of infrastructure <sup>a</sup>	❖	●	○	○	...	○
2. Natural gas exploitation <sup>a</sup>	●	❖	○	○	...	○
3. Advanced manufacturing <sup>a</sup>	...	...	❖	❖	○	❖
4. Service Exports <sup>a</sup>	...	...	...	●	○	❖
5. Raw and processed agricultural exports <sup>a</sup>	...	...	...	●	○	❖
6. Grand bargain labour accord <sup>b</sup>	...	...	○	○	○	❖
7. National youth service with technical training <sup>b</sup>	...	...	...	...	...	○
8. Incentivising SMMEs <sup>b</sup>	...	...	○	○	...	●
9. SOC private capital injections, partial listings, improved governance <sup>b</sup>	●	●	●	❖	○	○
10. Expand informal modernising economy in townships <sup>c</sup>	...	...	○	...	...	❖

### Key

No direct link ... Limited influence ○ Minor influence ❖ Major influence ●

<sup>a</sup> MGI, 2015

<sup>b</sup> Proposals for boosting growth above 5% after the suit of stabilisation measures comprising ending energy supply disruptions, labour conflicts, raising public sector output in health, education and infrastructure as well as restoring SOC performance. Coleman, 2015.

<sup>c</sup> Mahajan, 2014

A seasoned reader would observe that many of these proposals are already part of official policy and government plans to revive the economy, with the obvious implications that both the diagnosis of problem and recommended solutions have been arrived at by both government and non-government analysts alike. Furthermore, that these problems persist shows how difficult it is to overcome structural weaknesses and irrespective of how creative a solution might be, the real test is always how much change it can bring about in the real economy.

### 4.3 INFRASTRUCTURE TO ENHANCE GROWTH IN LARGE URBAN AREAS

What infrastructure choices available to public authorities will enhance growth in large urban areas? Government in general has limits on how much it can divert resources from one potential infrastructure project to another because of the need to manage a portfolio of assets in different stages of their lifecycle while meeting its obligations to provide basic services. Contribution to growth is high among the criteria for selecting projects, yet it cannot trump key requirements that city infrastructure is funded by consumers although financing can be done in many ways to achieve social solidarity via transfers or inter-generational equity.

Creating a new urban growth and management model for South Africa's cities, as envisaged in the IUDF, de-emphasises infrastructure mega-projects or a big-bang approach for the role of public infrastructure as a growth stimulating strategy. It argues very strongly that if South Africa is to achieve a break with legacy urban patterns, which over two decades of democracy have shown to be exceedingly hard to transform, then simultaneous action in planning, investment and politics must occur.

Infrastructure investment at scale is an essential part of transforming the South African urban space, especially for transport, but the thrust of the argument made by the IUDF is for integrated infrastructure network systems as part a package of transformative measures to create inclusion and access for households and firms in compact, coordinated and connected cities (see section 2.1). (Restructuring the urban space, essential to bring under-utilised factors of production in the form of unemployed people into the economy and raising output, directs infrastructure priorities to focuses on transit oriented development to reduce travel costs and effective distances, commercial and industrial investment to bring jobs closer to population concentrations in peripheral townships and changes in housing and land use approaches to prevent the development of housing at the margins of cities and instead increase densities and reduce sprawl) Too long and needs to be broken into shorter sentences to preserve overall coherence, logic and consistency of argument.

Public transport projects in South African cities are investments at scale that have been directed at accelerating growth, transforming the urban space and connecting pools of people to areas of opportunity. It is important to subject these to careful scrutiny to assess whether the expected economic benefits are being realized from the considerable public investments made. Proponents of such projects are justified in arguing that large projects require long lead times for their full effects to be realized. However, it is essential that such scrutiny is diligently conducted.

In a low growth economy public investment projects can serve as counter-cyclical demand sustaining measures, at least in the short term. Experience around the world with infrastructure investment

stimulation packages since the 2008 financial crisis, however, has exposed the limits of this strategy due to the drawdown of fiscal reserves and, more significantly, failure to ignite endogenous sustained growth. Public investments can be catalytic by filling in missing infrastructure elements, thereby raising the productivity of the adjacent factors but the most important condition that needs to be satisfied for infrastructure investments to kick-start activity are that it removes a production constraint, not that it creates potential for economic activity to occur in anticipation that growth will take off later.

Proposals to stimulate the South African economy set out in section 3 were not written to apply to cities in particular but do apply to cities. Removing energy constraints and natural gas exploitation involves investments in facilities distant from cities that will result in greater security of supply for energy consumption in the cities. All proposals rely on the proper functioning of infrastructure networks underpinning economic competitiveness and indeed flag areas for improvement in export logistics necessary for high potential export sectors for advanced manufacturing and agriculture to take off. McKinsey maintains there is considerable potential to raise the productivity of infrastructure through different forms of public and private sector cooperation that would seek to achieve better use of existing assets, select better projects, maintain assets effectively and reduce procurement costs, for which they build a case from global practices, not singling out South Africa as particularly weak in this regard (MGI, 2015).

The analysis of infrastructure requirements presented in section 2.2.1 makes the sobering point that while closing backlog gaps is politically important, by far the largest proportion of municipal infrastructure needs projected for the next ten years will be for growth and rehabilitation to sustain and expand economic activity centered on the urban space. Basic economic activity is compromised by infrastructure failures and growth is hampered, hence the proper care and replacement of exhausted urban infrastructure is an essential precondition to plans for growth. The implications of the dominant contribution of the tertiary sector in South Africa for infrastructure are to raise the importance of consuming infrastructure services as a bundle, in contrast to the comparative advantages flowing from the abundance of a single resource, such as minerals. Economic growth is supported by the competitiveness of the infrastructure services as a whole. For city administrations this means that the guidance given by the sub-national survey of the cost of doing business is vital to steer reform efforts to boost city competitiveness.

Creating conditions conducive to the development of a modernising informal economy in townships requires a host of changes that will lower the barriers to entry in the highly concentrated product markets in the formal economy (a significant structural feature where greater competition would appear to offer wide economic benefits, not only to the modernising informal economy). Key infrastructure to support the modernising informal economy includes electricity, trade premises, waste handling, transport and internet services. This is a list of services that would benefit residents too, not necessarily just those involved in the informal economy. Business support infrastructure and access to credit are also necessary building blocks in creating a favorable climate to grow linkages between the formal and modernising informal economy.

#### **4.4 DBSA PRIORITIES FOR GROWTH ENHANCING URBAN INFRASTRUCTURE**

Emerging from the above analysis is a set of priorities for growth enhancing urban infrastructure financing activities. It is clear that holistic reforms and systemic improvement in public services (especially education and health) are urgently needed but the infrastructure component is a relatively small part of the required solutions.

The extent to which an investment project will enhance municipal revenue has always been an important factor for granting and pricing municipal loans. What this paper shows is that a more direct link to economic growth should become more important to lenders in the face of rising financial stress on municipal consumers that will spill over into risks to collection rates for service charges.

Mega projects are not favored in the above analysis, thus the Bank should be wary of such, which is not to turn away from investments at scale entirely but to emphasize that these need to transform the urban form to strengthen cities' economic resilience to qualify for support.

To support growth in the decade ahead of the overwhelming portion of funding for municipal services has to be devoted to replacing end of life assets and expanding network capacity. Municipalities are under pressure to eradicate service backlogs and tend to under-maintain existing assets. The priority for the Bank in this regard should be to fund systematic replacement of end of life assets, such as for example water and sewer mains or electricity distribution circuits.

South Africa's employment crisis requires a multifaceted approach, dealing with gaps on the supply side by equipping job seekers with capabilities or skills that make them work ready and on the demand side by favoring the expansion of firms using low and intermediate skills levels. DBSA's role in this is confined to those parts that fall into its mandate where the challenge is to meet is funding infrastructure to foster the modernising informal economy in townships.

Finally the Bank has the capacity to be an important element in partnerships between the public and private sector to enhance the productivity of infrastructure. Historically this Bank has and continues to play such a role so the new take on it should assess where it can maximise its effectiveness in the current context by designing a product to incentivise maintenance of municipal assets.

## 5 CONCLUSION

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This paper on growth in large urban areas has been built on examining three inter-locked themes: cities as economic spaces, structural economic weaknesses and measures to boost South Africa's growth rate. Stimulating growth is essential to meet the country's development needs. What this paper shows is that progress is possible on various fronts. The DBSA can enhance growth in large urban areas by favoring projects that follow these themes.

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